

**SAFE PLAY ON THE PLAYGROUND!**

**Improving the safety of the playground equipment  
by market surveillance authorities cooperation and raising  
the awareness of consumers**

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# **PLAYGROUND HANDBOOK FOR INSPECTORS**

**2008**

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# Manual For Inspectors – Organisation Of An Inspection Programme

## 1. Foreword

Playgrounds and playground equipment have long been present in Europe providing for children's amusement and physical development. In general, the impact of play areas on children's play and physical training has been mainly a positive one.

In spite of this, there is reason to believe that certain improvements should be implemented with respect to the installation, the use and the maintenance of playgrounds, and, especially, to the playground equipment.

Statistics show that injuries, which occur during play and leisure activities, account for 36 % of the non-fatal home and leisure accidents.<sup>1</sup> The number of incidents, including the severe and the fatal ones, which have been reported in recent years in several European countries, has raised concerns among the competent authorities regarding the safety of playground equipment. Stationary equipment in playground is among top 10 consumer products involved in home and leisure accidents.<sup>2</sup> The Joint Action envisages the authorities' perspective and it is expected to increase the safety of the playground equipment, contributing to a decrease in the number of occurred injuries.

Several Member States of the European Economic Area have developed guidelines, regulations and inspection programmes, which are intended to protect children from accidents and injuries. This manual draws together the experience and the knowledge acquired by the Member States, in order to establish the best practices in the inspection of the playground equipment.

Clearly, the Handbook may be revised later based on the understanding that shall be acquired from the national inspections. The authors would appreciate to receive comments with regard to its content.<sup>3</sup>

By aiming to determine best practices and to be used all over Europe, the Handbook gains a universal character. However, now when it is finished, the national authorities are free to complement it with the information relating to the national legislation, if they wish to do so.

*The authors of the Handbook*

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<sup>1</sup> Injuries in the European Union, Statistics Summary 2003-2005 featuring the EU Injury Database (IDB), II issue, Vienna, October 2007, page:17

<sup>2</sup> Injuries in the European Union, Statistics Summary 2003-2005 featuring the EU Injury Database (IDB), II issue, Vienna, October 2007, page:20

<sup>3</sup> Please send your comments at [dnr@uokik.gov.pl](mailto:dnr@uokik.gov.pl).

## 2. Scope and Audience

The Handbook presents the information about the safety of playgrounds, which is useful for inspectors when carrying out checks of playground and playground equipment.

The main body of the book is divided into two parts: *Manual for inspectors* – the organisation of an inspection programme and *Appendices* – useful forms and the best practices.

The first part counsels the inspectors on the organisation of an inspection programme – from its planning until drawing up conclusions and informing the public on the outcomes of the checks. The authors would like to draw the readers' attention to the chapter 7.2 on management control, which explains the importance of checking whether area operators have prepared their own strategy for ensuring the safety of playgrounds.

The Appendices contain the practical knowledge about the safety of playground. This information is to be used during inspections, such as the most important definitions from the EN 1176 standard, the list of the accredited European laboratories where the playground equipment could be tested and the instructions for using test probes, which are accompanied by photos. One of the most useful tools that can be found in the Appendices is a checklist – a form containing crucial safety requirements, which will help the authorities to perform a comprehensive inspection.

In addition, the Appendices include examples of the national best practices gathered from European countries. For example, a chapter about audit in municipalities written by the *Directorate for Civil Protection and Emergency Planning*, Norway, or another chapter about consecutive steps of an on-site inspection carried out by *Direction Générale de la Concurrence, de la Consommation et de la Répression des Frauds* from France. It was the intention of the authors of this manual to provide for such a structure which will allow to an employee of the surveillance authority, who is about to make an inspection, to chose and take with her/him the chapter that she/he finds useful.

The manual is intended to be used by different public authorities in charge of performing inspections on playgrounds: not only the market surveillance bodies, but also the constructions surveillance authorities, the local authorities, kindergarten surveillance bodies and others.

### 3. Legal Background and Standards

Playground equipment is defined in the EN 1176 standard as “*equipment and structures, including components and constructional elements with, or on which, children can play outdoors or indoors, either individually or in groups, according to their own rules or own reasons for playing which can change at any time*”.<sup>4</sup>

Such equipment falls under the scope of the General Product Safety Directive (GPSD), given to the fact that no other European regulation provides for the safety requirements for this kind of products. For example, the New Approach Toys Directive states that the equipment intended to be used collectively in playgrounds is not regarded as toys and therefore is not covered by this act.<sup>5</sup> Some products, which may look like playground equipment (little slides, little houses), fall, however, under the scope of the Toys Directive, because they are not designed for a collective use.

For products regulated under the GPSD, including playground equipment, there is no requirement for the CE-marking, for the reason that GPSD is not a New Approach Directive.

The GPSD states that all products placed on the market shall be safe and, thus, they do not cause injuries to consumers. It is worth noting that only the playground equipment falls under the scope of the GPSD, unlike the whole playground area. Therefore, some safety aspects, which are linked to the overall playground maintenance, are covered neither by the GPSD, nor by any other European legislation. This is the reason why the lack of cleanliness, the protruding branches or the inappropriate proximity of a bench to a fence are regulated in national legal acts, for example in specific regulations on playgrounds and playground equipment, or in regulations concerning maintenance of cleanliness and order in municipalities.

EN 1176, parts 1-7, is applicable throughout Europe for the assessment of the safety of playground equipment. This standard is not harmonized with the safety requirements stipulated by the GPSD. However, the standard is currently the best tool to assess the safety of playground equipment, and producers are recommended to use this standard in the design and manufacturing of playground equipment. There is a common understanding that EN 1176 is applicable for the producers in their efforts to ensure safety of products. Moreover, there is the standard EN 1177, which relates particularly to the playground surfacing.

Furthermore, unless the specific national legislation states otherwise, there is no type approval system for playground equipment. This implies that the producer is not obliged to employ a third entity, for example a test lab, to prove conformity with the standard. Nevertheless, several producers choose this approach. One may consider this a positive measure from behalf of the producer and it may contribute to safer products in the market. After all, the producer is the person who should prove the safety of the playground equipment, and the easiest way is to follow the standard.

If a producer decides to contract a test lab in order to prove conformity, certain regulations have to be taken into consideration. The test lab should be competent to perform the tests in question, and it should be able to give evidence of such. Test labs that reclaim competence should undergo a quality assessment by the enforcement body and, thus, be appointed as a Notified Body (please see the chapter 7.6 to read about the use of laboratories in market surveillance or by building surveillance inspectors).

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<sup>4</sup> It should be noted that national specific acts on playgrounds might mention their own definitions of playground equipment.

<sup>5</sup> Council Directive 88/378/EEC of 3 May 1988 on the approximation of the laws of the Member States concerning the safety of toys (OJ L 187, 16.7.1988, p. 1–13).

In most of the countries, there are no specific national regulations concerning the safety of playground equipment, case in which the national legal provisions transposing the GPSD are relevant. Some countries, such as Belgium, France, the Netherlands, and Norway have adopted specific regulations on playground equipment or playgrounds based on the general product safety acts.

Apart from the regulations based on the GPSD, in countries like Denmark<sup>6</sup>, Estonia<sup>7</sup> and Poland<sup>8</sup>, the safety of already installed equipment is regulated in the building/construction law. These regulations require that the playground equipment is designed in such a way that ensures adequate protection against the health and safety hazards.

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<sup>6</sup> In 1995, a section on playgrounds was introduced in the *Danish Construction Regulations (Bygningsreglementet)*, which stresses that those particular rules also apply to playground equipment.

<sup>7</sup> The *Building Act*, which entered into force on 1<sup>st</sup> January 2003.

<sup>8</sup> The *Building Law* of 7<sup>th</sup> July 1994 as amended.



## 4. What Is a Good Play Area?

A good inspector should have an engineering experience, but he should also know what a child's needs are on the playground. Moreover, he should be aware of the value of the play as well.

Playing is an important part of a child's physical, social, intellectual, and emotional development. Children learn to manage risk in their play. Areas where they play should be as safe as they need to be. By exposing children to a certain level of risk in an environment, where the risks have already been carefully appraised, children learn how to assess risk for themselves. An "ultra safe" play area is both unlikely to get much use and to help a child to develop herself/himself into a well - rounded individual, who can correctly assess the risks in the everyday life.

Ensuring the safety of playgrounds is more than just checking dimensions. A risk analyst must gain insight into the quality criteria for play areas. Quality is more than safety. A high-quality play area shall not be "risk-free", but should present admissible risks.

The regulations aim to ensure a certain level of safety. Complying with these, helps diminish the number of various potential accidents, or even to prevent them to happen. Playground equipment must meet the safety requirements, which are laid down in the legislation. Safety is (only) the first precondition of a high-quality play area.

Plants (trees, bushes) can play an important role when building playgrounds with aesthetical and decorative function. Plants are ideally suited for delimiting zones in a playground. They create favourable circumstances to playing and provide opportunities for experiencing nature.

Nonetheless, plants have a screen function, offering shelter from the sun, wind and rain. Close border planting will form a barrier, which may prevent children from leaving the site in the heat of the game and from getting into a dangerous situation. For this purpose, as an addition to the standard, a playground may include other items, such as a tractor tyre, blocks of rock, a longboat, etc. It is also possible to make safe customised constructions. When evaluating a playground item, the risk analyst must consider the use that the equipment may potentially encourage.

Every inspector should bear it in mind that play areas should be as safe as necessary, and not as safe as possible.

## 5. Accidents Reports and Injury Data

### Reporting an Accident on a Playground to a Surveillance Authority

For the competent authorities, accidents reports are a very useful source of information about the hazards occurring at playgrounds. They will often lead inspections carried out at the playground, where the accident took place or, when appropriate, at the producer of the equipment involved in the accident.

For this reason, it is highly recommended to post a form for reporting accidents on the websites of the competent authorities. Parents, witnesses of the accidents, owners of playgrounds etc. can fill in such forms online. The form could be sent as well by fax or by conventional post. It should contain all the necessary information for the competent authority to investigate further the safety of the playground or of the equipment in question.

The person, who is reporting the accident, should account the following information:

- The operator data;
- The playground data;
- The involved equipment (detailed description, including the constitutive elements, the name and the address of the manufacturer);
- The date and time of the accident or incident;
- The age and the sex of the victim;
- The clothing worn by the victim, including footwear – this data is relevant for analyzing the cause of the accident, for example the entrapment of cloth or footwear;
- The number of children present at the playground;
- The number of children present at the equipment in question;
- A description of the accident;
- The location and the type of injuries sustained, if applicable;
- The measures that were taken, if applicable;
- Statements of witnesses, if applicable, together with the name and the contact details;
- The name and the contact details of the person reporting the accident;
- The proposed and the implemented modifications of the equipment, following the accident, if applicable (if there is a document certifying the implemented modification);
- The victim compensation, if applicable;
- Any other information (photographic material, video camera recordings, etc.)

Please check Annex D to see a sample of a form for reporting a serious incident or accident at a playground.

Please see the Annex E to read about the procedure of reporting an accident at a playground in Belgium.

## **The Relevance of Injury Data Overviews for Market Surveillance**

The overviews of injury data combined with the knowledge of the technical status of products provide indicators for the relevant critical inspection points/topics. The requirements included in standards (or in other relevant public information sources) can provide test methods and/or inspection procedures for these critical inspection points. Should any non-conformity cause a violation of these legal requirements, one may take adequate legal measures (if necessary legal powers for market surveillance are stated).

Overviews of injury data are also an important factor for establishing a policy for the severity of the legal measures. In court cases, the overviews of injury data may be supportive for:

- The necessary legal proof;
- The proportionality of the legal measures;

Please check Annex F to read about gathering data regarding accidents, in the Netherlands.

## 6. Overall Planning of an Inspection Programme

### 6.1 Risk Management Process and Prioritising:

Any inspection programme should be based on the risk management process regarding the playground equipment in the ordinary use. The person responsible for the inspection programme shall provide sufficient documentation to justify the programme.

The justification should be in written form and it should be based on the reports of the accidents (see chapter 5), the information from media, consumers, producers/importers or from other authorities. Such a report will contribute to the transparency of the decisions taken within every inspection activity.

A risk management process prior to the inspections implies setting the priorities for the programme. This paragraph should describe the major risks that are addressed by the project and how they are generally evaluated. It should also identify the basic risk assessment techniques that are to be adopted.

The project plan should describe what parameters are tested, what test method is applied, what requirements are for the product to comply and what risk is if the product does not comply. The description should be fairly broad and general:

- Description of major risks in concern;
- Methodology of risk assessment, risk assessment methods to reveal any possible injuries;
- Injury data;
- Possible impact on consumers;
- Historical data and experiences from other similar actions.

The initial risk management process, for most playground areas, will result in the inspection of the following main issues:

#### **Clothing Entrapment:**

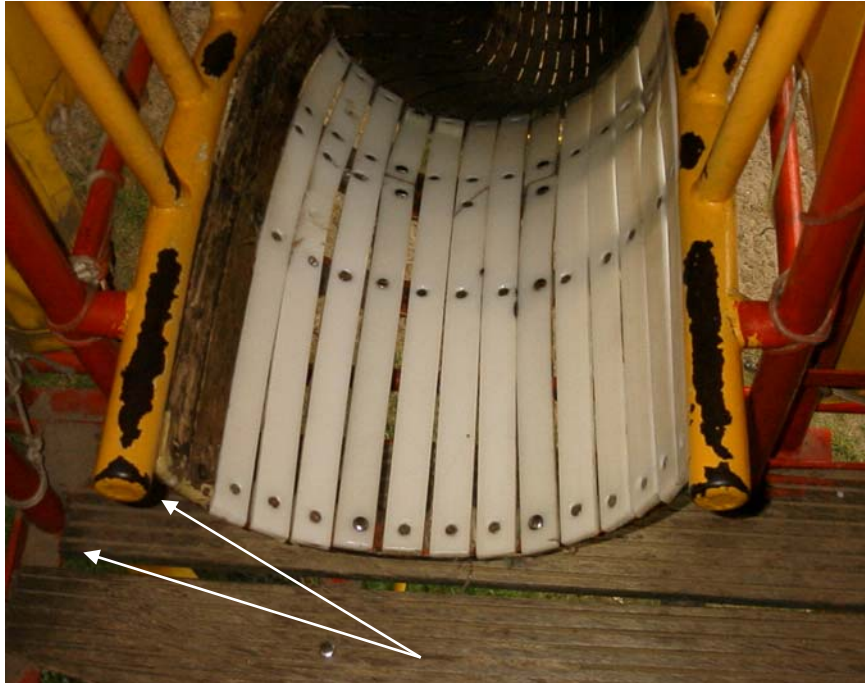
Strings of coats or parts of the clothing can be caught between parts of playground equipment, resulting in the accidental hanging of the child. This type of entrapment creates a real danger, if:

- The child's forced movement cannot be stopped and he is unable to free himself. A forced movement can be sliding down a slide, swinging back and forth a swing, or descending from a large height;
- There is a small angle or a narrow opening leading to entrapment;
- The point of entanglement is situated too high above the supporting surface. In this case, there is a real possibility for **strangulation**, as small children will miss any support. For example, with regard to the fireman's poles, according to the EN 1176 standard, the point of entanglement is situated 1,2 m above the supporting surface.

The hazard of entanglement can cause death or severe injuries.

It is worth mentioning that the Hindu girls are exposed to a greater extent to the risk of clothing entrapment, due to the long scarves that they wear. Therefore, inspectors from the areas with large Hindu population should pay special attention to this risk.

Please check Annex H for the explanation of the use of test probes.



### **Body Entrapment:**

Hazards presented by the situation in which a body, or part of it, can become trapped:

- Head and neck entrapment – openings, where a standing surface is at all times available on both sides at less than 600 mm below the lower edge, do not present any hazard, as the child has, in this case, a support for the feet);
- Fingers entrapment – during or as a result of a forced movement located at a place where the free fall height exceeds 1m);

- Body entrapment – this can include the situation where children become trapped in tunnels because the tunnels are too narrow. The standards provide certain minimum dimensions to ensure that tunnels are not too narrow.
- Foot entrapment;
- Head and neck entrapment:



- Fingers Entrapment:



**Inappropriate surfacing material:**

The most recent Consumer Product Safety Commission staff study on injuries that occurred on public playground equipment, and which were treated in U.S. hospital emergency rooms,

indicated that the majority of accidents (79%) had resulted from falls.<sup>9</sup> These were primarily falls under the respective equipment, against the ground surface, than falls from one part of the equipment to another part. This is why the surfacing material is crucial for the safety of the playground.



In the new European standard, there is a minimum requirement for the surfacing material of a playground: concrete, bricks or comparable hard surfacing material are not allowed, if the free height of fall is more than 60 cm. The risk for brain damage is too high. If the free height of fall is less than 60 cm, then hard surfacing material is allowed to be used.

Falling against inappropriate surfacing material may cause from small abrasions (**grazes**) to severe injuries (**broken bones or brain damage**).



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<sup>9</sup> Tinsworth, D.K. and McDonald, J.E.; *Special Study: injuries and Deaths Associated with Children's Playground Equipment*. U.S. Consumer Product Safety Commission: Washington DC, April 2001; reference taken from: Consumer Product Safety Commission "Public Playground Safety Handbook", April 2008.

### **Incorrect installation:**

The incorrect installation of the playground equipment can also cause from **small abrasions (grazes)** to **severe injuries (bruised parts of the body, broken bones, brain-damage or choking)**; (e.g. the concrete foundation comes above the ground-level). Incorrect installation of the concrete foundation leads to:

- Stumbling;
- Falling on a hard and point-like part.

Incorrect installation of the surfacing or its lack of maintenance often creates stumbling or falling hazards.



### **Shearing and crushing:**

The standards make provision to ensure that situations, where equipment parts move, are not likely to result in serious injuries. This may include ensuring that there is sufficient space between a moving component and a static one, such as between the beam of a seesaw and its support structure. This hazard can even lead to the **loss of limbs**.

### **Lack of handrails, guardrails or barriers:**

The standard helps to define methods to prevent the children from falling from heights, such as the provision of handrails, guardrails.

### **Collision:**

Children may collide with each other, or with parts of playground equipment. The standard specifies requirements to minimise the likelihood of these occurrences. For example, swing seats must be placed at a certain minimum distance from their support structure, in order to trim down the possibility of hitting against it when swinging.



### **Broken or missing parts and poor finish:**

Only broken or missing parts, which influence the safety during play, are determined as defective. A broken part consists out of at least two pieces. In most cases, a rotten or worn out equipment has broken or missing parts, which will often lead to a child's inappropriate behaviour, and, thus, small or severe injuries. Sharp components of the playground equipment clearly have the potential to cause unnecessary injury.



### **Hazards:**

Overall, the following hazards may occur on playgrounds:

- Head and neck entrapment (including strangulation);
- Shearing, loss of limbs, crushing;
- Falling due to the lack of handrails, guards or barriers;
- Injuries due to inappropriate surfacing;
- Collision among children or against parts of playground equipment.

The most frequent accidents, which take place during play and other leisure activities (not restricted only to play on playgrounds), are falls (54%), collisions (20%) and crushing, cutting, piercing (12%).<sup>10</sup>

## **6.2 Project Plan Setup**

If the programme is broad and it includes several inspectors, then it is advised to develop a project plan, as means to clarify and define all the relations and connections with the practical performance of a project.

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<sup>10</sup> Injuries in the European Union, Statistics Summary 2003-2005 featuring the EU Injury Database (IDB), II issue, Vienna, October 2007, page:22, Figure 24

## **Project description**

In the project-planning phase, one must consider all the headings mentioned below. However, some issues may not necessarily be tackled, if there are well funded reasons to do so, such as in the case of a small project, where very few persons are involved.

- Overview and main principles of the project;
- Background – mentioning the reasons why this project is necessary and important, including the risk management aspects;
- Mandate and scope – terms of reference;
- Market review: playgrounds in operation, number of equipment etc.
- Objectives – what do you want to achieve?
- Target groups – who are the actual stakeholders?
- Methodology – the way to perform the project (sampling, testing etc.);
- Essential requirements with reference to legislation and standards.

## **Cooperation with different stakeholders**

Every market surveillance project will certainly raise the interest of other organisations and stakeholders. It is of vital importance to assess possible interested parties in advance, in order to establish necessary relations for the benefit of the project.

This paragraph should include the names of the persons/organisations/companies and the manner in which they are or will be involved, and when they are to be involved.

- National cooperation with other enforcement bodies, for example, with construction surveillance or local authorities;
- Risk communication with stakeholders (owners of the playgrounds, producers, importers, traders, technical experts) or other authorities;
- Cooperation with business and consumers associations;
- Strategy for the contact with the media.

## **Project organisation**

This topic presents the responsibilities and tasks of the people involved in the project. One may also include the period of the project, the specific dates, and the manner for reporting on the progress of the project.

- Presentation of the involved personnel;
- Personnel's tasks, responsibilities and commitments;
- Time frame and milestones (what to do, where and when?);
- Visits to playgrounds in operation;
- Playground equipment to be tested on the spot including testing parameters;
- Communication plan;
- Final report ready;
- Reporting procedures: content and period.

One may consider the above-mentioned items as examples. It is important to notice that the project management defines milestones within the scope of the project.

## **Human resources**

To succeed with market surveillance projects or activities it is of great importance to define human resources and necessary competence.

- Necessary personnel resources;
- Competences needed;
- Required skills;
- Availability and reliability of resources.

## **Financial aspects**

The plan must also present a budget broken down in number of man-days to be spent and all types of external costs. Budget plan should cover:

- Cost of personnel;
- Expenses regarding:
  - Travel;
  - Information;
  - Gathering of data;
  - Analysis of results.

## **Verification – main principles**

In the planning of the verification, one should decide how deep to go into the check of products or product groups. The deeper you dig into checking the more resources you will employ. Certain questions may arise. One must deal with the following issues:

- Documentary check – producers' identification, instructions for use and maintenance, reports on maintenance and repairs;
- Check points on standards with reference to risk assessment/dangerous properties. Check lists;
- Testing on spot (tools);
- Reporting forms.

## **7. Implementation of an Inspection**

### **7.1 Planning an Inspection**

The proper planning of an inspection will save many efforts once the inspection has started. The inspector who will do the inspection should carry out this preparation. Planning will normally cover the following issues:

#### **Obtain contact information**

The inspector should obtain detailed contact information of the person who will attend the inspection on behalf of the playground manager.

#### **Make the appointment**

The inspector should agree with the contact person when and where to meet. It will often require being very specific when setting the appointment, as playgrounds can cover a very large area or be spread over several locations. Furthermore, the contact person is most often working in a place away from the playground.

When making the appointment, it is also important to inform the contact person about what materials should be brought for the meeting, for instance the logbook. This will enable the inspector to carry out the examination of the documents in the office.

#### **Prepare for the inspection**

It would be helpful if the inspector obtains an overview of the playground beforehand the inspection. For example, when making the appointment, the inspector could ask the operator to prepare a copy of the documents showing his last year's actions, the map of the playground, the list of products and the inspection and maintenance schedule, etc. (see the chapter 7.2). The inspector may also ask to receive the photographs of the playground. This information will indicate to the inspector what kind of shortcomings to look for.

#### **Pack a toolbox**

The toolbox is the basic checking and testing equipment to be used by market surveillance inspectors.

The test probes (see the Annex H) are the most adequate and professional devices destined for checking playground equipment by the competent authorities. The test probes should always be used in the inspections. On their basis, the competent authorities will take legal measures and, consequently, the case could go to court.

However, at the beginning, market surveillance inspectors will often have to carry out preliminary tests in order to make an initial risk assessment of the playground equipment. This initial investigation will provide them with the necessary information to decide whether the product should be taken for further investigations or actions.

If necessary, it has to be settled whether the playground equipment is to be put through a test by using test probes or by employing a laboratory.

For this purpose, when inspecting playgrounds, apart from the professional test probes, it might prove beneficial to have such tools as:

- **A digital camera;**
- **A folding rule or a measuring tape and a long rod (1½ - 2m)** – to indicate heights above the ground;
- **A compass** – to determine if the chute of slide is exposed to the South and, therefore, subjected to excessive solar radiation;
- **An angle finder** – to find out if the inclination of the chute of slide is appropriate;
- **A level floating rule 1m** – to ascertain the angle of the run-out section of slide;
- **A screwdriver (or a small knife)** – to check for rot in the wooden poles;
- **Different types of Allen keys** – to check connections;
- **Hammer and a screwdriver** – to remove plastic covers,
- **A shovel** – to remove soil, to check wooden poles for rot or clear basic level marks or to investigate loose materials of the surfacing;
- **A level** – to check if the steps of climbing ladders have appropriate angles,
- **Brush with metal filaments** – to check corrosion (however, the inspector should pay attention to use such a brush only with the equipment, where the corrosion is visible, otherwise, he could scratch good equipment);
- **Set of sockets with ratchet** – to be able to reach nuts, which are placed in holes;
- **Ladder** – to check places that have difficult access, elements, which are on heights, for example cross beams of swings;
- **Adjustable spanner** – to adjust or take out the bolts;
- **Paper, pencil and a clipboard;**
- **A chain and padlock** – to put out of action an unsafe equipment, and, therefore, to not be used by children until it is repaired;
- **A bright tape** – to tape an unsafe equipment that was disabled and to write a warning note about the risks it poses;
- **Fluorescent jacket** – to be worn by the inspector (preferably having the name of the surveillance authority written down on it). This will enable the passers-by and the parents to distinguish clearly the inspector at work.

## **Pack documents and identification material**

The inspector should always identify himself before starting the inspection. Furthermore, it is considered good practice to inform about the purpose and the outcome of the assessment. For this purpose, the inspector should bring the following documents:

- **ID card;**
- **Business cards;**
- **Information leaflets** (in general, regarding the surveillance authority and, in particular, concerning playground inspections);
- A **form** to be filled in by the inspector on-site, which shall indicate the name and the contact details of the inspector, the purpose of the inspection, the date and time and, if possible, the observations from the tests.

## **Prepare a checklist**

The inspector should do a preliminary research on the playground equipment as means to performing an initial risk assessment and to decide if the product should be taken for further investigations.

A checklist should be prepared indicating the checks that should be done as part of the inspection (see the Annex C).

## **7.2 Documentary Checks, Including Management Control**

The purpose of a documentary check is to find out whether all the necessary documents are available and correct. Depending on the powers that a given authority has, the inspector will check the playground equipment documentation on the market or the one referring to the playground management.

### **7.2.1 Documents Accompanying the Playground Equipment**

These documents should accompany each product, which is offered for sale. Therefore, every owner of a playground should receive them on the purchase of products.

The necessary documents usually comprise the following:

- Technical documentation showing the construction of the equipment;
- Instructions of use;
- Test reports or other documents demonstrating the conformity of the equipment;
- The size of the minimum space and the requirements concerning the use of the surfacing;
- Product identification and producers name.

A checklist for documents accompanying the playground equipment can be found in the Annex C (part 1 of the checklist).

## 7.2.2 Documents Attesting To A Management Control

The playground owner/manager is responsible for the safety of his/her playground. An important issue is the maintenance of the playground equipment. Well-maintained playground equipment will apparently, but not necessarily, satisfy the safety requirements and, thereby, reduce the risk level for the user. This is the reason why it is necessary to investigate whether an area operator has prepared his/her own strategy for ensuring the safety of playgrounds.

The operator should be (or is under the national legislation) required to develop a management system to ensure the required level of safety of the playground. One of the most important documents that would make up the management system is a technical history (logbook). This should contain information about the inspection, maintenance, as well as about repairs, replacements or any other important events, which are relevant for the safety of a playground. This management system must be derivable from the playgrounds operator's inspection schedule.

The management system should at least:

- Be able to prove that a risk analysis has been carried out;
- Keep available the results of the risk analysis and the preventive measures established on the basis of the said results;
- Keep available the inspection and maintenance schedule;
- Keep a list of each item of the playground equipment (name, number, type, producer etc);
- Keep the plan of the playground showing the location of each equipment;
- Include the procedure on how to act in case of emergencies, for example, a fire or an accident;
- Be able to demonstrate that the inspection and maintenance schedule is being implemented correctly with regard to each item of the playground equipment by keeping a logbook with historical data;
- Keep the data showing inspections, which were carried out by public authorities (as a part of the logbook).

In order to prevent accidents, the operator, assisted by third parties, if necessary, has to design and implement an inspection and maintenance schedule.

This timetable should at least provide an insight into how the inspection and the maintenance are organised. The schedule shall comprise no less than:

- The routine inspection;
- The operational inspection;
- The annual inspection;
- The maintenance.

The inspection schedule should take into account both the local conditions and the instructions of the manufacturers of the playground equipment. In fact, an item and parts of it thereof must be inspected, maintained and checked in accordance with the manufacturer or supplier's instructions and directions. What's more, the periodicity of the inspection and maintenance must at least comply with the periodicity specified by the manufacturer or the supplier.

In addition, the operator should draw up **a list of the parts** to be inspected at the time of the regular inspection, the maintenance and the periodical inspection.

A checklist for documents accompanying the playground equipment can be found in the Annex C (part 2 of the checklist).

**The identification of each item of the playground equipment** (name, number, type, producer etc.) is required, in order to be able to assess its operation and maintenance. Furthermore, this identification is necessary to enable an area operator or an inspector to look into the record and the history of the playground equipment. The identification has to be visible on the equipment for establishing relations between the logbook and the equipment in question (please check the point 4 of the instruction for the checklist, included in the Annex C, to see the example of identifying information placed on the playground equipment).

### **7.3 Technical Inspection Of A Playground**

Technical inspection of playgrounds may be divided into two parts (1) the equipment and its surfacing as such, and (2) the overall playground condition (traffic, vegetation, surroundings, cleanliness). The scope of the inspection will result from the powers of the concerned authority, which are conferred by the national legislation.

#### **7.3.1 The Equipment<sup>11</sup>**

The inspection of the equipment can be carried out either at a producer / distributor premises (with regard to new equipment) or at a playground. In the latter case, the inspection will cover not only the issues referring to the construction and the technical properties of the equipment and the surfacing, but also the maintenance.

The operator is responsible for the safety of the playground equipment. The technical status of any playground equipment will tell whether a proper maintenance programme is put in place or not. It is of vital importance to check both the documents attesting to a management control, especially the logbook, and the equipment in use.

During the assessment, the inspector may bend on his knees to be able to check for details. However, the inspector should also think about protecting his head, for example, he must not place his head under the seat of a swing or below the chute of a slide, before looking first, because it may happen that youth or adults leave syringes and blades there.

A lack of proper control and maintenance of elements, which are partially buried in the ground and are the most exposed to corrosion and rotting, leads to many accidents. It is hard to imagine an inspection without checking upper parts of the structure, especially for wooden swings. Water accumulates mostly on horizontal elements, thus biodegradation processes are accelerated over there.

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<sup>11</sup> [www.kidshealth.org](http://www.kidshealth.org), [www.les.bf.uni-lj.si](http://www.les.bf.uni-lj.si).



## **General requirements:**

- All the equipment that has a secondary function (e.g. rocking and rotating) shall be assessed against all the additional parts of the standard that applies.
- The size of the equipment and the degree of difficulty that it poses should always be suitable for the intended users.
- The risks presented by the equipment should always be apparent.
- Water (rain) should not accumulate on the equipment, unless it has been specifically designed for this.
- The equipment must allow access to adults.
- All enclosed equipment (such as tunnels) longer than 2,000mm must have at least two openings one at each end to allow escaping.
- There should be an information table installed on the playground, which should display the name of the responsible for its maintenance, the address of the playground area and emergency numbers.
- A basic level mark must be inscribed clearly and permanently on the equipment. This mark shows the level to which the surfacing should be maintained.
- The equipment should be marked so that it can be identified. The marking should include name and address of supplier, equipment reference number, year of manufacture, the number and date of the standard (EN 1176-1:2008) (please check the point 7.2.2 above).

The most important factors in evaluating the safety of any playground are the surface, the design, the spacing and the maintenance.

## **Surface**

A proper playground surface is one of the most important factors in reducing injuries. The surface under the playground equipment should be soft enough and thick enough to soften the impact of a child's fall. For synthetic surfaces made on site, or in case of any doubts whether natural surface guarantees proper shock-absorption, it is necessary to conduct a test impact (HIC test) according to standard EN 1177. Some things to consider:

- Concrete, bricks, or comparable hard surfacing material are not allowed in the EN 1176 standard if the fall-height is more than 60cm and/or for equipment which causes a forced movement of the user's body, e.g. rocking horses. The risk for brain damage is too high.
- Topsoil and packed-earth surfaces can turn out to be also unsafe because weather and wear can reduce their capacities to cushion a child's fall. In good condition, it may be used if the fall height is less than 1m.
- Turf is acceptable, if well maintained, if the fall height is less than 1m, and it may be used without the need to conduct a test. Over 1m fall height, impact attenuation tests are required. Irrespective of that, in some countries, playgrounds with turf surface should be closed periodically due to weather conditions.
- Surfacing mats made of safety-tested rubber or rubber-like materials are also safe.

- Rubber mats and wood chips allow the best access for people in wheelchairs.
- Surfaces made of artificial grass carpet are more and more popular among playground operators. Before they were only used on sport pitches, but, thanks to the application of an adequate foundation, they can be used for different free fall heights.
- Loose-fill surface materials should have 300mm depth to the height of 2m and 400mm depth to the height of 3m.
- No surfacing materials are considered safe if the combined height of the playground and the child (standing on the highest platform) is higher than 3.7m.
- The impact area is an area required to have an impact absorbing playground surface, which has been fully tested to the requirements of EN 1177. In order to evaluate whether the dimensions of the impact attenuating surface are appropriate, the following elements should be considered:
  - The dimension of the free height of fall;
  - The dimensions of the falling space;
  - If the standard or the manufacturer provides more stringent requirements concerning the size and type of surfacing for the given equipment.
- The area of surfacing depends upon the potential height of fall. Children rarely fall vertically; they tend to fall away from equipment, thus the higher they are when they start falling, the further away they land.

The instructions provided by producer may be helpful when assessing the correctness of the dimensions of the surfacing; however, they may contain mistakes. It should be born in mind that the free height of fall is measured from a part of the equipment that is clearly intended for body support to the falling surface below it. It can happen that a manufacturer affixes some additional reinforcing elements on the equipment, without taking into consideration that children may use it as a bar and hang on it during play. In other cases, producers may forget that children eagerly climb on roofs of little houses. In these two examples, the real free height of fall may be different than the one stated in the producer's instructions.

In general, the impact attenuating surface should extend at least 1,5m with fall height of 1,5m, with the higher height it should be (2/3 fall height plus 0,5m). Surfacing should extend by at least this amount around the equipment.

For seesaws, spring rockers and rocking horses, the surfacing should extend to at least 1m, measured when the equipment is at the extreme of its movement.

For swings, a different calculation is necessary:

- Measure the distance from the pivot point on the top bar to a seat surface. Multiply this dimension by 0.867m and then add 1.75m for all surfaces except loose fill or 2.25m for loose fill. The surfacing should extend by at least this distance front and back and for at least 875mm either side of the centre point of the swing seat.

The minimum impact-attenuating surface used in the minimum spaces of slides, cableways and carousels should protect the user in case of a fall from the height of 1m.

For swings, spatial networks and rocking equipment, the impact-attenuating surface depends on the level of free fall height. The fall height for swings is calculated in this manner: 'length of the suspension member'<sup>2</sup>/2 + 'height of swing seat at rest'.

- The surfaces may be loosely filled in with materials like wood chips, mulch, sand, pea gravel, or shredded rubber.
- With regard to the equipment installed on the loose fill surfacing, as well as the equipment, which is claimed to be in accordance with the standards, a producer is required to fix on each playground a clear and indelible mark indicating a basic level of the surfacing. This mark shows the level to which the surfacing should be maintained. The play area operator is obliged to maintain properly these marks so that they stay visible. In case there is no such mark, the inspector should try to find out what are the reasons, for example, whether the mark was not permanent or accidentally painted over when the equipment was redecorated. Marking of the proper level of the surfacing might not be feasible on the disc carousel (called a classic carousel according to the definition 3.3 in the 1176-5:2008 standard). In this situation, the marking can be fixed higher with an additional explanatory information, for instance "the level of the surfacing = minus 50cm".

## **Design and Spacing**

In the new versions of the standards, there is no separation of the equipment accordingly to the age of the user. Thus, there is no distinction between the equipment destined to be used by children under and over three years old.

On the contrary, there is the division based upon the accessibility criterion. Otherwise stated, the playground equipment should be assessed whether it is easily accessible for children under 3 or not). Consequently, the use of "no permission signs" for children under three years old, when the equipment is easily accessible for children under three, is incompliant with the standard.

Please find below some elements to check out on the equipment in order to make sure that it is designed and spaced to be safe:

- Falling space – the space occupied by a user falling from the equipment shall be 1.5m from a point directly below the elevated part of the equipment, unless a bigger impact area is required.
- Impact area – the area required to have an impact absorbing playground surface, which has been fully tested to the requirements of EN1177. An impact-absorbing surface should be used when the free height of fall measures 60cm or more (please see the information about the dimensions of the falling space discussed at the point "Surface").
- Equipment separation – free and falling spaces shall not contain any obstacles. There shall be no overlapping of adjacent free spaces or an adjacent free space and falling space.
- Main routes at or through the playground shall not intersect the free space.
- Play structures more than 60cm high should be spaced at least 3m apart.
- Swings, seesaws, and other equipment with moving parts should be located in an area separated from the rest of the playground.

- Make sure that there are no spaces, where a child could trap his head, arm, or any other body part. All openings of the equipment (for example, rungs on a ladder) should measure less than 89mm, or they should be wider than 230mm.
- Playground equipment with moving parts – akin to seesaws and merry-go-rounds – should be checked for pinch points that could pinch or crush a child's finger or hand.
- Guardrails and protective barriers should be in place for elevated surfaces, including platforms and ramps.
- A playground must be delimited, surface must be considered.

## **Maintenance**

- The playground equipment should have a good structural integrity, so all fastenings must be in good condition, and the anchorage must be secure.
- There should be no broken equipment.
- Wooden equipment should not be cracking or splintering.
- Metal parts of the equipment should not be rusted.
- Surface materials on the playground should be maintained regularly, so that the surfacing is loosely packed and covers all appropriate areas of the fall zones surrounding playground equipment.
- The playground equipment should be made out of durable materials, which will not fall apart or worn down too much by the weather.
- All iron elements on the equipment should be secure, with no loose or broken parts. Plastic and wood should show no signs of weakening, and there must not be any splintered or rusted surfaces.
- There should be no objects that stick out on equipment (like S-shaped hooks, bolts, sharp or unfinished edges) in the way that a child could be cut or her/his clothing could be entangled.

The crucial safety criteria provided by the EN 1176 and EN 1777 standard are described in the part 4 (mark of the basic level of the surfacing, label with identification data) 6 (surface) 7 and 8 of the checklist and the which can be found in the Appendix C.

The methods of checking playground equipment according to the EN 1176 standard are described in the Appendix H.

### **7.3.2 Overall Playground Condition<sup>12</sup>**

The safety of a playground is not solely linked to the playground equipment and its surfacing, but also to additional elements such as vegetation, benches, surroundings and overall cleanliness. The power of surveillance authorities to check these elements will result from the national legislation, on the basis of which the inspection is being carried out, for example national acts on the safety of playgrounds or acts on maintenance of cleanliness in municipalities. As neither the EN 1176 and

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<sup>12</sup>This chapter was written on the basis of materials provided by the Royal Society for the Prevention of Accidents (RoSPA).

EN 1177, nor the GPSD provide the safety requirements concerning these ancillary items, market or construction surveillance authorities usually do not have powers to enforce corrective measures to an operator, unless the specific national act states otherwise. Even so, the inspectors, who will spot these irregularities, can always inform the area administrator about them by issuing non-obligatory recommendations.

#### **Access:**

The inspection should start before the entrance gate to a playground. The road warning signs should be present in the complete number. It should be checked whether the access paths are in good condition and free of any weeds or other tripping hazards, for example manhole covers which stick out. Protruding or overhanging branches should be cut back from the pathway.

#### **Division Of Play Area For Two Age Groups:**

Even if the standard does not provide requirements with respect to this, in the safest playgrounds, play areas for younger children are separated from those meant for older kids. Therefore, ideally, the play area should be designed for two different age groups, for example: 2- to 5-year-olds (preschool children) and 5- to 12-year-olds (school-age children). In this case, signs should clearly designate each area to avoid any confusion.

#### **Fence:**

Parents like fences claiming that they will protect children from hazards from the outside of a playground, but a fence is not always necessary, for example, when a high and thick hedge is planted along the border of a play area.

Playground should always be fenced when there is a river, a road or another kind of danger nearby, as well as in places where unsupervised dogs could walk into the playground. The fence should be in good condition to prevent children from running into the traffic from the surroundings and it should not have any protruding bolts.

Moreover, the fence should be constructed with a minimum recommended height of 1.0m. Particular attention should be paid to the possibility of crawling under the fence, or climbing over it. The top part of the fences at the height of more than 600mm should be examined against the hazards of the head, neck, feet and cloth entrapment.

#### **Gate:**

Many accidents, in which children's fingers are involved, happen because the gates are not in good condition. The gate locking mechanism must be built in such a manner that small children cannot open it. Self-closing mechanisms should work properly: the gate opened wide at 90° should ideally not close quicker than 5 seconds to make access easier for the wheelchair users and to prevent it from striking the back of children walking through. Spring covers should be in good condition.

The gap between the gate and the post should be not less than 12mm on either side of the gate in order to prevent finger entrapment. In addition, the gap between the ground and the bottom edge of a gate should be between 60mm and 110mm so that a child does not hit the gate with his toes. Gates should normally open outwards except if this could cause a hazard to others (i.e. opening

into the path of pedestrians/cyclists etc). If gates open outwards, than this will stop dogs from entering the playground, as it is much harder for dogs to pull a gate in comparison with pushing it.

Moreover, one may admit that even in the best-regulated area, accidents can occur and, therefore, it is essential that emergency vehicles can enter the playground. An ambulance requires an opening of at least 2.15m and, if possible, the ambulance should be able to get right up to the area in case. The vehicle access gate should be locked. It is also important that the gates are located in such a way as not to create a movement clash. It is surprising how often the only way to and from a gate is, for instance, across the arc of swing of swing seats.

### **Signs:**

Warnings and markings related to the safe use of the playground must be written at least in the language(s) of the linguistic region, where the playground equipment is installed. These warnings and markings must be displayed in a clearly legible form and in an easy to notice and conspicuous location for the users. They should indicate rules of conduct at the play area, for instance, that it is prohibited to climb on top of little houses or to play football. Each playground should be provided with a permanently fixed sign that contains the following indelible markings:

- Name or company name of the playground operator,
- Address of the operator,
- Phone numbers of emergency authorities.

Preferably, a sign should be placed at each entrance gate/point to the play area. If there are two gates, then a sign can be fixed in a central location of the playground. If there are other hazards, such as deep water or overhead cables, then it is a good idea to place a warning sign at each park entrance. Signs and/or labels posted in the playground area should give some guidance to the supervisors regarding the age appropriateness of the equipment.

### **Cleanliness And Protruding Items:**

The playground surface should be free of standing water and obstacles that could cause a child to trip and fall, such as rocks, tree stumps, and tree roots. There should be neither dangerous materials like twisted metal nor litter, like broken glass, bottle tops or cigarette ends. The surfacing should be free of algae so that children will not slip on it. The dog fouling should be removed.

### **Planting:**

Branches or plants should be no lower than at 2,4m above the ground. One should check if tree ties and stakes are in good condition. Thorny and prickly plants should be avoided in the middle of the play area and along walkways. They may be used to good effect when planted on the periphery of the play area, away from walkways or as a natural barrier to an inaccessible zone.

Please check the Annex O, question n°27 for a list of plants, which should not grow on a playground, due to their toxicity.

### **Litter bin:**

All litterbins should be securely fixed to the ground, as well as complete and undamaged. A litterbin should be at a distance of 2m from seating in the playground. If the distance is bigger, then children will use it as a basket bin, and if it is smaller, then insects attracted by the bin will be flying too close to children, especially in the summer. The inspector can check if the bins have been emptied – if not, he/she ought to inform the local council. Dog litterbins should not be positioned on the play area or adjacent to it.

### **Seats And Benches:**

All seats and benches should be securely fixed to the ground. They should be complete, undamaged and the paint should be in good condition. Benches should be at a distance bigger than 1m from the fence, otherwise children might try to stand on them in order to overcome the fence. There is another reason for this: placing a bench too close to the fence will make it difficult for a maintenance service to clear the surface between the fence and the bench.

### **Sandbox:**

If a playground has a sandbox, check for dangerous objects such as sharp sticks or broken glass, and make sure that the sand is free of bugs. Sandboxes should be covered overnight to prevent contamination from animals, such as cats.

The safety criteria referring to ancillary elements which can be found on a playground are included in the part 4 (table with regulations) and part 5 of the checklist, which can be found in the Appendix C.

## **7.4 Proceedings During An Inspection**

### **Authority**

The powers of the officials are specified in the respective legislations.

In practice, this means:

**1. For the performance of their duties, the inspectors must be granted permission to enter all premises and buildings at any time.** This includes not only the actual playground, but also all the other premises that may be relevant to an inspection, such as offices of an area operator where relevant documents regarding playground safety are located. If the site, which is to be visited, requires special permits (e.g. like for a residential building), then the inspectors, prior to taking respective actions, should have available the necessary documents – order, court permission, specially set check by police officers etc.

**2. Inspectors may establish all appropriate findings and hear all parties involved.** The inspector prepares an inspection report, takes photographs, measures and tests certain items of the equipment as necessary. The inspector may also ask those present to prove their identity.

**3. Inspectors may inspect any relevant books and records and take copies of the same.** All documents requested by the inspector must be made available, so she/he can inspect them, take notes and copies as required.

**4. Inspectors may confiscate all books and records subject to acknowledgement of receipt.** The operator is required to hand over the documents, but the inspector cannot take them with him, unless she/he issues an acknowledgement of receipt.

**5. Inspectors may take samples.** Taking samples means that small or larger parts of a piece of equipment are taken for examination. Examples include loose parts or paint scrapings.

## **7.5 Risk Assessment On The Spot**

The risk assessment for playground equipment may be performed according to the RAPEX model, or to the model developed within the frames of the EMARS project.

Usually a risk assessment is carried out when the serious risks posed by a product are not obvious, or there are no harmonized standards available or known by the inspectors.

The risk assessment for playground equipment might be simplified through a descriptive document, which gives an account of the dangerous properties or potential injuries that should be prevented.

In chapter 6.1 you will find a descriptive text giving an overview of possible shortcomings. In the planning process, it is wise to look into these parameters and pick those that impose the highest risk for the user. While performing the inspection on the spot, it is recommended to use the checklist from the appendix C. Once an inspector has filled in the checklist, the risk assessment should be made based on the found non-compliance.

## **7.6 Testing In Laboratories**

*For recommendation only. It has to be evaluated in each case.*

In carrying out the inspection of a playground, technical parameters are checked with reference to the relevant standards and potentially dangerous properties like openings, sharp edges etc. One may find a complete inventory of checkpoints in the checklist from the Annex C.

The examination is carried out on the playground and the revealed shortcomings have to be immediately referred to the operator. If the drawbacks present by their very nature serious risks, then this will lead to a ban on use, until the defects are repaired or the equipment is removed. In this case, no test laboratory is needed, due to the fact that the decision is built on a qualified risk assessment of the equipment. In this situation, the shortcomings will be notified as lack of maintenance or incorrect installation or use.

If the shortcomings are due to construction or production failures, then there is a need to go further with the investigation. First step is to contact the importer or producer to ask for technical documentation to prove compliance with the relevant safety requirements and standards. If conformity cannot be demonstrated, then further testing should be taken into consideration. A testing in an accredited test laboratory should be initiated when shortcomings related to safety aspects are discovered. If this proves lack of compliance, further actions have to be carried out towards producer/importer, such as the recall or sales ban.

For the list of laboratories – please see the Annex I.



## **7.7 Immediate Reporting To An Operator And Legal Measures Taken After Each Inspection**

Proceedings, measures and sanctions that the competent authorities can apply following the inspection depend upon the national legislation.

Should any violations be found, besides from describing them in the checklist, the inspector must draw up an official report, statement or letter and send it to the party involved by registered mail. Where hazards pose an unacceptable risk, the offender should be notified immediately by telephone or in person. A written report or letter shall also be subsequently provided.

For the playground equipment offered for sale, the competent authorities could take the following possible measures, which are described in the GPSD: making marketing subject to prior conditions (like providing instructions), ordering that a warning of risk should be given to the users of a specific equipment, imposing immediate withdrawal from the market or, for the most dangerous products, ordering recall from consumers.

With regard to the inspection of a playground, if appropriate, the competent authority could demand the owner of an area to fill in the safety information displayed on the table or the identification data on each piece of equipment, as well as to repaint the basic level mark of surfacing.

The inspector could also give recommendations with respect to the nature of corrective measures that should be taken. In case of a serious risk, the service should be suspended until the safety of the playground is restored. The inspector should keep in mind the fact that even if only one item of the playground equipment poses a serious risk, than to whole playground is exposed to the implied serious risk. In this case, the item should be effectively put out of service until it is repaired. Should it not be possible to be repaired, the playground must be closed. Before ordering the suspension or a definitive closure of the service, the owner or the area operator should be consulted. The order of closure of a playground should be given only if other less restrictive measures will not assure that the safety is restored. The inspectors should be aware that closing a playground would encourage children to play in unsuitable places, for example near a road.

Please see Annex J to read about the legal follow-up with the operators in Belgium.

## 8 Analysing And Writing A Summary Report Of An Inspection Programme

When the project is finished, the best practice is to report the results and to evaluate the project. Reporting the results will ensure that the output of the project is kept for future reference. Evaluating the project will ensure that the authority learns from it.

The reporting should include reflections over the result of the project:

- Were the results different from what expected?
- What are the implications?

The reporting should also present suggestions for next steps.

The evaluation also means that lessons learned about the methods applied in the project are extracted from the project and possibly implemented as improvements to the authority's project handbook. Such conclusions should also be mentioned in the final report. The headings in the final report could follow closely the headings in the project plan proposal:

- Project description;
- Project setup;
- The extent of the project (which could include something about the size of the organisation of the project);
- Organisation of the project (which should also tackle the cross border cooperation, cooperation with customs, involvement of stakeholders and choice of test laboratories);
- Methods (which should include something about sampling techniques, risk assessment techniques, use of standards and test methods);
- Results (number of products tested, result of testing and risk assessment, the number of products recalled, banned from sales and improved, etc. as well as reflections on the outcome of the efforts);
- Follow-up on time schedule and budget;
- Evaluation of the project (which should reflect on the results and the method and present suggestions for next steps);
- Communication (which should present suggestions for communication arise from the project and its results).

Such project reports could contain valuable information from which other Member State authorities could learn. Therefore, it is strongly recommended that they are uploaded on to the knowledge base set up by EMARS WP1 (Enhancing Market Surveillance through Best Practice, a PROSAFE project supported by the European Commission, Work Package 1 - Knowledge Base).

The structure of the final report and the structure of the project plan setup are quite similar. Therefore, the authority might find it beneficial to use the above headings as a "live working paper" throughout the development a project. The project plan setup is derived from this working paper at the early stage of the project. Results and information are filled into the paper as they are obtained, and the final report is derived from the working paper at the end of the project.

## Assess Experience Gained During The Project

The conclusion of a project should include an evaluation of the project to ensure that the authority learns from the project. This evaluation should comprise both the results and the method. (This follows the plan-do-check-act cycle well known from project management.). When evaluating the results from a project a distinction is often made between “output” and “outcome”. In the case of market surveillance project those two terms could be defined as follows:

The output is the immediate results, e.g. the number of products tested, the number of dangerous products found, and the number of products recalled from consumers, etc. The outcome is the resulting implications on the level of safety. The output can be considered from the data that is registered on each specific case. Such registrations would normally include all documents sent to or received from the economic operator, which means that the resulting measure against the product can be found in the text. For this purpose, the authority would usually find it beneficial to maintain the records in some kind of a database, perhaps simply as few extra information stored in the document management system.

The outcome is (hopefully) the increased safety, which, in principle, it means that a number of accidents are prevented from happening. Thus, it is impossible to measure the outcome. On the contrary, the inspectors can determine some indicators that will make it possible for the authority to express whether the project had a large or a small impact on the safety. Examples of such indicators are:

- The share of recalled, withdrawn or banned products compared to the total number of products tested.
- The number of items returned by consumers, in case of a recall (The importer or producer is often requested to report number of items sold and returned to the authority as part of the follow-up on a recall.)
- The trend in the number of accidents reported by a specific product or product category; (It might be possible to see such changes if the project is focussed on a new group of products that causes many accidents – e.g. the water yoyo balls or the mini motorbikes.)

The reporting of the project should include reflections over such indicators. This would imply that the authority reflects over the result of the project. Were the results different from what expected? If yes, explain why. What are the implications of the project? If the situation is much worse than expected, the authority might want to continue the activities in that area. If the situation is much better than expected, the authority might want to shift focus to other areas for a longer time.

The reflections should present suggestions for next steps. A pitfall is that the most obvious “next step” is to suggest further activities in the area, but this will soon lead the authority into a situation where all resources are allocated to following-up projects from the previous years.

The evaluation also means that the authority takes out from the project the lessons learned about the methods applied and possibly implements them as improvements to the organisation’s project handbook. Such conclusions should also be stated in the final report.

As the project reports could contain valuable information that other Member States authorities could learn from, it is strongly recommended to upload them to the knowledge base set up by EMARS WP1.

Please check the Annex K to see an example of a summary report prepared by the Dutch Market Surveillance Authority. Moreover, in the Annex L you will find the forms for reporting statistical results of an inspection programme.

## **9 Strategy For An Information Campaign**

### **9.1 Final Report For Publishing**

It is recommended to publish the results from the projects. The project plan might have already foreseen this action. This will show to the outside world what the authority is doing, which may in turn increase the awareness of the consumers and the industry on product safety.

The final report can be prepared by editing the internal report issued by the authority. The edition must be carried out keeping the target group in mind: is the report intended for professional readers (e.g. people from business associations) or is it intended for the general public? This should influence the way the report is written and the language and terminology that are used.

During the progress, one must also consider what main message the report will have. Few people have an interest in numerous tables with figures and detailed results; the report will gain a broader audience if the conclusions are simplified and used as a platform for providing advice to the “ordinary user”. This approach proves fruitful especially when the conclusion from the project reveals that safety problems occur due to a wrong use of the product. An information campaign should be considered if the project has demonstrated that the products are safe, but accidents are caused by misuse of the products.

Reports that are intended for the general public should be written in accordance with the general journalistic rules – short, to the point, an interesting heading, etc. In several cases, a so-called “factsheet” will suffice. This factsheet consists of an (Excel) overview of the data gained from the project.

### **9.2 Information Campaign of a Comprehensive Programme, Including a Joint Action**

The activities aiming to inform and educate the stakeholders on the outcomes of the inspections of playgrounds are one of the eminent elements that allow us to show to the general public what the inspectors are doing, how and why.

Needless to say, the results of every inspection, may they be conformities or non-conformities, good or bad practice, they are made open to all taxpayers. This implies that the outcomes should in any case be revealed - the “good guys” congratulated, the “villains” booted – so that the things are put straightforwardly, as the tabloid-centred era requires it to be. However, filling in the columns for the yellow press is not our main aim. The market surveillance authorities should be concentrated on informing and educating the stakeholders: children, parents, producers and importers of playground equipment, area administrators. Finally yet importantly, the market surveillance inspectors should also be trained and updated with the latest news and developments in the field.

The three major elements of the information and education campaign are set out below:

- The message to transmit to the world – what do we want to tell?
- The target group (or groups) for the campaign – who do we want to inform and to educate?
- The tools thanks to which we will get our message delivered to our target groups – how shall we do it?

Please check the Annex N to read about tools used within the framework of the Joint Action on the safety of playgrounds.

# Appendices - Useful Forms And Best Practices:

## A. Reference To Standards

### **EN 1176 Playground Equipment And Surfacing – Part 1 General Safety Requirements And Test Methods:**

This standard specifies general safety requirements for playground equipment. These requirements have been laid down bearing in mind the risk factor based on available data. A number of useful definitions are included at the beginning of the part 1, among them the one of the playground equipment (please see the Annex B). Part 1 of the named standard also describes how to check playground equipment with the test probes in order to assess the risk of entrapment of different parts of a child's body and the Annex D includes detailed dimensions of the test probes.

Additional detailed safety requirements for specific pieces of playground are specified in parts 2 to 6 and 10 to 11 of the standard:

- EN 1176 Playground equipment and surfacing – Part 2 Additional specific safety requirements and test methods for swings;
- EN 1176 Playground equipment and surfacing – Part 3 Additional specific safety requirements and test methods for slides;
- EN 1176 Playground equipment and surfacing – Part 4 Additional specific safety requirements and test methods for cableways;
- EN 1176 Playground equipment and surfacing – Part 5 Additional specific safety requirements and test methods for carousels;
- EN 1176 Playground equipment and surfacing – Part 6 Additional specific safety requirements and test methods for rocking equipment;
- EN 1176 Playground equipment and surfacing – Part 7 Guidance on installation, inspection, maintenance and operation;
- EN 1176 Playground equipment and surfacing – Part 10 Additional specific safety requirements and test methods for fully enclosed play equipment;
- EN 1176 Playground equipment and surfacing – Part 11 Additional specific safety requirements and test methods for spatial network.

The EN 1176 standard should be read in conjunction with the standard that relates to the playground surfacing: EN 1177 Impact attenuating playground surfacing – Determination of critical fall height.

The above-mentioned new versions of the already existing standards have been adopted in 2008 by the European Committee for Standardisation with the purpose of including all previous amendments in one document. In addition, two new parts were published (part 10 and part 11 of the EN 1176 standard). By the end of November 2008, new versions of standards will be published by national standardisation bodies and, by the end of May 2009, the old versions should be definitely withdrawn.

The most important changes are about removing distinct rules for playground destined for children under three years old (the references to children under three were replaced with “easily accessible” equipment) and introducing the requirement about the surface into to respective parts of the EN 1176 standard. Therefore, the respective parts of EN 1176 standard have now a new title: “Playground equipment and surfacing” Nevertheless, the standard EN 1177 is still in place, now being entitled “Impact attenuating playground surfacing – Determination of critical fall height”. In addition, some new items of equipment have been defined: one new swing type and two new rocking types. The novelty is the determination of detailed guidelines for fully enclosed play equipment and spatial network.

Moreover, for the inspection of recreation grounds for children and teenagers, the following two new standards may be helpful:

- EN 14960 – Inflatable play equipment. Safety requirements and test methods;
- EN 14974 – Facilities for users of roller sports equipment. Safety requirements and test methods.

Especially knowledge of requirements of inflatable play equipment may be useful during the inspection of playgrounds. These products often appear on playgrounds and are designed for the similar age group as the equipment covered by the EN 1176 standard.

Recently, one may find more often recreational equipment designed for adults and older people on the market. These products are designed to improve the fitness condition of the users and often contain movable parts, which work under load. As they are used by children, it is recommended to certificate these products for conformity with standard EN 1176.

## B. Definitions<sup>13</sup>

**These definitions are taken from EN 1176 standard unless otherwise specified.**

<b>Playground equipment:</b>	equipment and structures, including components and constructional elements with, or on which, children can play outdoors or indoors, either individually or in groups, according to their own rules or own reasons for playing, which can change at any time;
<b>Playground</b>	any public site with at least one item of playground equipment <sup>14</sup> , <i>Or</i> An area especially arranged to be used collectively by children for playing <sup>15</sup> ;
<b>Climbing equipment:</b>	equipment or parts of it that have no areas on which it is possible to stand un-supported and which, therefore, require the user to hold on with both hands;
<b>Handrail:</b>	intended to prevent the user from losing his balance;
<b>Guardrail:</b>	intended to prevent a user from falling;
<b>Barrier:</b>	intended to prevent the user from climbing below of the ramp or stairway, falling and from passing beneath;
<b>Platform:</b>	raised surface where one or more users can stand without the need of hand support;
<b>Equipment space:</b>	is the space taken by the actual equipment;
<b>Free space:</b>	is the space that can be occupied by a user during a movement imposed by the equipment that cannot easily be stopped (force movements such as sliding and swinging), is specified as a cylinder of diameter 1m for sitting and standing use, 50cm for hanging use and 35cm from the pole in fire-fighter's poles. The heights of the cylinder are 1.8m for standing, 1.5m for sitting and 30cm above and 1,8m below hanging grip for hanging user;
<b>Falling space:</b>	is the space that can be occupied by a user when the latter falls from an easily accessible part of the equipment;
<b>Impact area:</b>	is the bottom of the falling space;

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<sup>13</sup> Some points of this chapter were reproduced from the Polish Standards. Reproduction from the Polish Standards was done with the permission of the President of the *Polish Committee for Standardisation* – the permit no 10/P/2008. The original Polish Standards can be purchased at the Sales Department of the *Polish Committee for Standardisation* and in the authorized sales points. [www.pkn.pl](http://www.pkn.pl)

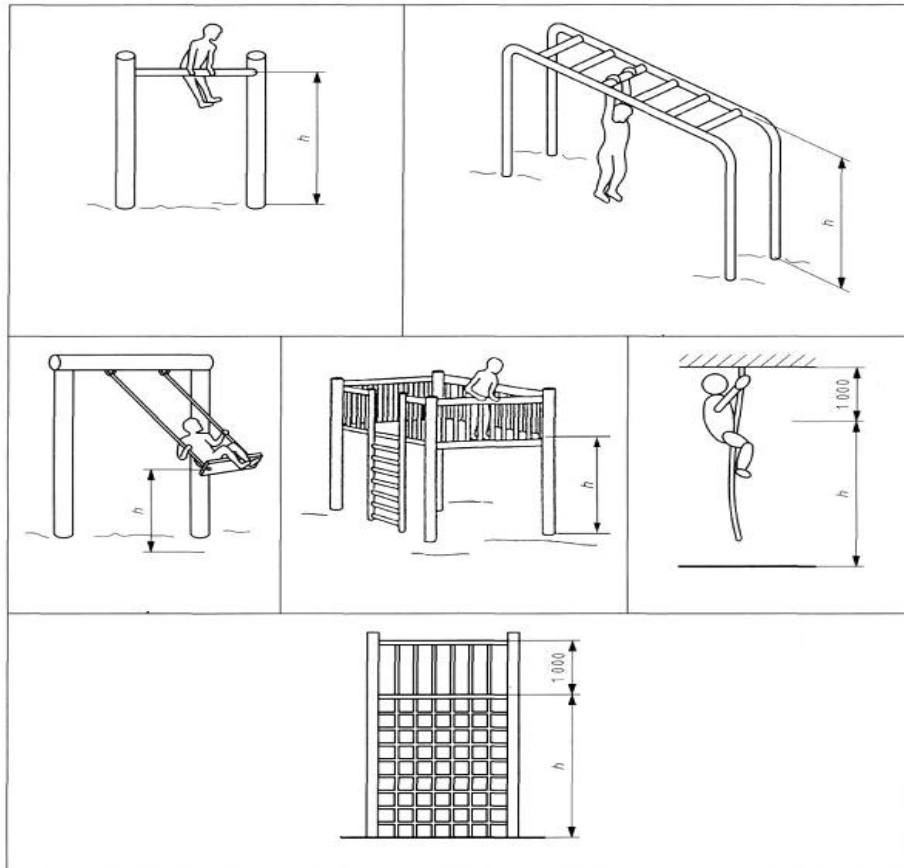
*The Office of Competition and Consumer Protection* holds responsibility for the accordance of these fragments with the original text of the Polish Standards.

<sup>14</sup> A similar definition of a playground is provided for in the Belgian law: Royal Decree of 28 March 2001 concerning the operation of playgrounds, amended by the Royal Decree of 28 September 2003.

<sup>15</sup> A similar definition of a playground can be found in the French decree of 18 December 1996 n° 96-1136 concerning the safety requirements for collective playgrounds.

**Minimum space:** space required for the safe use of equipment, comprising falling space, free space and space occupied by the equipment;

**Free height of fall:** is the largest distance measured perpendicularly from a part of the equipment that is clearly intended for body support to the falling surface below it.



**Obstacle:** object, or portion of it, that protrudes inside the equipment or extends into the path of movement;

**Entrapment:** hazard presented by the situation in which a body, or part of it, clothing or hair can become trapped;

**Crushing point:** place where parts of the equipment can move against each other or against a fixed area so that persons, or parts of their body, can be crushed;

**Shearing point:** place where part of the equipment can move past a fixed or other moving part or past a fixed area so that persons, or parts of their body, can be cut;

**Ladder:** means of access incorporating rungs or steps on which a user can ascend or descend with the aid of the hands;

**Stairs:** means of access incorporating treads on which a user can ascend or descend;

**Ramp:** means of access incorporating an inclined surface, with maximum inclination 38°, on which a user can ascend or descend;



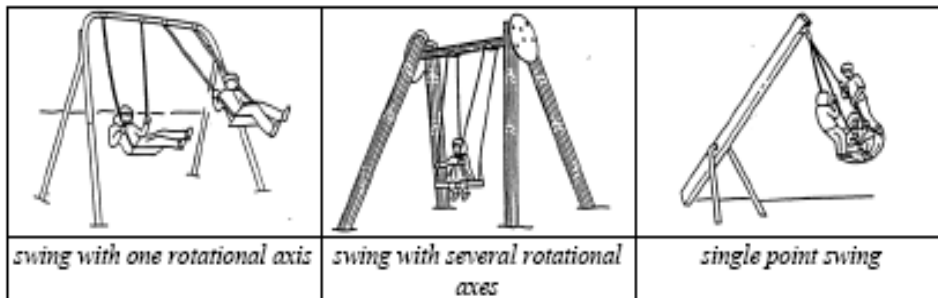
**Grip:** holding of the hand round the entire circumference of a support, shall have a dimension of not less than 16mm or more than 45mm in any direction, when measured across its centre;

**Grasp:** holding of the hand round part of the circumference of a support; shall have a width not exceeding 60mm;

**Easily accessible:** requiring only basic skills to access the equipment, allowing users to move freely and quickly onto/within the equipment;

**Critical fall height:** maximum free height of fall for which a surface will provide an acceptable level of impact attenuation, determined according to the lowest test result obtained in accordance with EN 1177;

**Swing:** with one rotational axis,  
With several rotational axes,  
Single point swing,



**Slide:** wave slide: slide with variations in the slope of its sliding sections;

Embankment slide: slide where the sliding sections follows the contour of the land;

Curved slide: slide where the sliding section is not a straight line;

Helical slide: slide where the sliding section follows a spiral;

Tunnel slide: slide where (part of) the sliding section consists of an enclosed tube;

Starting section: section on which the user is enabled to get into sliding position;

Sliding section: section on which the user is undergoing forced movement;

Run-out section: section on which the user's speed is reduced to enable a safe departure from the slide;

**Rocking equipment:**

classic seesaw;

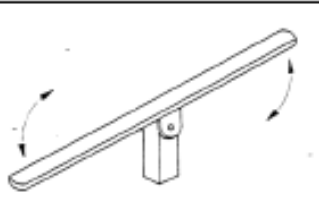
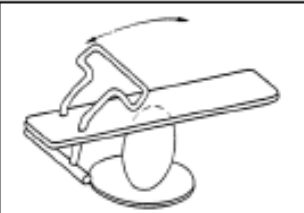
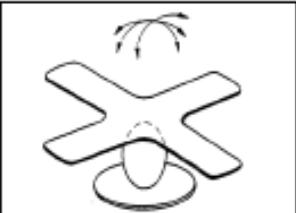


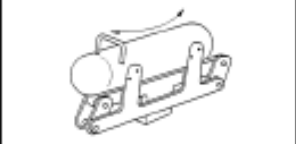
Single spring rocker with main movement in one direction;

Single spring rocker moving in more than one direction;

Multi-spring rocker with main movement in one direction;

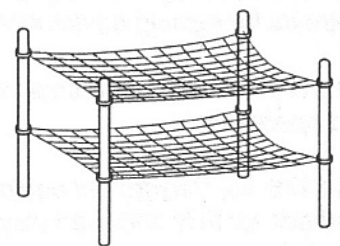
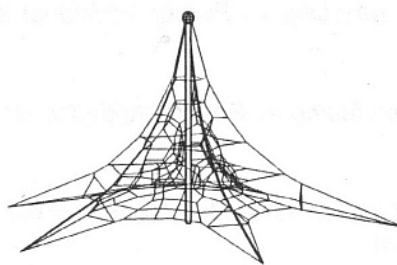
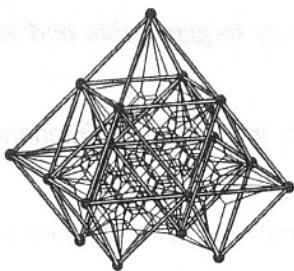
Multi-spring rocker moving in more than one direction;

Multi-pivot rocking item

		
<i>Classic seesaw (type 1)</i>	<i>Single-spring rocker with main movement in one direction (type 2a)</i>	<i>Single-spring rocker moving in more than one direction (type 2b)</i>
		
<i>Multi-spring rocker with main movement in one direction (type 3a)</i>	<i>Multi-spring rocker moving in more than one direction (type 3b)</i>	<i>Multi-pivot rocking item (type 4)</i>

**Spatial networks:**

see the examples below:



## C. Checklists And Inspection Forms

### Checklist For Inspectors For Checking Playgrounds

Playground location:

Number of playground (if known):

<b>1.</b>	<b>Inspection of the Equipment Documentation – It applies to each piece of an equipment</b>		
<b>1.1</b>	Name:		
<b>1.1.1</b>	Identification of a product	Individual number:	Type/ catalogue number:
<b>1.1.2</b>	Manufacturer	Name:	Address:
<b>1.1.3</b>	Service, inspection and maintenance manuals handed-over by the supplier.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:
<b>1.1.4</b>	Dimensions of the minimal space and requirements for using the surface provided by the supplier.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:
<b>1.1.5</b>	Technical documentation presenting the structure of the equipment.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Issued by: Date:
<b>1.1.6</b>	Inspection reports or other documents, which verify the compliance with the standards.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Issued by: Date: Remarks:

<b>1.2</b>	<b>Name:</b>		
<b>1.2.1</b>	Identification of a product	Individual number:	Type/ catalogue number:
<b>1.2.2</b>	Manufacturer	Name:	Address
<b>1.2.3</b>	Service, inspection and maintenance manuals handed-over by the supplier.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:
<b>1.2.4</b>	Dimensions of minimal space and requirements for using the surface provided by the supplier.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:
<b>1.2.5</b>	Technical documentation presenting the structure of the equipment.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Issued by: Date:
<b>1.2.6</b>	Inspection reports or other documents, which verify the compliance with the standards.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Issued by: Date:

2.	<b>The Inspection Of Playground Documentation Deposited By The Administrator.</b>		
2.1	General data	Individual number:	District: Address:
2.2	Management unit	Unit/person responsible for playground condition:	Address of the responsible unit/person:
2.3	Risk Assessment was provided	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date: Remarks:
2.4	The results of Risk Assessment are available	<input type="checkbox"/> Yes <input type="checkbox"/> No	Issued by: Date: Remarks:
2.5	Action taken on the basis of Risk Assessment results	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:
2.6	The playground scheme showing the location of particular equipments	<input type="checkbox"/> Yes <input type="checkbox"/> No	Issued by: Date:
2.7	The list of equipment is available	<input type="checkbox"/> Yes <input type="checkbox"/> No	Issued by: Date:
2.8	The inspection and maintenance plan is available	<input type="checkbox"/> Yes <input type="checkbox"/> No	Issued by: Date:
2.9	Plan of conduct in case of accident, emergency or fire	<input type="checkbox"/> Yes <input type="checkbox"/> No	Issued by: Date:
2.10	The register of previous inspections and maintenance is provided by manager/owner	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:
2.11	Documents concerning inspection provided by the competent authorities	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:
2.12	Documents confirming sand exchange	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:

<b>3.</b>	<b>The Background Of The Inspection.</b>	
<b>3.1</b>	Type of inspection	Remarks ( <i>e.g. have the previous recommendations been fulfilled?</i> )
<b>3.2</b>	Planned inspection	<input type="checkbox"/> Yes
<b>3.3</b>	Based on a complaint	<input type="checkbox"/> Yes
<b>3.4</b>	Re-inspection	<input type="checkbox"/> Yes

<b>4.</b>	<b>Marking</b>		Remarks
<b>4.1</b>	Rules and regulations	Playground rules	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Information containing data of management unit (Contact of the administrator, emergency telephone number, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Name and address of the playground	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>4.2</b>	Data plate	<input type="checkbox"/> Yes <input type="checkbox"/> No Lack on:	
<b>4.3</b>	Data plate - details	Name and address of the manufacturer	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Catalogue/serial number and date of production	<input type="checkbox"/> Yes <input type="checkbox"/> No
		The standard applicable with the date of publication	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>4.4</b>	Marking of the surface level	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:

5.	<b>Additional Elements</b>		
5.1	The playground is fenced	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks concerning safety:
5.2	Locked entrances	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks concerning safety:
5.3	Safe construction of gate and closing mechanism	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks concerning safety:
5.4	Fencing material	<input type="checkbox"/> metal netting <input type="checkbox"/> metal railings <input type="checkbox"/> metal construction <input type="checkbox"/> wooden construction <input type="checkbox"/> hedge <input type="checkbox"/> other – what kind of? .....	
5.5	Trimming	<input type="checkbox"/> safe <input type="checkbox"/> could be dangerous ( <i>e.g. sharp edges, sharp bars, netting with unfinished edges</i> )	
5.6	Benches	<input type="checkbox"/> Yes    number of: <input type="checkbox"/> No	Remarks: (e.g. the condition and location of benches guarantee safety)
5.7	Litter bins	<input type="checkbox"/> Yes    number of: <input type="checkbox"/> No	Remarks: (e.g. the condition and location of bins guarantee safety)
5.8	Bicycle racks or other elements	<input type="checkbox"/> Yes <input type="checkbox"/> No number of:	Name of the element:
	Remarks: (e.g. the condition and location of elements guarantee safety)		
5.9	Approach to the playground	<input type="checkbox"/> safe <input type="checkbox"/> could be dangerous – why?	
5.10	There are risks or obstacles in the surroundings?	<input type="checkbox"/> Yes – what kind of? <input type="checkbox"/> No	Remarks:

6.	Surface		
6.1	Surface <sup>16</sup>  Water accumulation?	<input type="checkbox"/> lawn <input type="checkbox"/> sand <input type="checkbox"/> gravel <input type="checkbox"/> asphalt <input type="checkbox"/> concrete blocks <input type="checkbox"/> synthetic surface <input type="checkbox"/> other – what kind of?	
6.2	The thickness of the loose fill surface	Details:	
6.3	Inspection reports or other documentation confirming compliance with the surface standard.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Issued by:  Date: Remarks:
6.4	Unexpected obstacles in the surface	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:
6.5	The surface is free from waste	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:
6.6	Proper surface for all elements of the equipment <sup>17</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Remarks:

<sup>16</sup> In case the surface is not homogenous, indicate all types used.

<sup>17</sup> Especially under swings, carousels, cable ways, firemen's poles.



<b>7.</b>	<b><i>The Review of Equipment – Part I. Faults</i></b>		
	Fault	Name and number of equipment	
<b>7.1</b>	Unexpected obstacles	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.2</b>	Sharp edges and/or welds	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.3</b>	Corrosion of metal elements	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.4</b>	Protruding nuts or threads	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.5</b>	Broken or fractured elements	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.6</b>	Wearing through of the laminate	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.7</b>	Wood is splintering or decomposing	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.8</b>	Wood element of the equipment contact the ground	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.9</b>	Plywood is delaminating	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.10</b>	Deformed or damaged elements	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.11</b>	Elements for catching are revolving	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.12</b>	V shapes < 60°	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.13</b>	Head or neck entrapment	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.14</b>	Clothes entrapment	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.15</b>	Finger entrapment	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.16</b>	Leg, foot or hand entrapment	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.17</b>	Crashing or smashing points	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.18</b>	Pollutions in the sandpit	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.19</b>	Side pointing to the sun	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.20</b>	Swings on stalk slings	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.21</b>	Swing or carousels with protecting chains	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>7.22</b>	Incorrect examples of sets (e.g. swing with slide, etc.)	<input type="checkbox"/> Yes	<input type="checkbox"/> No

<b>8. Review Of Equipment – Part II. Compliance With The Standard.</b>			
	Compliance with the standard	Name and number of equipment	
<b>8.1</b>	Proper protection of materials	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.2</b>	Water falls down easily	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.3</b>	Appropriate protection of connections	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.4</b>	Proper minimum space of each equipment	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.5</b>	Proper falling space of each equipment	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.6</b>	Proper dimensions of each equipment	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.7</b>	Suitable barriers	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.8</b>	Suitable guardrails	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.9</b>	Suitable handrails	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.10</b>	Proper dimensions of the slipway	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.11</b>	Slipways with anti-sliding surface	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.12</b>	Closed inlets of pipes and profiles	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.13</b>	Internal spaces accessible for adults	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.14</b>	Proper openings in closed areas	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.15</b>	Suitable distance between the surface and movable parts	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.16</b>	Minimal distance of 230mm between movable and fixed parts	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.17</b>	Ensured suppressing of movement	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.18</b>	Proper dimensions of rungs in the ladder	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.19</b>	Permanent fixing of rungs	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.20</b>	Permanent sloping of steps	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.21</b>	Suitable number and dimensions of steps	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.22</b>	Intermediate ramps in steps (if required)	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.23</b>	Proper dimensions of hanging ropes	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.24</b>	Proper distance between hanging ropes	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.25</b>	Proper fixing of climbing ropes	<input type="checkbox"/> No	<input type="checkbox"/> Yes

<b>8.26</b>	Appropriate dimensions of climbing ropes	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.27</b>	Appropriate dimension of chain links	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.28</b>	Proper dimension of swings	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.29</b>	Seats of swings covered with rubber	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.30</b>	Proper dimensions and sloping of slides	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.31</b>	Appropriate crosswise bar, if necessary	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.32</b>	Proper lateral protection	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.33</b>	Appropriate dimensions of cableways	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.34</b>	Appropriate seats of cableways	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.35</b>	Appropriate dimensions of rocking equipment	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.36</b>	Appropriate dimensions and sloping of seesaws	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.37</b>	Appropriate dimensions of spatial networks	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.38</b>	Appropriate protection against falling from spatial network	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.39</b>	Appropriate dimensions and ground clearance of carousels	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.40</b>	The bottom of disc carousel (classical) is smoothly trimmed	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.41</b>	Anchorage of the equipment are stable	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.42</b>	Appropriate depth of foundations	<input type="checkbox"/> No	<input type="checkbox"/> Yes
<b>8.43</b>	Appropriate construction of heavy suspended beams	<input type="checkbox"/> No	<input type="checkbox"/> Yes

<b>9. The List Of Equipment – Summary.</b>			
	Name of equipment <sup>18</sup>	Condition of equipment/ Faults <sup>19</sup>	Recommendation
<b>9.1</b>	Number.....		
<b>9.2</b>	Number.....		
<b>9.3</b>	Number.....		
<b>9.4</b>	Number.....		
<b>9.5</b>	Number.....		
<b>9.6</b>	Number.....		
<b>9.7</b>	Number.....		
<b>9.8</b>	Number.....		
<b>9.9</b>	Number.....		
<b>9.10</b>	Number.....		

<sup>18</sup> Every piece of checked equipment should have its own description in an inspection report.

<sup>19</sup> You should choose from EN 1176 (e.g. Water accumulation, Splintering, Corrosion of metal parts, Protruding nails, Projecting wire rope terminations, Pointed or sharp- edged components, Rough surfaces, Access of adults within the equipment, Connections- secured, safeguarded, Wire ropes- made from galvanized or corrosion resistant wire, Falling, Entrapment, Means of access, Ropes, Chains).

## Manual to the Checklist<sup>20</sup>

Prior to the inspection, one should familiarize oneself with the content of the used standards and with the “Handbook for Inspectors”, particularly with Section 7 and Annex H. Moreover, one should also apply its guidelines with respect to conducting the inspection.

In case of the issues regulated by EN 1176 and EN 1177 standards, the key criteria have been drawn up based on safety requirements provided for in those standards. On the other hand, parts 4, 5 and 6 refer to the risks that may be present on the playgrounds, but which do not directly concern playing equipment, or which have not been included in the above-mentioned forms.

### Principles of Filling in a Questionnaire:

The questionnaire should be filled in by marking the correct answer or the written information, usually after a colon.

In the case when a section does not apply to the list of the key criteria, the space provided should be filled in writing “*not applicable*”.

In order to exchange some equipment we use its individual number. If there is no such number, we use the catalogue number of the producer. If we do not know this number, we use the name of the equipment provided in section 1. If there are two devices with the same number or name, we additionally describe the location of the device or the technology of its production, e.g. wooden swing or a swing near the slide.

### Preliminary Information

For easier identification, please write the address and number of the playground, inspection date, name and surname of the inspector and the address of the inspection unit at the top of the list of the key criteria.

## 1. Inspection of the Equipment Documentation – Applies to Every Equipment

*On the basis of the criteria included in this part, the inspection may apply to products in sale and equipment assembled in the playground.*

Every leisure device in the playground should be controlled according to section 1. Because sometimes it is not known how many devices are there in the inspected playground, it is advisable that the administrator of the object should previously copy the documentation described in this section. During preparations to the inspection, one should ask the administrator to prepare such documents. It may be helpful for the analysis of documents in office conditions.

**1.1 Name.** Please write the name of the equipment.

**Identification of the product (individual number if known):** Every piece of equipment in the

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<sup>20</sup> Some points of this chapter were reproduced from the *Polish Standards*. Reproduction from the *Polish Standards* was done with the permission of the President of the *Polish Committee for Standardisation* – the permit no 10/P/2008. The original Polish Standards can be purchased at the Sales Department of the Polish Committee for Standardisation and in the authorized sales points. [www.pkn.pl](http://www.pkn.pl).  
*The Office of Competition and Consumer Protection* holds responsibility for the accordance of these fragments with the original text of the Polish Standards.

playground should be explicitly marked and described. It is recommended to use the individual numbering for each device.

**Type/catalogue number.** Please write the type of device according to the EN 1176 standard and if it does not apply, write other useful information on the type of equipment, e.g. “wooden”. After the mark “/” please write the catalogue number of the device, given by the producer.

**Manufacturer.** Please write the particulars of the producer.

**Service, inspection and maintenance manuals handed-over by the supplier.** Please write whether the administrator has the above-mentioned manuals.

**Dimensions of minimal space and requirements for using the surface provided by the supplier.** Please write whether the administrator has the above-mentioned document. The document can have a graphic form.

**The technical documentation presenting the structure of the equipment.** The technical documentation should contain information on the structure, dimensions of the devices, used materials and paints. The technical documentation includes the assembly manual.

**Inspection reports or other documents that confirms compliance with standards.** Such documents are predominantly certificates, declarations of compliance, certificates, expert opinions etc.

**Repeat the examination as in 1.1. and the same for all examined devices.**

## **2. The Inspection Of Playground Documentation Deposited By The Administrator.**

### **2.1 General data - Individual number:**

If the playground has not been classified anywhere, its location should be described in as many details as possible, using names of the closest streets, the name of the nearby park etc.

### **2.2 Management unit**

Please write the particulars of the unit responsible for ensuring safety in the playground. It is advisable to appoint specific persons for that purpose.

### **2.3 Risk assessment was provided**

Please write who conducted the analysis and when. Every playground together with the surroundings and administration system should undergo the analysis of risks at least once. The playground in which risks analysis or assessment of compliance with standards have not been conducted, should not be used.

### **2.4 The results of risk assessment are available**

Here you have to specify whether the analysis included all crucial aspects. For this purpose, you can use the vital guidelines from the list of the key criteria.

### **2.5 Action taken based on the risk assessment results**

One should describe the undertakings following the performed analysis and assessment of preventive and repairing measures.

### **2.6 The playground scheme showing the location of particular equipments**

The playground layout is needed for the identification of devices and knowledge about distribution of types of devices that require different surface or special landform features.

## **2.7 The list of equipment is available**

The designer of the object, the producer, the supplier or the owner or unit registering the equipment and the playground may prepare the list of devices. The list should contain the following information:

- Name of the device;
- Picture of the device;
- Individual number;
- Name of the producer;
- Producer's address;
- Catalogue number of the producer;
- Number and type of document confirming compliance with standards.

## **2.8 The inspection and maintenance plan is available**

The inspection plan should define frequency and scope of specific inspections, while the maintenance plan should contain the scope and the frequency of specific maintenance operations. The latter should specifically inform about the need to:

- Remove risks through reparation, conservation or immobilizing of the device;
- Secure the place after removal of the device, e.g. by removing the foundations.

## **2.9 Plan of conduct in case of accident, emergency or fire**

The procedure of conduct in case of accident, emergency or fire should include the agreed way of accidents registration. The plan must include the producer's recommendations and country law regulations.

## **2.10 The manager/owner provides the registry of previous inspections and maintenance**

The aim of keeping a registry is to ensure a high level of safety. Apart from inspection documents, maintenance and repairs, the registry should include all crucial information concerning the object, e.g. about accidents.

## **2.11 Documents concerning inspections conducted by the competent authorities**

Please describe the results of inspections conducted by inspection bodies and recommendations of these bodies.

## **2.12 Documents confirming the exchange**

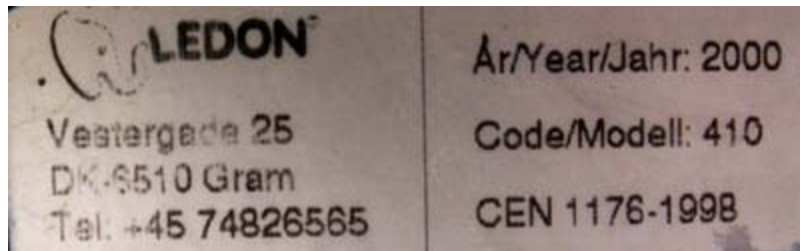
The documents that confirm the exchange may be bills for the exchange service or purchase of sand. It is recommended that each exchange be registered in the playground registry book.

## **3. The Background Of The Inspection**

One should mark the correct answer and write comments and remarks.

## 4. Marking

The information board should be situated at every entrance or in the central part of the playground. High durability should be an asset of the labelling/markings of the equipment.



*An example of correct and durable labelling done in 2000 and photographed in September, 2008.*

### 4.1 Rules and regulations. The usage principles

The necessary data are the name and the address of the playground, the contact data of the administrator and the telephone numbers of the rescue services.

The rules of usage can be presented in the form of a picture and should include recommendations concerning using the equipment, as well as principles of behaviour in the playground, e.g. prohibition to climb the summits of houses, play ball and walk pets etc. On the playgrounds or on their parts especially designed for the youngest children (low, simple devices, rockers, sandpit etc.) **it is forbidden to place labels limiting entry for children under 3 years old.** One may find more information in the “Handbook for Inspectors”, section 7.3.1.

### 4.2 Data plate

Please mark “yes” when there is at least one board and name device on which data plates are missing.

### 4.3 Data plate – details

Please tick the correct answers.

### 4.4 Marking of the surface level

The producer is obliged to place a permanent labelling, and the administrator has the responsibility to maintain it properly. The labelling of the level of surface is particularly important with devices assembled on a loose surface. If the label is missing, one should try to establish the reason for this e.g. impermanence, deliberate destruction, painting over during maintenance works. The “Handbook for Inspectors”, section 7.3.1, provides you with more information on this topic.

## 5. Additional Elements

### 5.1 The playground is fenced

If the playground is fenced, the fence should be in good technical condition and its elements should not pose a threat to the users. When assessing the level of safety of the fence, one should pay a particular attention to sharp or rough surfaces, protruding elements, possible jamming places and to the possibility of crawling under the fence or jumping over it as well (see point 5.6). The “Handbook for Inspectors”, section 7.3.2, contains more information on this issue.

### 5.2 Locked entrances

If the playground is fenced, its entrances should be equipped with gates. The width of the gate



should allow a fast and smooth access for the rescue action, when necessary.

### **5.3 The construction of gates and closing mechanism is safe**

The gate should be equipped with safe closing mechanism. What is more, one should check whether it does not pose a threat for safety of users, particularly for fingers or toes. More information to be found in the “Handbook for Inspectors”, section 7.3.2.

### **5.4 Fencing materials**

One should mark all kinds of fences and define their location.

### **5.5 Trimming of the fence**

One should tick the correct answer. In case of a negative opinion, one should justify it.

### **5.6 Benches**

One should assess safety of benches with particular attention to possible protruding elements, sharp and rough edges and places of possible jamming. Benches should be permanently fixed to the ground and placed at least 1m from the fence to prevent to be jumped from them over the fence. More information to be found in the “Handbook for Inspectors”, section 7.3.2.

### **5.7 Litter bins**

Waste bins should be placed in a distance of 2m from the benches and they should be connected with the surface permanently. Assessing the level of safety one should pay particular attention to sharp or rough edges and protruding elements. More information to be found in the “Handbook for Inspectors”, section 7.3.2.

### **5.8 Bicycle racks or other elements**

Assessing the level of safety one should pay particular attention to sharp or rough edges, protruding elements, places of possible jamming. Additional elements placed on the playground should not pose a threat for the users, whenever they use them properly. Hence, the inspector should assess whether, for example, the bicycle put into a rack will not become an unexpected obstacle.

### **5.9 Approach to the playground**

Please mark the correct answer. In case of a negative decision, it should be justified. One should pay particular attention to protruding flagstones, hanging branches and other elements hindering the movement, also with the wheelchair. The “Handbook for Inspectors”, section 7.3.2, contains more information on this issue.

### **5.10 There are risks or obstacles in the surroundings**

One should assesses whether there are real threats to health and life of users of the playground, e.g. proximity of water bodies, road traffic and/or bicycle traffic of considerable intensity, landfill sites, and toxic plants.

## **6. Surface**

### **6.1 Surface**

One should mark all kinds of used surfaces. Please assess the surface condition, with particular consideration to places where water could gather.

### **6.2 The thickness of the loose fill surface**

One should consider and describe the thickness of loose surfaces in different places of the playground, paying particular attention to places where hollows are formed, e.g. under the swings.

### 6.3 Inspection reports or other documentation confirming compliance with the standard on surfaces

It may be a certificate or a declaration of the producer proving the compliance of the surface with the EN 1177 standard. One should appraise the agreement of a given type of surface with the risks that may appear pertaining to the device standing on it. At the same time, one should remember that EN 1176 allows the use of hard surfaces such as the asphalt.

Nevertheless, an ideal solution would be to make sure that on the overall area of the playground there is a surface that absorbs a fall from the height of 0.6m (grass, earth, loose and artificial surfaces).

### 6.4 Unexpected obstacles in the surface

It refers to obstacles against which a child can stumble and fall, such as stones, stumps and roots or bumps, or other damages to the synthetic surface.

### 6.5 The surface is free from waste

There should be no dangerous objects like protruding metal elements, rubbish, broken glass, bottle caps, cans, butt-ends, animal excrements, decomposing fruits or leaves from the trees growing nearby.

### 6.6 Proper surface for all elements of equipment

When assessing, the following factors should be taken into account:

- Height of free fall;
- The size of falling space;
- Guidelines from standards or from the producer on higher requirements for calculating the size and the kind of absorbing surface.

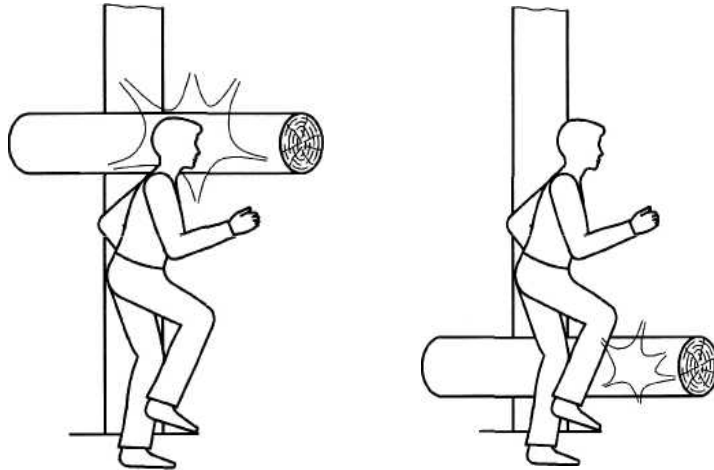
The way of defining the falling space is contained in the standard EN 1176 and in the “Handbook for Inspectors”, section 7.3.1. A method to present the simplified requirements can be to convey them in a table. (Dimensions in millimetres):

Kind of surface	Thickness of surface	Height of fall
Turf/soil		≤1000
Bark – pieces of 20-80 in size	300	≤ 3000
Wood shavings – size 5 – 30		
Sand – grain 0.2 - 2		
Gravel – grain 2 - 8		
Other materials	According to examination	

## 7. The Review Of Equipment – Part I. Faults

### 7.1 Unexpected obstacles

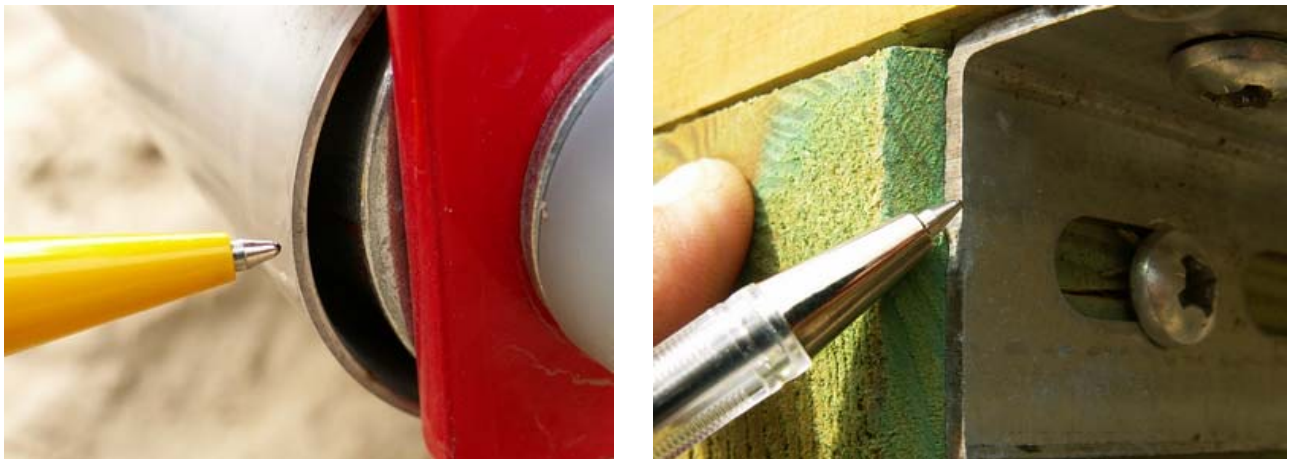
In the field taken by the user on the equipment or in its surrounding there should not be any unexpected obstacles.



*Examples of unexpected obstacles.*

## **7.2 Sharp edges and/or welds**

The fault present most often in the metal and laminated elements and splintering wood. All accessible edges should be rounded.



*Example of sharp edge of the slide and of the connecting element*

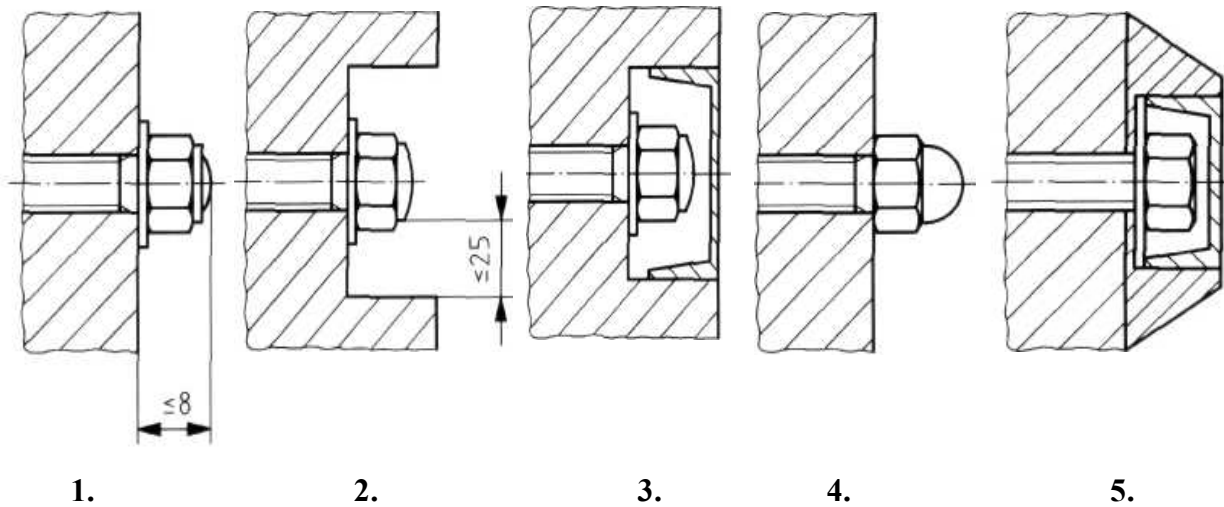
## **7.3 Corrosion of metal elements**

All metal elements should be free of rust. In case of finding a fault, one should indicate which element it concerns and how advanced the corrosion is - an examination using the screwdriver or a wire brush. The examination should also apply to the anchorage elements!

## **7.4. Protruding nuts or threads**

There should be no exposed threads on the devices.

The nuts can protrude 8mm, on condition that they do not have sharp edges. The following kinds of protection are allowed:



*In the solutions 1 and 2, one should pay attention to protruding threads*

#### **7.5 Broken or fractured elements**

A break means a division of the element into two parts. One should distinguish a fracture of wood from its splinting. Splinting is a longitudinal delaminating that does not have much influence on the resistance. While a fracture happens across the fibres and it usually means weakening of the element that can lead eventually to its breaking. In order to find the fault, one should inspect the elements closely, on every possible side, paying particular attention to parts that sustain the weight of the user. In places of fractures and breakings, sharp edges and splinters often appear. Steel usually breaks near welds. The broken laminate creates additional risk of injury with very sharp edges.

#### **7.6 Wearing through of the laminate**

Laminate elements are vulnerable to wearing through to a bigger extent than steel. If the surface layer of a laminate is worn out, the glass fibre nets are becoming visible. Such a device should not be used until the worn out element has been replaced.

#### **7.7 Wood is splintering or decomposing**

Splintered wood undergoes quicker biodegradation so the vitality of a device will be shorter, since the device may not withstand the load. What is more, it can pose a threat connected with occurrence of sharp edges.

#### **7.8 Wooden elements of equipment contact the ground**

One should check whether assembly of the device and later maintenance ensure proper separation of wood from the ground.

#### **7.9 Plywood is delaminating**

Since delaminating of plywood usually starts on borders, one should carefully inspect these areas. The delaminated plywood can form sharp edges.



*Example of plywood where bad protection of the border caused internal delaminating.*

### **7.10 Deformed or damaged elements**

During the examination, one should take into consideration the irregularities caused by wearing through, as well as unintentional or deliberate operations, e.g. cut ropes, damages to wooden elements which occurred during grass cutting and other operations, damages caused by animals or by usage of equipment which violates their destination. Please, write only the faults, which have not been included in other sections!

### **7.11 Elements for catching are revolving**

Revolving elements are one of the most dangerous faults. Using the equipment, a child expects that the grip will ensure a solid support and if it is not the case, there is high probability of fall. Improper grips can be found in climbers and dexterity elements such as climbing walls.

### **7.12 Parts convergent downwards at the angle $<60^\circ$ (V shapes)**

Occurrence of such elements poses a threat of foot, arm, head, neck or clothes jamming. Such cases are especially dangerous when they appear at heights exceeding 600mm or on carousels. We conduct the examination using a set square.



*Typical places of jamming: at joints of two diagonal rungs (the picture was taken during examination of possibility of head jam) and at the end of steps.*

### 7.13 Head and neck entrapment

Head and neck entrapment can be examined above 600mm, and on carousels, for two types of openings: open and close type. The examination is described in detail in the Annex H to the “Handbook for Inspectors”.

### 7.14 Clothes entrapment

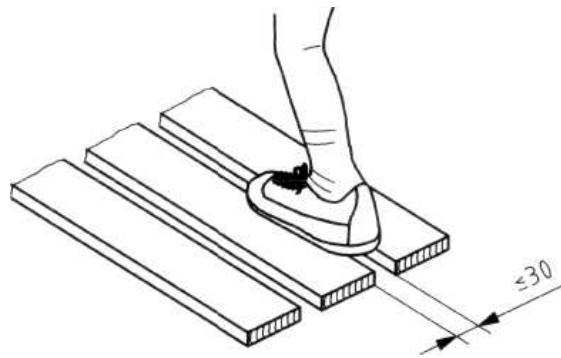
Clothes jamming can be examined in situations of forced movement such as sliding, going round and swinging. One should pay attention particularly to ‘V-shape’ cracks. The Annex H to the “Handbook for Inspectors” gives a description of the manner to examine such types of cracks.

### 7.15 Finger entrapment

Finger jamming should be examined in the situation of forced movement or in open endings of pipes and profiles. The examination procedure is described in detail in the Annex H to the “Handbook for Inspectors”.

### 7.16 Leg, foot and hand entrapment

Apart from the openings described in section 6.12, foot jamming should be examined in platforms designed for running and walking. To prevent jamming, the crack should be up to 30mm wide. This size is measured in the way presented in the picture, when the angle  $\leq 45^\circ$ .



### 7.17 Crushing or smashing points

Crushing or smashing points occur in a situation where one has assembled movable elements too close to each other or too close to permanent elements in such a way that they create changeable cracks, which can be reduced to zero under load. Presence of such points is usually signalled by characteristic wearing through of materials. Presence of smashing point can cause such accidents as cutting of fingers or serious fractures in case of the crushing point.

### 7.18 Pollution in the sandpit

The most common pollutants in the sandpit are: excrements from pets, glass, butt-ends, and broken pieces of plastic toys (sharp edges).

### 7.19 Slide pointing to the sun

It is advisable for the slides, which are located in a shaded place, to be pointing approximately north, so as not to pose a threat of sunburns. The examination is made using a compass.

### 7.20 Swings on stalk slings

Swings with stiff suspension enable very high swinging that can cause damage to the equipment while in use (“coming out” of mine anchors). The consequences of a fall or hitting by such a swing can be much more serious due to the seats, which do not absorb the impact in any way – like wooden or metal ones.

### **7.21 Swings and/or carousels with protecting chains**

The purpose of using protecting chains in swings and carousels is to protect the users from falling. Such a solution however, poses a threat of being hit by the chain when it is not fixed, which can result in, for example, eye injuries. What is more, using a chain can give a deceptive feeling of security even in a situation when the chain is not stiff enough. In case of a child, sliding down from such a seat there is a risk of head and neck jamming.

### **7.22 Incorrect examples of sets**

The most common irregularity in sets is combination of swings with other elements. Swings can be used in sets only in case when additional security measures are provided. Such measures include ensuring additional security zone, of one and a half-meter, between the swing and the remaining part of the device, or fencing the swing by using additional barriers protecting against other users running into the swing zone. It is not allowed to place a swing as a central element of multifunctional device.

Another common case of improper connection is assembly of the slide in a sandpit. This creates a threat for children who play in it. Spatial network with a swing is also unacceptable.

## **8. Review Of Equipment – Part II. Compliance With The Standard.**

### **8.1 Proper protection of materials**

Materials used in the playgrounds located in open air should be protected against atmospheric conditions. This applies mainly to materials vulnerable to biodegradation such as steel, wood and plywood. Lack of proper means of protection can be evidenced by: rust, decay, and change of wood or plywood shapes.

### **8.2 Water falls down easily**

One should control whether water falls down easily from the devices. Special example of irregularity is gathering of water in the exiting part of slides, on swings and carousels' seats.

### **8.3 Proper protection of connections**

Playground equipment should be assembled using permanent connections, so that it is impossible to unscrew them without tools. Using different solutions can cause additional risks: springy pads have limited efficiency and can create sharp edges, welding of nuts prevents its unscrewing, etc.

### **8.4 Proper free space of each piece of equipment**

The free space is defined in the Annex B to the "Handbook for Inspectors".

### **8.5 Proper falling space of each piece of equipment**

Falling space is defined in the Annex B to the "Handbook for Inspectors".

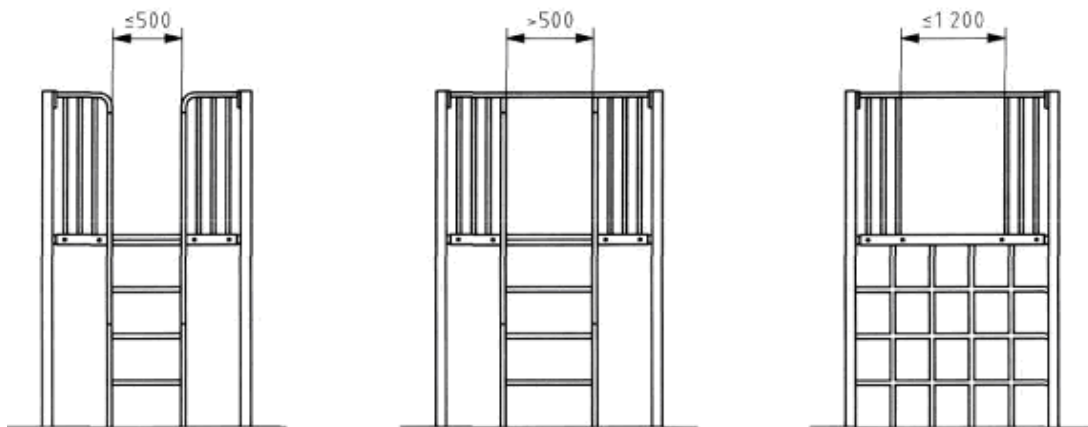
### **8.6 Proper dimensions of each piece of equipment**

In this section, one should write information concerning possible suspicions as to improper structure of a device – e.g. bridges with supports span of more than 2m. In such situation, an authorized laboratory should conduct a detailed examination.

## 8.7 Suitable barriers

Barriers should be used in easily approachable devices from the height of 600mm, and from the height of 2m - in devices that are more difficult to approach. The barriers should not contain horizontal elements, which would enable the climbing. There should not be any possibility of passing under or over the barrier. The barrier should be minimum 700mm high. In the access place, breaks of 500-1200mm can be employed. In case of breaks wider than 500mm, additional protecting shields, which prevent falling, should be fixed on the top, between the barriers.

*The principles are illustrated with the following figures.*



## 8.8 Suitable guardrails

Shields used as an exclusive way of protection against fall should be used only in devices, which are hard to approach with the free fall height between 1 and 2m. Shields do not protect the user passing under. The shields should be assembled on the height of 600 – 850mm from the platform.

## 8.9 Proper handrails

Handrails should:

- Be assembled at the height of 600-850mm from the platform;
- Meet the requirements for a grip – a diameter up to 60mm.

## 8.10 Proper dimensions of the slipway

Slipways should be sloping at the maximal angle of 38°. Platforms of bigger sloping angle can also be used but these will no longer be slipways. Slipways leading to a platform, which is located at less than 600mm, should be equipped with side protections.

## 8.11 Slipways with anti-sliding surface

The best way of protecting the user against fall is using feet supports. Anti-sliding surfaces can also be used.

## 8.12 Closed inlets of pipes and profiles

All inlets of pipes and profiles must be closed.

## 8.13 Internal spaces accessible for adults

Access for adults means openings in entrances whose diameter does not exceed 0.5m.



#### **8.14 Proper openings in closed spaces**

It should be assessed whether tunnels have proper size. Proper openings do not allow for jamming of the user and they facilitate escape from the device if need be. Tunnels open at one end must not be sloping at an angle bigger than 5°. Tunnels with both ends open must not be sloping at the angle bigger than 15°, unless their diameters is 750mm and the tunnel has additional supports for climbing. For tunnels open at both ends and sloping angle not exceeding 15°, the following values are assumed: for a length of up to 1m – the minimal diameter is 400mm, for a length of 2m – the minimal diameter is 500mm, for a length of more than 2m – the minimal diameter is 750mm.

#### **8.15 Suitable distances between the surface and the movable parts**

Distances between the ground and movable parts should be minimum 400mm, unless stated otherwise in separate provisions for a given device.

#### **8.16 Minimal distance of 230mm between movable and fixed parts**

The distance between movable and fixed parts can be examined with and without a load.

#### **8.17 Ensured suppressing of movement**

Each forced movement, performed by the user should be suppressed. This particularly applies to rocky equipment, slipways and runways.

#### **8.18 Proper dimensions of rungs in ladders**

Rungs in ladders should meet requirements for a grip. If not, the ladder should be equipped with handrails, which meet the requirements for grips. What is more, rungs should be distributed evenly and levelled, with a maximum angle of sloping of 3°.

#### **8.19 Permanent fixing of rungs**

Rungs in a ladder should be fixed in such a way which prevents their revolving.

#### **8.20 Permanent sloping of steps**

Steps should be designed so that they have permanent sloping angle. Steps leading to the platform at a height of over 1m cannot be sloping at an angle bigger than 45°.

#### **8.21 Suitable number and dimensions of steps**

Stairs should be equipped with at least 3 steps. Minimal depth of the step cannot be less than 110mm. The distance from one step to another cannot exceed 140mm (measured horizontally).

#### **8.22 Intermediate ramps in steps (if required)**

Intermediate ramps are required in steps leading to platforms higher than 2m. Such a set of steps should meet adequate requirement of the EN 1176 standard.

#### **8.23 Proper dimensions of hanging ropes**

Ropes fixed with one end should have a diameter of between 25 and 45mm and those fixed with two ends should not have a possibility of looping.

#### **8.24 Proper distances between hanging ropes**

Ropes fixed with one end, with a length of 2m, should be hung at a distance of 600mm from permanent parts and 900mm from movable parts.

### 8.25 Proper fixing of climbing ropes

Climbing ropes, e.g. in the form of grating, should be fixed to the structure to give a secure support (they should not revolve etc.)

### 8.26 Proper dimensions of climbing ropes

Climbing ropes, e.g. in a form of gratings should be designed and assembled so as not to pose a threat of head and limbs jamming.

### 8.27 Appropriate dimensions of chain links

Chains should be examined for the risk of finger jamming. The examination should be conducted for the situation of forced movement. The examination is described in details in Annex H to the “Handbook for Inspectors”. In examination the standard for short link chains – ISO 1834 should be used.

### 8.28 Proper dimensions of swings

Swings should have the following dimensions:

- From the seat to side structure elements  $\geq 20\%$  of the band length + 200mm
- Between seats:  $\geq 20\%$  of the band length + 300mm
- Chain span on the top  $\geq$  bottom span (measured by the seat) + 5%.

Flat seats should be hung at the height of at least 350mm from the ground, tire seats should be assembled horizontally and cradle seats – at least 400mm, while tire seats assembled vertically – at least 100mm from the ground.

### 8.29 Seats of swings covered with rubber

All seats used in swings and carousels of type A should guarantee proper absorbing of collisions.

### 8.30 Proper dimensions and sloping of slides

Slides are divided into a starting part, sliding part and exiting part. One should control the dimensions of individual parts and their sloping according to the guidelines:

- Starting part: minimal length of 350mm and the sloping of 0-5° in the direction of sliding.
- Sliding part: maximal sloping of 60° (40° on average); if the length of the sliding part exceeds 1.5m, its width must be at least 700mm or more than 950mm; the height of sides p depends on the height h, as shown in a table.
- Exiting part: Dimensions of the exiting part are defined in a table.

Length of the sliding part	Length of the exiting part		The end height of the exiting part
	Type 1 sloping $\leq 10^\circ$	Type 2 sloping $\leq 5^\circ$	
$\leq 1500$	300		$\leq 200$
$> 1500 \leq 7500$	$> 500$	$> 0.3 \times$ length of the sliding part	$\leq 350$

<b>h</b>	<b>p</b>
≤ 1200	≥ 100
> 1200 ≤ 2500	≥ 150
> 2500	≥ 500
easily approachable > 2000	≥ 500

### **8.31 Appropriate crosswise bar, if required**

Slides with the starting part at the height of more than 1m should be equipped with a crosswise bar, at the height of 600-900mm.

### **8.32 Proper lateral protections (sides)**

In the starting part of the slide there should be proper sides ensured. In case of free standing slides they should be at least 700mm high and in combined slides – at least 500mm high. Top edges of sides should be constructed in a continuous way, from the beginning of the starting part to the top edges of sides of the sliding part. All changes of the sloping angle of sides, measured in any point should have a radius of at least 500mm.

### **8.33 Appropriate dimensions of the cableway**

The EN 1176-4 standard contains a range of guidelines concerning dimensions of runways in respect of: starting point, the slide section, seat, and grip, connecting rope, resistance bumpers, gantry, free sag and a load-bearing rope. One should pay particular attention to a proper bottom clearance.

### **8.34 Appropriate seats of the cableway**

Seats used in runways should be round, made from rubber and have a collision certificate.

### **8.35 Appropriate dimensions of rocking equipment**

During the assessment of dimensions in rocking equipment it should be remembered that:

- All changes in the shape of the main profile should have a radius of at least 20mm.
- Diameter of grips in rockers should equal 25-45mm,
- Endings of grips and footrests should be examined in respect of eye damage, according to the procedure described in annex H to the “Handbook for Inspectors”.

### **8.36 Appropriate dimensions and sloping of seesaws**

One should control the dimensions of see-saws and their sloping according to the guidelines:

- Bottom clearance should have at least 230mm
- Sloping of the beam should not exceed 20 degrees
- The height of free fall from the point of the biggest sloping should not exceed 1.5m.

### **8.37 Appropriate dimensions of spatial networks**

A circle of maximal radius of 420mm may be inscribed into the opening in the net, examined without loading. The requirement refers only to three-dimensional sets of two or more rope structures put one on another.

### **8.38 Appropriate protection against fall from spatial networks**

A cylinder 650mm wide and 1.8m tall, positioned vertically, unless proper absorbing surface is provided.

### **8.39 Appropriate dimensions and ground clearance of carousels**

A carousel of type A (with seats) should not be wider than 2m. The superstructure in a carousel of B type (with disc) should not be wider than the disc. In type A carousels there should be a minimal bottom clearance of 400mm ensured. In disc carousels assembled on synthetic surfaces, the bottom clearance should not be bigger than 8mm, or the carousel should be assembled at the height of 60-110mm. The second dimension applies also to carousels assembled on loose surfaces. For carousels assembled at the height which exceeds 110mm, one should use different ways of trimming the bottoms, according to requirements of EN 1176-5:2008, sections: 5.2.4, 5.2.6.

### **8.40 The bottom of disc carousel is smoothly trimmed**

If the carousel is assembled at the height of 60 – 110mm, its bottom should be trimmed smoothly at a depth of 500mm from the edge of the platform.

### **8.41 Anchorages of the equipment are stable**

All equipment used in public playgrounds should be fixed stably to the ground. Fixing should prevent moving of the equipment which could influence minimal zones of equipment.

### **8.42 Appropriate depth of foundation**

No fragments of foundations must protrude from the surface level. For loose surfaces the top edge of the foundation should be 400mm under the surface level unless the foundation is entirely covered by the equipment or has a special shape, according to EN 1176-1:2008, section 4.2.14.

### **8.43 Appropriate construction of heavy suspended beams**

The name “heavy, hanging beam” refers to movable beams weighing more than 25 kg. The bottom clearance should be at least 400mm. Changes in the shape of the beam should be conducted with a radius of minimum 50mm; horizontal movements should not exceed 100mm on one side.

## **9. List Of Equipment, Summary.**

In point 8 one should summarize in detail the course of inspection. In the second column (name of device) one should enter the required data. The third column (condition of device/ Faults) should include an assessment of the device condition and enumeration of faults.

In column four (Recommendations) one should assess the risk following from the fault of a given element. It is recommended to apply the given gradation which is the basis for the assessed time for reaction to the risk:

- Low risk – time for reaction can exceed 1 week – in low risks it can be recommended to perform more frequent inspections of the faulty element, or its observation during utilization;
- Medium risk – time for reaction – up to a week – e.g. lack of foundation of short, heavy elements or wearing through of a chain, bigger than 40%
- High risk – immediate reaction – the element poses a direct threat to health of the user, e.g.: unstable structure of high elements, holes in platforms; in case when there is no possibility of fixing, the equipment should be excluded from use, until the fault is removed.

### **9.1 Weather conditions and other**

At the end of inspection one should describe what conditions there were which could have influenced its results, e.g. in rain or snow the risk of a fall is higher. It is not recommended to conduct an inspection in conditions of limited visibility, e.g. after dawn.

**9.2 Was the playground used during the inspection?** Inspection of the playground while it is being used can be helpful in defining some risks or assessment of the playground's risk.

## D. Form For Reporting Accidents

### REPORT OF A SERIOUS INCIDENT OR A SERIOUS ACCIDENT AT A PLAYGROUND

<b>Operator data:</b>		<b>Playground data:</b>	
Name:		Name:	
Address:		Address:	
Tel:			
<b>Playground equipment data:</b>			
Name of a manufacturer:		Description of elements:	
Address of a manufacturer:		Other comments:	
<b>Accident/incident data:</b>			
Description of the accident/incident:			
Date:			
Time:			
Weather conditions (rain, snow):			
Victim:(name, address, tel., age, sex)			
Clothing worn by the victim, including footwear:			
Number of children present at the playground:			
Number of children present at the playground equipment:			
Type of injuries:			
Short description:			
Witnesses: (Name, age, address and tel.)			
Statements of witness:			
Measures taken:			
Proposed and implemented equipment modifications following the accident:			
Victim compensation:			
Other information (photographic material, video camera recordings, etc.):			
Person reporting an accident (name, age, address and tel.):			

To be sent by fax: (to write a fax number of the competent authority), by email: (to write an email address), or by post at the following address (to write an address)

## **E. Reporting To A Surveillance Authority An Accident At A Playground, By The *FPS Economy, Sme's, Independent Professions And Energy, Belgium***

### **Notification Duty**

Pursuant to Article 10 of the Royal Decree on the operation of playgrounds (Belgian legislation), the operator of a playground is required to notify the Central Reporting Point for Consumer Products of any serious incident or any serious accident involving a user or third party during use of a playground or playground equipment.

#### **Address:**

FPS Economy, SMEs, Independent Professions and Energy

Central Reporting Point for Consumer Products

North Gate III

Koning Albert II Laan 16

1000 Brussels

E-mail: [info.consumentenproducten@mineco.fgov.be](mailto:info.consumentenproducten@mineco.fgov.be). Fax: 02 277 54 38

Tel: 02 277 75 55

The operator must report the following data:

- Date and time of the accident or incident;
- Age and sex of the victim;
- Equipment involved;
- Number of children present at the playground;
- Description of the accident;
- Location and type of injuries sustained, if applicable;
- Measures taken, if applicable;
- Statements of witnesses, if applicable;
- Proposed and implemented equipment modifications following the accident, if applicable.
- Signature of person responsible

## **F. Gathering Accident Data An Inspection Programme, By The Food And Consumer Product Safety Authority, The Netherlands**

In the Netherlands the *Consumer Safety Institute* (website: <http://www.veiligheid.nl/>) maintains the “Letsel Informatie Systeem 2002-2006 “(Injury Information System). This Injury Information System is based upon questionnaires completed in first-aid posts in 10% of the hospitals in the Netherlands and on the overview of lethal accidents in the Netherlands.

Public information regarding this Injury Information System is available on the website of the Consumer Safety Institute under “ongevallencijfers” (Accident data).

At the request of e.g. the *Policy Division of the Ministry of Health, Welfare and Sport* or at the request of the *Food and Consumer Product Safety Authority* (VWA), the *Consumer Safety Institute* produces detailed overviews, reports or specific queries based on this Injury Information System. If required and after following a detailed procedure, the victims may be interviewed. These overviews, reports and specific queries contain a rather detailed information base.<sup>21</sup>

The website of the *Food and Consumer Product Safety Authority* ([www.vwa.nl](http://www.vwa.nl)) includes a “webdossier” on “speeltoestellen” (playground equipment). In this webdossier, several reports on playground equipment in public areas and in kindergartens are available. Most of these reports include a chapter on injury data, corroborated and compiled by the *Consumer Safety Institute*.

The website of the European Commission contains information on injury data in the EU Injury Database: <https://webgate.ec.europa.eu/idb>. This database encloses reports of several countries on generic injury data.

The U.S. CPSC website contains reports of the US National Electronic Injury Surveillance System (<http://www.cpsc.gov/LIBRARY/neiss.html>).

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<sup>21</sup> The quality of these reports is high, especially for policy makers. Many reports are available in English. Several times per year I visit offices of colleagues of the EU; on many desks these reports are on top of the paper piles.



## **G. The Implementation Of An Inspection, By The *Direction Générale De La Concurrence, De La Consommation Et De La Répression Des Fraudes* (DGCCRF), France<sup>22</sup>**

Proceedings of the control by the DGCCRF

### **On the playground**

The choice of sites for control depends on the action plan of each of the departmental directorates for competition policy, consumer affairs and fraud control (i.e. local branches of the DGCCRF). A control on the playground may lead the inspector to the manufacturer of equipments. The inspection at a playground may be unexpected and performed in the absence of the playground manager or his co-workers. Preferably, the children are present on the playground during the inspection. This way, it is easier to understand the use of the playground and its equipment by children and to evaluate the risks they may be exposed to.

Following the selection of a site, the inspector starts with a general round of the playground. He evaluates the environment, development, number and type of existing equipment and the general maintenance of the site and the equipments. He may note everything found out about the environment of the site. He may also sketch the site and its environment. That way he/she will be able to compare them to the plan that the owner or manager of the playground must obligatorily have. He may also take pictures.

The inspector notes the character of the soil or soils in each of the zones, where it is possible to expect falls, in the minimum space and in the rest of the playground. He checks the overall state of the playground and its equipment. At the occasion, he will be able to ask the playground manager about selection criteria.

The inspector elaborates a list of equipment and examines carefully those elements that could present a major risk: the oldest pieces, the seemingly poorly maintained equipment, the one that may lead to more accidents, like slides, swings and climbing structures.

The inspector observes the equipment. His attention is especially focused on the following items: protruding parts, edges, joints between different elements, presence of rust, splinters, peeling paint, twisted plastic, wood infested by decay, wear of ropes and chains, protruding or defective welds, unprotected or missing bolts and rivets, presence of protective elements on elevated parts and efficacy of the ones that exist, orientations of slides with metal slide. He must also check the presence of obligatory markings.

To discover the presence of rough asperities or sharp edges, the inspector passes his hand over the coatings, side protections of slides, handrails and other protections. If the metal slides of slides are exposed to sun, he checks whether there is a risk of burns.

To check the solidity, the state of connections and a potential presence of movement between the equipment parts, the inspector may shake it. However, he is not entitled to check the foundations. He may also check the condition of certain equipment by using and testing them. There is no risk that these investigations will impair the equipment. It should be able to carry the weight and to resist to the acrobatic attempts of many children at the same time. The inspector may also climb the ladders, steps and various accesses as well as jump on the platforms. To check whether the equipment is accessible for adults at any point, he can take the path used by children.

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<sup>22</sup> This fragment was reproduced from the Internet website of the Direction generale de la concurrence, de la consommation et de la repression des frauds, France :

[http://www.dgccrf.bercy.gouv.fr/securite/produits\\_non\\_alim/aires\\_de\\_jeux/controles.htm?ru=04](http://www.dgccrf.bercy.gouv.fr/securite/produits_non_alim/aires_de_jeux/controles.htm?ru=04)

The inspector measures the dimensions of the minimum spaces of particular equipment and the reception zones of slides. He also assesses the distance between the respective equipment, as well as the distance between the equipment and any other elements existing on the site. The inspector determines the clearances, which may cause accidents by way of entrapment of a part of the body or clothing. For this, he can use a measuring tape or various materials like templates.

The inspector pays also great attention to everything in the direct proximity of the equipment. This may be every element into which children can crash such as manholes, roots, low branches that encourage climbing upon them, bushes, dangerous or toxic plants, which are unprotected, any urban elements (benches, fire-plugs, walls, fencing, low gates and other protections), various pieces of equipment belonging to the playground.

The inspector also checks the presence of a board providing the contact details of the owner or manager of the site at every entrance to the playground or near every piece of equipment. He checks whether this information is well visible, legible and indelible.

### **At the manager's premises**

The inspection performed at the manager's premises generally aims to verify the effective setting and implementation of a maintenance plan of the site and maintenance plan of installations. The checks consist in the verification of existence and correctness of documents required by the regulation of December 18th, 1996.

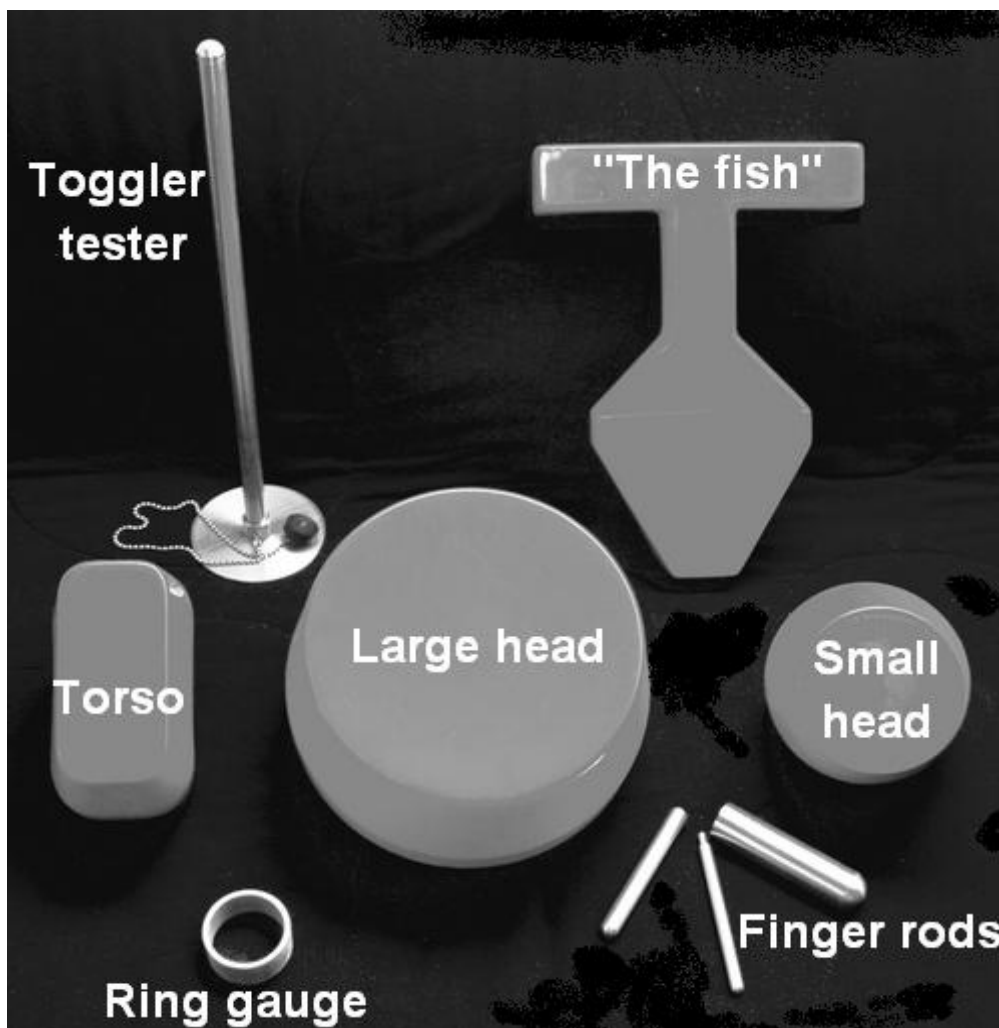
The inspectors can also collect all the information useful to exercise the inspection, for instance, maintenance and service contracts, offers and invoices for repairs, photos, etc.

## H. Use Of Test-Probes, By The *Danish Safety Technology Authority*, Denmark

### The Seven Most Important Probes

#### The Probes, Overview

Inspectors are testing the playground equipment according to the EN 1176 with the help of test probes shown in figure 1. Detailed descriptions of the probes, including dimensions, are given in EN 1176-2008, Annex D and EN 1176-6:2008 Annex E. The latter are the probes for checking the hand support and footrest in rocking equipment.



*Figure 1. The test probes that are used when testing playground equipment according to EN 1176.*

Further to the probes shown in figure 1, the German law requires that two special probes are used to assess the risk of head and neck entrapment. Those probes (normally referred to as probe A and probe B) are displayed in figure 2, next to the common probes C and D. For more details, please refer to EN 1176, Annex D and F.



*Figure 2. The two test probes A and B that are required to test for head and neck entrapment according to German legislation.*

### **Head Probe and Body and Feet Probe - Head and Neck Entrapment**

The head probe and the torso probe in figure 1 are used for assessing the risk for head and neck entrapment. If a child can get its body through an opening and the head can not follow through, then a dangerous situation may occur if the opening is situated at a height where the child can not reach the ground. The use of the two probes is revealed in the Figure 3 and 4.



*Figure 3. Head and neck entrapment. Step 1: Checking the opening with two smaller probes. If the torso (left photo) and small head probe (right photo) can pass through the opening the large head probe shall also pass through the opening (shown on figure 4).*



Figure 4. Head and neck entrapment. Step 2: Checking the opening with big probe. As the large head probe cannot pass (as shown on photo) this equipment possesses a risk of head entrapment.

This test applies to all openings more than 600mm from the ground. The openings must be fully encircled with rigid or flexible (e.g. ropes) material. Firstly the inspector applies the torso and small head probe. If it cannot pass through the opening, then there is no risk of head and neck entrapment. Contrarily, if the body and feet probe passes through the opening, then the head probe must also be able to pass through it. Otherwise there is a risk for head and neck entrapment.

### The "Fish" Probe – Head and Neck Entrapment

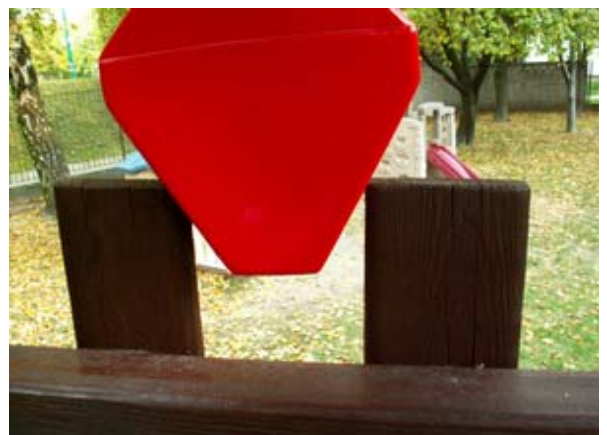
The "fish" probe in figure 1 is used for assessing the risk for head and neck entrapment in partially encircled openings. If a child can get its neck into a narrow opening (with its head on one side and the body on the other side) and the opening is located so high that the child cannot stand on the ground, then a dangerous situation may occur. The probe is known as the "fish" but it resembles the head, neck and shoulders of a little child. The use of the probe is shown on figure 5.

This test applies to all partially encircled openings more than 600mm above the ground. Entrapment test in V-shaped openings is also carried out in two steps:

**STEP 1. PARALLEL to the opening:** neck cannot fit for the whole depth (45mm), unless STEP 2 will be successful (right photo shows situation where entrapment exists). Procedure of test may vary, it depends on the location of opening.



STEP 1



STEP 2

Figure .5 Testing for head and neck entrapment by the use of the "fish" probe.

STEP 1: The inspector places the probe in a right angle within the fence as shown in the photo on the left. The probe must fit into the opening, i.e. the opening must be so wide that the “neck” of the probe can go into it (larger than 4.5cm) and it must be so deep that probe can be fully inserted (deeper than 4.5cm). Finally the thickness of the fences must be less than the length of the “neck” of the probe (9cm). If the first step was successful, proceed to the second step.

STEP 2: If the probe fits into the opening (the photo on the left) then there might be a head and neck trap. This is tested by placing the probe in parallel to the wall (right photo)

V-Shaped openings should be tested for two cases as shown on figure 6.

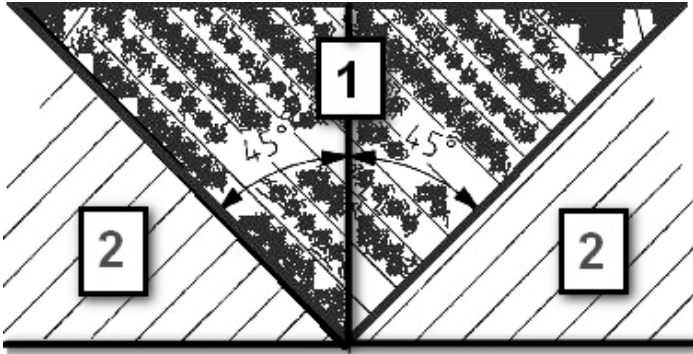


Figure 6. Two cases of testing V-shaped openings. Negative result of STEP 1 obliges different tests for two cases.

In situation 1, check openings located up to 45° from the vertical axis of the opening. In situation 2, check openings located from 45° to 90° from the vertical axis of the opening.

STEP 2 Case 1: openings located up to 45° from the vertical axis of the opening. Testing is shown on figure 7.

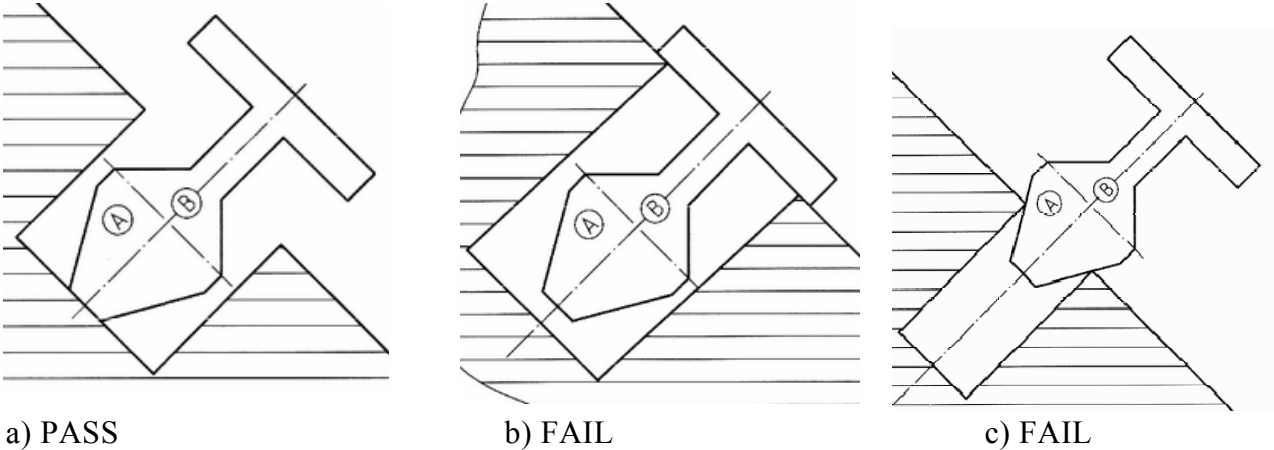


Figure 7. Testing of the V-shaped opening in case 1 - openings located up to 45° from the vertical axis of the opening.

STEP 2. Case 2: openings located from 45° to 90° from the vertical axis of the opening. Testing is shown on figure 8.

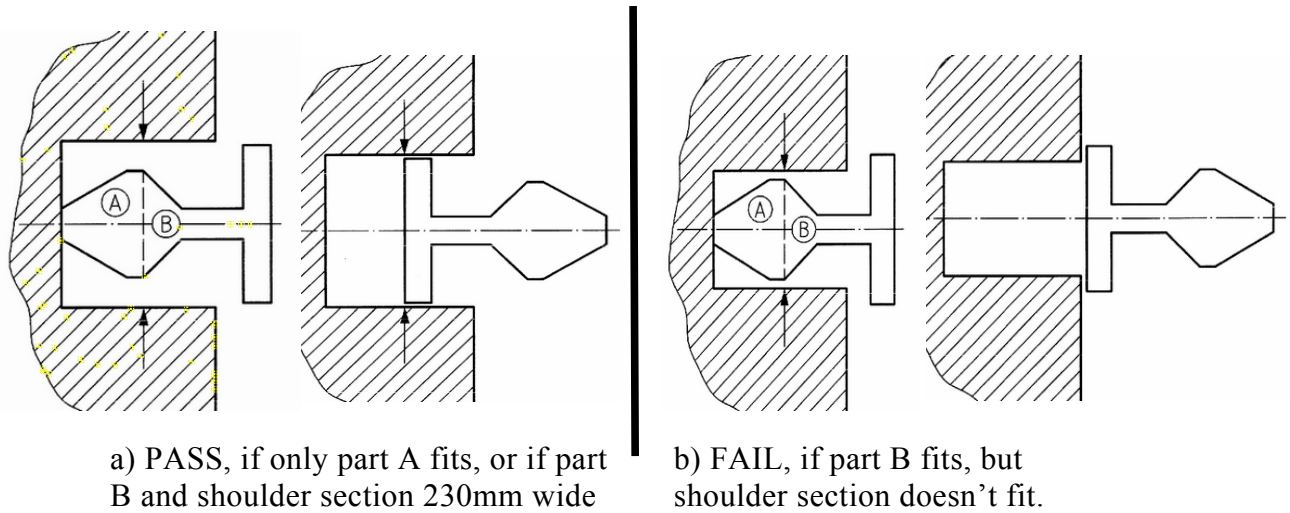


Figure 8. Testing of the V-shaped openings in case 2 openings located from 45° to 90° from the vertical axis of the opening

### The Toggle-Tester – Entrapment Of Clothing

The toggle-tester in figure 1 is used for assessing the risk for entrapment of clothing. If a cord from the child's clothes becomes stuck in the playground equipment, there is a risk that the child is strangled. The use of the probe is shown on figure 9.

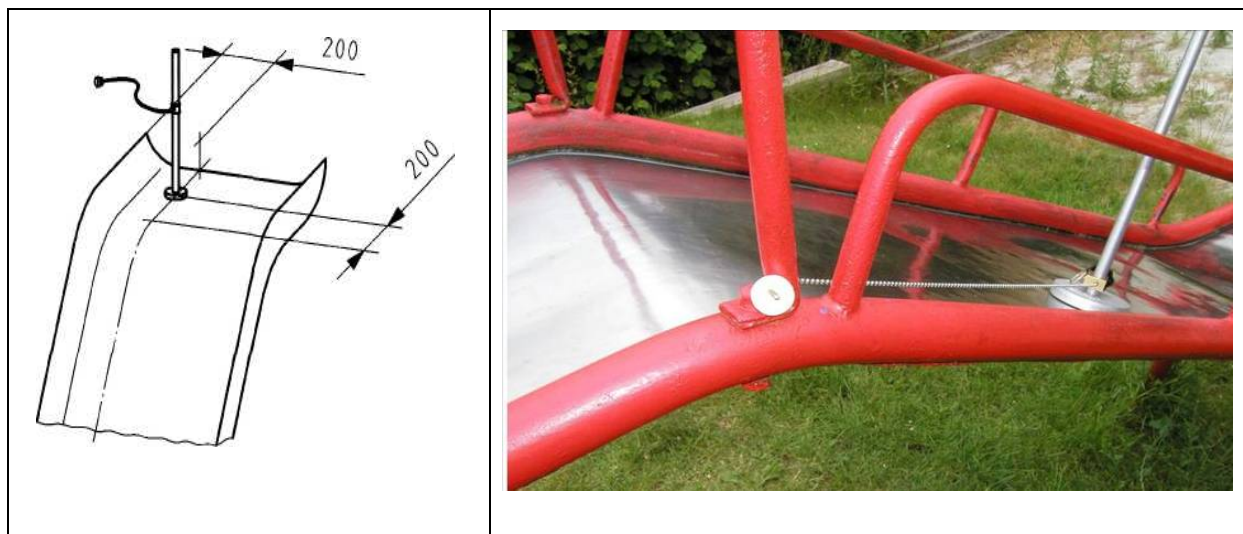


Figure 9. Testing for potential traps, where cords and strings from clothes can be stuck with the toggle-tester.

This test applies to slides, fire-fighter's poles, roofs, spindling and rotating parts (places where children move quickly and irreversible). The test is carried out in the area between 120cm above ground level and 180cm above the surface of any platform at the starting point (of slides, fire-fighter's poles, etc.).

The detailed test requirements are given in EN 1176 whereas this guide will only provide a superficial guidance. The basic idea in the test is to check if the metal plate (the toggle) at the end of the chain can be blocked at the playground equipment as shown on figure 9. The probe should be applied in the direction of any potential sliding movement of the user.

## The 8mm And 25mm Test Rods - Entrapment Of Fingers

The finger rods in figure 1 are used for assessing the risk for finger entrapment. The idea is that the playground equipment must not have holes where children can get their fingers in and cannot get them out again. The use of the probes is shown on figure10.



*Figure 10. The finger rods are used for checking for finger traps.*

This test applies to openings more than 100cm above ground. It applies to any kind of openings, not only circular openings, but also cracks and knots. The openings can be rigid or flexible (e.g. anchorage points for climbing ropes). The test is carried out with the 8mm probe and the 25mm probe. If the 8mm probe can enter the opening then the 25mm rod shall also be able to pass through it.

We check chains with 8,6mm and 12mm diameter probes. An 8,6mm probe is not included in the Appendix D of the standard. When the inspectors should take special precautions, they can use 8mm probe and calliper. Chains shall have a maximum opening of 8,6mm in any direction except when connections are made where the maximum opening shall be greater than 12mm or less than 8,6mm.

## Ring Gauge - Hazard Of Eye Injury.

Hazard of eye injury occurs in the footrests and hand supports of rocking equipment. Testing of this hazard is shown on figure 11



*Figure 11: Testing of the hazard of eye injury. We carry out the test through setting the gauge over the end of the hand support or footrest and afterwards applying the gauge only along the centre line of the hand support or footrest.*



## **I. List Of Accredited Laboratories**

### **List Of Laboratories For Playground Equipment:**

1. TÜV Estonia Ltd (<http://www.tuev-nord.ee/english/32370.asp>) (EE)
2. Przemysłowy Instytut Maszyn Budowlanych, Napoleona 2, 05-230 Kobyłka, tel. (022) 786 18 12, Poland ([www.pimb.com.pl](http://www.pimb.com.pl)) (PL)
3. Keurmerkinstituut B.V. in Zoetermeer
4. RWTÜV Systems (afdeling Gerätersicherheit und Medizinprodukte) GmbH in Essen (D) (before RWTÜV, Anlagentechnik GmbH)
5. TÜV Rheinland Belgium in Zaventem (B)
6. TÜV Österreich in Wenen (AT)

### **Laboratories For Fairground And Playground Equipment:**

1. AIB-Vinçotte Nederland B.V. (AV) in Breda (NL)
2. Det Norske Veritas B.V. (DNV) in Rotterdam (NL)
3. Liftinstituut B.V. in Amsterdam (NL)
4. MKB-certificatie B.V. in Geleen (NL)
5. TÜV Industrie Service GmbH München (D) (before Bau und Betriebstechnik GmbH).
6. RWTÜV Systems (afdeling Festigheid, Maschinenteknik) GmbH in Essen (D) (before RWTÜV Anlage technik GmbH)
7. TÜV Nederland QA B.V. in Best (member of TÜV Nord group)

## **J. Legal Follow-Up With The Operators By The *FPS Economy, Sme's, Independent Professions And Energy, Belgium***

### **Official report**

If any violations are found, the inspector may draw up an official report. A copy of the official report will be sent by registered mail to the party involved within a period of 30 days.

### **Sanctions and measures**

#### **Warning**

If certain hazards are found, the inspector will first notify the operator thereof via an official report of warning and the violator will be urged to remedy the violation.

The warning specifies the incriminating facts and the violated legal provisions, and the period within which the violations must be remedied.

The inspector thus requests – if necessary in consultation with violator – that the necessary measures be taken to restore the safety of the playground.

If the request goes unheeded, specific measures may be taken or sanctions imposed.

#### **Suspension of the service**

##### ***Conditions***

- Existence of a serious risk;
- The minister or his authorised representative first consults the manufacturer and/or a body considered to be representative of the sector. Where due to urgency no prior consultation can take place, the parties involved are informed thereof within 15 days after the entry into force of the measure.

##### ***Form***

A decision by the Minister or the General Director of the *General Directorate Quality and Safety* or the *General Directorate Control and Mediation of the Federal Public Service Economy, SMEs, Independent Professions and Energy*.

##### ***Possible effects***

- The playground is closed for a period of maximum one year;
- The use of an item of playground equipment is prohibited for a period of maximum one year.

These measures can be extended for a period of maximum 1 year or converted into a definitive measure.

#### **Prohibition of service**

##### ***Conditions***

- The product presents a hazardous characteristic or the service implies a risk that is inconsistent with the general safety requirement.

- The Minister or his authorised representative first consults the manufacturer or the service provider concerned and notifies the latter within 15 days after adoption of the measure.

***Form***

A ministerial decree.

***Possible effects***

- The playground is closed down for good.
- The use of a particular item of playground equipment is definitively prohibited.
- Obligations are imposed concerning information of the users.
- Obligations are enforced pertaining to optional and/or mandatory procedures, tests and markings.

**Amiable settlement**

***Conditions***

A violation is established by means of an official report.

***Form***

Proposal for amiable settlement by the General Director of the *General Directorate Control and Mediation of the Federal Public Service Economy, SMEs, Independent Professions and Energy*.

***Possible effects***

Payment of a fine ranging from €62.50 to €12,500. If multiple violations have been registered, the fine may amount up to €25,000.

**Punishment**

***Conditions***

A violation is established by means of an official report.

***Form***

A court decision.

**Possible effects**

- A fine from €500 to € 20,000 (doubled in case of repeated violation);
- Confiscation of unlawful profit;
- Posting the judgment, its publication in newspapers, etc.

**Conclusion**

The aim of the authorities is not to draw up as many reports as possible or to dole out as many punishments as possible, but to ensure that the law is enforced.

## **K. Reporting The Inspection Results: A Survey In The Netherlands – VWA, The Netherlands**

*Inspectorate for Health Protection, 's-Hertogenbosch*

Rijzertlaan 19

5223 JS 's-Hertogenbosch

The Netherlands

\*\*31 73 210255

Rapport SH9303

### **THE SAFETY OF PLAYGROUNDS,**

A survey in

The Netherlands

10 September 1993

Ms. ir. L.J.M. Beugels

Head of the Product Safety Division

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  - Appendix VI Leaflet Of The *Inspectorate For Health Protection*

## SUMMARY

According to PORS-registration (version of the EHLASS-registration in The Netherlands) annually approx. 15.000 children are brought to the First-Aid departments of hospitals in the Netherlands as a result of an accident in a playground: 6800 of these accidents are caused by playground equipment. Of these 6800 accidents over 700 resulted in a long or short period of admission into a hospital.

The number of non-registered accidents is unknown, but these are probably more numerous.

In anticipation of a specific legislation in the Netherlands, the Product Safety Division of the (*Regional*) *Inspectorate for Health Protection, Keuringsdienst van Waren, 's-Hertogenbosch* (see also appendix V) submitted a limited number of playgrounds in the province North-Brabant to a safety inspection. The results gave rise to the need of surveying the safety of the playgrounds in the whole of The Netherlands.

In July and August 1993, the inspectors examined 663 playgrounds in a coordinated action by The *Inspectorate for Health Protection*. In these recreational areas, they inspected 7150 pieces of playground equipment.

According to this survey, nearly one out of three pieces of playground equipment did not meet the stated requirements on one or more issues. These pieces of playground equipment were spread over 85% of the inspected playgrounds.

The percentages of defects on five main issues are following:

- 2,3% of the playground equipment has a possibility of entanglement;
- 6% of the playground equipment is provided with inappropriate surfacing material;
- 5% of the playground equipment were incorrect installed, because the concrete foundation came above the ground-level;
- 10% of the playground equipment has broken or missing parts;
- 15% of the playground equipment has rotten or worn out parts.

There is a relation between the number of the playground equipment per playground and the (un-)safety. Public playgrounds and playgrounds near "catering establishments" are less safe then playgrounds managed by a private association. The location of the playground has no influence on the safety-level.

The established defects of the playground equipment can cause injuries varying from small (grazes or stab-wounds) to severe or lethal (brain damage or death by strangulation).

To increase the number of safer playgrounds, please find the following recommendations:

- \* Spread the knowledge about safety-aspects of playgrounds through distributing this specific information to the managers of playgrounds.
- \* Let the legislation (in preparation) come into force as soon as possible and make sure that there will be a structural enforcement of this legislation.
- \* The government has to make a choice between the protection of a child and taking care of a child after an accident.

## 1. INTRODUCTION

According to the PORS-registration (version of the EHLASS-registration in The Netherlands) annually approx. 15.000 children are brought to the First-Aid departments of hospitals in the Netherlands as a result of an accident in a playground: 6800 of these accidents are caused by playground equipment. Of these 6800 accidents over 700 resulted in a long or short period of admission into a hospital. (Source: Consumer Safety Institute, Amsterdam; PORS-registration of the period 1986 - 1991)

The number of non-registered accidents is unknown, but these are probably more numerous.

In anticipation of specific legislation in the Netherlands, the Product Safety Division of the *(Regional) Inspectorate for Health Protection/Keuringsdienst van Waren,'s-Hertogenbosch* (see also appendix V) submitted a limited number of playgrounds in the province North-Brabant to a safety-inspection. In this survey, 187 playgrounds with 1500 pieces of playground equipment were inspected. The results were:

- \* 149 (or 79%) playgrounds did not meet the used standards on one or more issues;
- \* 299 (or approx. 20%) playground equipment had defects on one or more issues.

The results of this limited survey gave rise to the need of surveying the safety of the playgrounds in the whole of The Netherlands.

## 2. SURVEY PROGRAMME

In this survey, a “playground” defined as:

**“A playground is a place in the open air where playground equipment is installed, intended to be used by children to play.”**

According to this definition, there are approximately 30.000 playgrounds in The Netherlands, making no distinction between public or private ones.

All of the 13 Regional Inspectorates for Health Protection (see also appendix V) have allocated one inspector for this survey. These persons were trained theoretical and practical and were put to a test by the in playgrounds specialized Regional Inspectorate in *'s-Hertogenbosch*.

The survey was performed in July and August 1993.

The inspections were performed on basis of a checklist that contained the following five main issues:

- \* Entanglement;
- \* Inappropriate surfacing material;
- \* Incorrect installation, because the concrete foundation came above the ground-level;
- \* Broken or missing parts;
- \* Rotten or worn out parts.

Further explanation of these five main issues is given in Appendix I.

The sample-size was 663 playgrounds.

The ratio between the kind of playground (public, private and "near catering establishment"), size of the playground (1-4, 5-8 or >8 pieces of playground equipment) and the location of the playground (old or new "residential quarters") was indicated: in this manner, the representativeness of the sample was guaranteed.

In Appendix II histograms are presented of discrepancy between the planned and the realized sample per kind, size and location of the playgrounds. In the Appendix III, these histograms are also itemized per region.



### 3. RESULTS OF THE SURVEY

The results of the survey are presented in two different ways:

- \* Global information about the safety-level of the playgrounds in general is concluded on basis of the percentage of playgrounds with one or more defects: this is indicated as "results on play-ground level" (see 3.1).
- \* More detailed information intended for further evaluation is presented on basis of the percentage of defects of playground equipment: this is indicated as "results on playground equipment-level" (see 3.2).

#### 3.1 Results on playground level

Before jumping to conclusions on playground-level there has to be stated that a playground is indicated as defective if one (or more) piece of playground equipment is defective on one (or more) aspects.

In the following graph the number and the percentage of defective playgrounds is represented by region. In the first column, the average value is stated. The abbreviations in the next columns stand for the 13 Regional Inspectorates.

**Graph 1** (translation of text: see appendix V)

In 563 (approx. 85%) of the 663 playgrounds are one or more defects observed. Per region this implies that an average of 43 playgrounds of the 51 inspected is defective on one ore more of the stated requirements.

In the following graph, the number and the percentage of defective playgrounds are represented per main issue.

**Graph 2** (translation of text: see appendix V)

Due to a limited correlation between the different kinds of defects of the main issues, the total of defects per main issues is more than the indicated 85%. For example, a playground can have defects on the main issues entanglement and inappropriate surfacing material.

#### 3.2 Results on playground equipment-level

A more precise description of the safety-level of the playgrounds in the Netherlands is obtained by the representation of the results as percentage of defects of the playground equipment.

In the following graph the number and the percentage of defective playground equipment are represented.

In the first column, the average values are stated. The abbreviations in the next columns stand for the 13 Regional Inspectorates.

**Graph 3** (translation of text: see appendix V)

2223 (or approx. 31%) of the 7150 inspected playground equipment have one or more defects. This implies that an average of 171 pieces of playground equipment per region is defective in relation to one or more of the stated requirements.

#### **Graph 4**

Due to a limited correlation between the different kinds of defects, the total of defects per main issues is more than the indicated 31%. For a piece of playground equipment can have defects on the main issues “entanglement” and “inappropriate surfacing material”.

### **3.2.1 Differences in the kind of playground equipment**

The percentage of defects per kind of playground equipment provides information that is more detailed (see Appendix IV).

The first column contains the number of defective pieces of playground equipment per main issue.

The second column indicates the portion of 100% that specific playground equipment has with reference to a main group of defects. This percentage is relative: “5%” at “slides” and “entanglement” indicates that 85% of the defects are established at slides on the issue “entanglement”.

The results are the following:

- \* 85% (or n = 144) of the entanglement is ascertained at slides;
- \* Insufficient surfacing material is often seen at tumble-racks (n = 130, or 30%), climbing-equipment (n = 128, or 29%) and swings (n = 80, or 18%);
- \* 30% (or n = 155) of the incorrect installation (because the concrete foundation came above the ground-level) is ascertained at swings and 25% (or n = 93) at climbing-equipment;
- \* Broken or missing parts are ascertained at swings (n = 147, or 19%), climbing equipment (n = 118, or 15%), seesaw (n = 96, or 13%) and spring-equipment (n = 75, or 10%);
- \* Rotten or worn out parts is often ascertained at swings (n = 390, or 36%), climbing-equipment (n = 160, or 15%) and seesaw (n = 111, or 10%).

### **3.2.2 Differences in the size of the playground**

The correlation of the size, number of pieces of playground equipment and the safety of the playgrounds is investigated.

**Graph 5** (translation of text: see Appendix V)

The percentage of defective playground equipment is 48% in the category playgrounds “**1-4 pieces of playground equipment**”.

The percentage of defective playground equipment is 37% in the category playgrounds “**5-8 pieces of playground equipment**”.

The percentage of defective playground equipment is 27% in the category playgrounds “**> 8 pieces of playground equipment**”.

### **3.2.3 Differences in the kind of playground**

Three types of playgrounds (public, near “catering establishments” and private) are coded separately. The percentage of defects in the three types is stated below:

**Graph 6** (translation of text: see Appendix V)

In **public** playgrounds the percentage of defective playground equipment is 33%.

In playgrounds **near “catering establishments”** the percentage of defective playground equipment is 31%.

In **private** playgrounds the percentage of defective playground equipment is 23%.

### **3.2.4 Differences in the location of the playground**

Finally the influence of the location of the playground is examined. In the survey, the location has a separate code.

The location of the playground has no influence on the safety level of the playground. The same percentage of defective playground equipment (31 %) is found in new and old “residential quarters”.

## 4. CONCLUSION AND RECOMMENDATIONS

The interpretation of the main issues is the same as made by the European Standard Committee on playground equipment.

### 4.1 Conclusion

The number of dangerous aspects with which a child is confronted on a playground is much higher than it has been estimated until this moment. Moreover, it is unacceptably high!

The dangers are in reality a multitude of hazards that were investigated. In this survey, e.g. the following hazards were omitted:

- \* Entrapment of parts of the body;
- \* Barriers of playground equipment;
- \* Presence of toxic plants.

The location of the playground has no influence on the safety-level; there is no difference between the results of new and old “residential quarters”.

There is a correlation between the number of pieces of the playground equipment per playground area and the (un-)safety of a playground. The smaller the number of pieces of playground equipment per playground is, the more defects per playground equipment there are.

Public playgrounds and playgrounds near “catering establishments” are less safe than playgrounds managed by a private association.

### 4.2 Recommendations

#### Information

One should spread the knowledge about safety aspects of playgrounds by disseminating this specific information to the managers of playgrounds.

#### Legislation and enforcement

It is recommended that the legislation (in preparation) come into force as soon as possible. Apart from this, a structural enforcement of this legislation is needed.

#### Health protection or health care?

The local government owns and manages approximately 80% of the playgrounds. Many municipalities manage the playgrounds with conviction. But according to this survey, one may conclude that a lot of (registered) accidents take place on public playgrounds. A recommendation for the government is that it has to make a choice between, on one hand, the protection of a child by increasing the level of safety on playgrounds and, on the other hand, taking care of a child after an accident, including the financial costs.

#### Playground branch

It would be excellent if the playground sector drafts a safety code that meets the regulations and the state of art.

#### Control

It is recommended that a new survey is performed after 2 or 3 years, in order to establish the changes of the safety level and to determine the effects of the recommendations.

## **Appendix I: Explanation of the Main Issues**

### **Entanglement**

Strings of coats or parts of clothing can be caught between parts of playground equipment, causing the child to hang itself.

This entanglement creates a real danger, if:

- \* A child's forced movement cannot be stopped. A forced movement is sliding down a slide, swinging back and forth a swing, or descending from a big height.
- \* A small angle for entrapment or a narrow opening;
- \* The point of entanglement is situated 60cm above the supporting surface. If the point of entanglement is situated higher than the height of small children, they will miss any support and a real possibility for strangulation appears.

The hazard of entanglement can cause death or severe injuries.

### **Inappropriate surfacing material**

In the proposed European standard, there is a minimal requirement for surfacing material for playground equipment: concrete, bricks or comparable hard surfacing material are not allowed if the fall height is more than 60cm. The risk for brain damage is too high.

If the fall height is less than 60cm, hard surfacing material is dissuaded to be used.

Inappropriate surfacing material can cause small injuries (grazes) to severe injuries (broken bones or brain damage).

### **Incorrect installation** (concrete foundation comes above the ground level)

Incorrect installation of the concrete foundation causes two hazards:

- \* Stumbling;
- \* Falling on a hard and point like part.

Incorrect installation can cause small injuries (grazes) to severe injuries (bruised parts of the body, broken bones or brain damage).

### **Broken or missing parts**

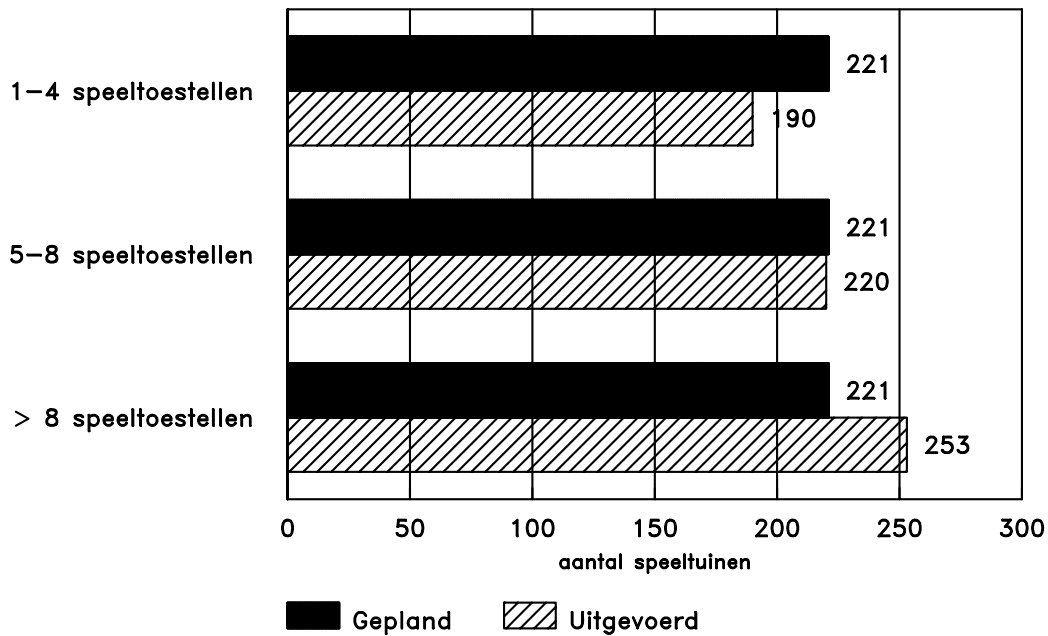
Only the broken or missing parts, which influence the safety during play, are determined as defective. A broken part consists minimally of two parts. In most cases, broken or missing parts are caused by rotten or worn out parts. In the survey, a part of the play equipment is either broken or rotten, but never determined on both issues. Broken or missing parts often lead to inappropriate behaviour: this can cause small injuries (grazes) to severe injuries (bruised parts of the body or broken bones).

### **Rotten or worn out parts**

Only rotten or worn out parts, which influence the safety during play, are determined as defective. Rusty points of suspension of swings can make metal splinters to come out in the eyes of children. A worn out part is damaged but it is still not completely broken. One part of a piece of play equipment may never be considered as broken or rotten. Rotten or worn out parts often lead to inappropriate behaviour: this can cause severe injuries (bruised parts of the body or broken bones).

## Appendix II Realised sampling

### Steekproefverdeling grootte van de speeltuin



1993

Gerealiseerde steekproef = realised sample

Grootte van de speeltuin = size of the playground

Speeltoestel = playground equipment

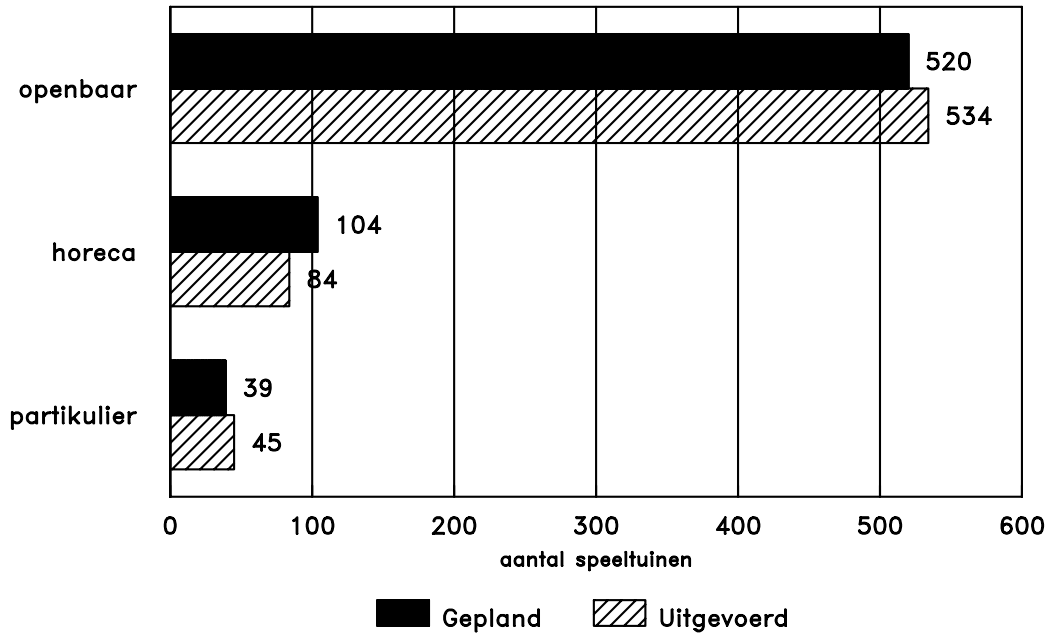
Aantal speeltuinen = number of playgrounds

Gepland = planned

Uitgevoerd = realised

# Steekproefverdeling

type



1993

Steekproefverdeling = division of the sample

Type = type of playground

Openbaar = public

Horeca = near catering establishment

Particulier = private

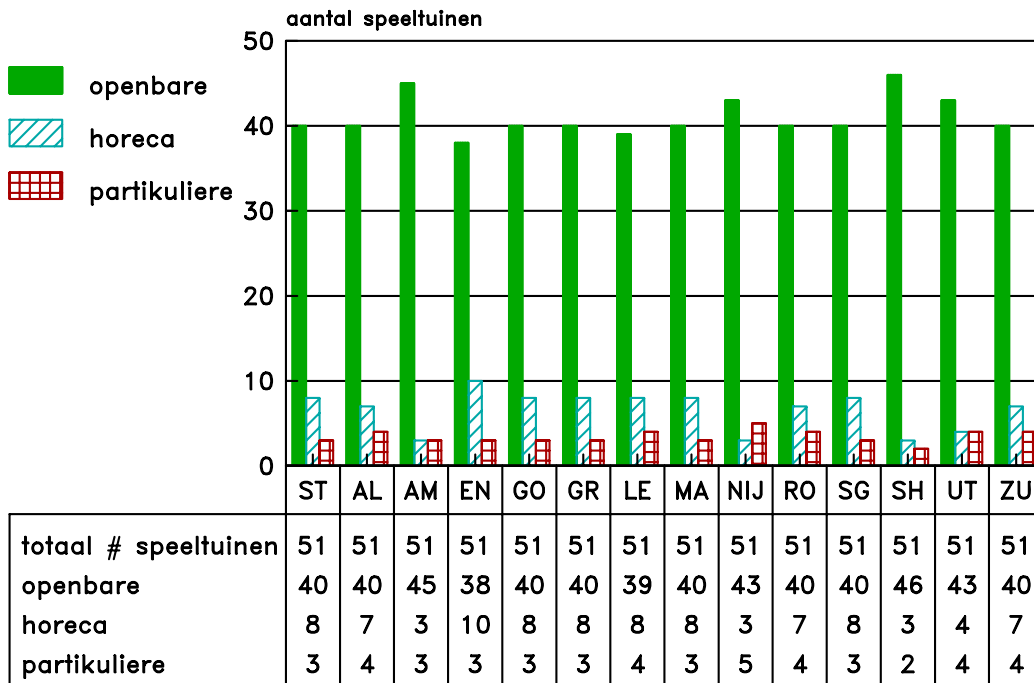
Aantal speeltuinen = number of playgrounds

Gepland = planned

Uitgevoerd = realised

Appendix III Division of the realised samples per region

beschrijving gerealiseerde steekproef  
type



1993

Gerealiseerde steekproef = realised sample

Type = type of playground

Aantal speeltuinen = number of playgrounds

Openbaar = public

Horeca = near catering establishment

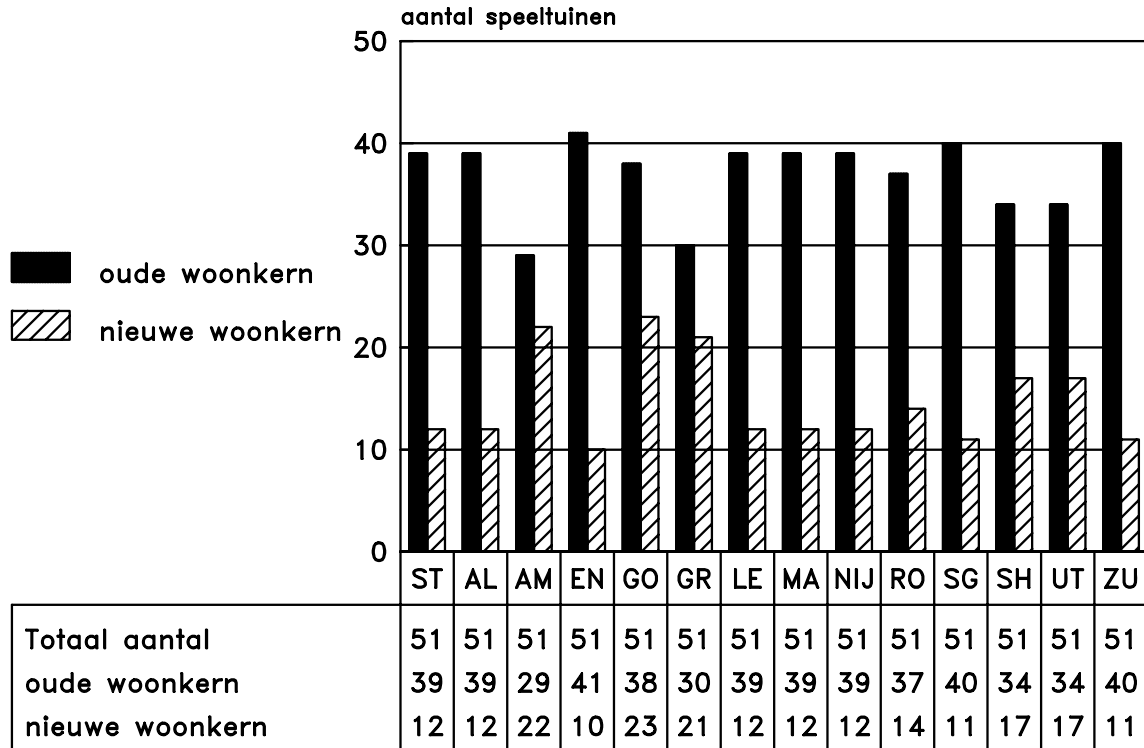
Particulier = private

Aantal speeltuinen = number of playgrounds



# beschrijving gerealiseerde steekproef

## ligging



1993

Ligging=location of the playground

Oude woonkern=old residential quarters

Nieuwe woonkern=new residential quarters

Totaal aantal=total number

### Appendix IV Number Of Defects Per Type Of Playground Equipment And Per Main-Group

	Totaal		Verstrikking.		Bodem		Poeren		Kapotte onderd.		Rotte onderd.	
	#	%	#	%	#	%	#	%	#	%	#	%
Glijbaan	254	11,4	144	85,2	37	8,6	42	11,3	59	7,8	87	8,1
Klimtoestel	389	17,5	16	9,5	128	29,6	93	24,9	118	15,7	160	14,8
Schommel	574	25,8	6	3,6	80	18,5	11	30,8	147	19,5	390	36,2
Draaimolen	54	2,4			13	3,0			26	3,5	22	2,0
Wip	184	8,3					12	3,2	96	12,8	111	10,3
Kabelbaan	17	0,8					5	1,3	8	1,1	5	0,5
Kanteldoel	6	0,3							4	0,5	4	0,4
Veertoestel	159	7,2					25	6,7	75	10,0	80	7,4
Kruiptunnel	13	0,6							8	1,1	8	0,7
Zandbak	59	2,7							27	3,6	27	2,5
Tuimelrek	181	8,1			130	30,0			20	2,7	18	1,7
Speelhuisje	74	3,3	2	1,2	24	5,5	2	0,5	37	4,9	36	3,3
Bank	9	0,4							2	0,3	3	0,3
Wigwam	2	0,1							1	0,1	6	0,6
Evenwichtsbalk	42	1,9					3	0,8	9	1,2	34	3,2
Stappalen	9	0,4							3	0,4	7	0,7
Uitkijktoren	10	0,5			1	0,2			8	1,1	4	0,4
Tuimelnet	2	0,1					1	0,3	1	0,1		
Waterpomp	1	0,0							1	0,1		
Loopton	19	0,9			4	0,9	8	2,1	5	0,7	5	0,5
Looprad	16	0,7					5	1,3	10	1,3	3	0,3
Ruimte-net	7	0,3			2	0,5			2	0,3	3	0,3
Trampoline	1	0,0							1	0,1	1	0,1
Loopschijf	6	0,3			3	0,7			3	0,4	1	0,1
Kettingbrug	13	0,6					1	0,3	5	0,7	12	1,1
Banden	16	0,7							12	1,6	5	0,5
Doelen	14	0,6							10	1,3	6	0,6
Afscheiding	14	0,6							10	1,3	5	0,5
Basket	16	0,7							14	1,9	3	0,3
Klimtouw	19	0,9	1	0,6	7	1,6			4	0,5	9	0,8
Skatebaan	6	0,3							0,0		1	0,1
Klimladder	25	1,1			4				18	2,4	16	1,5
Springpalen	12	0,5							9	1,2	6	0,6
	222	100,	169	100	433	100	37	100	753	100,0	107	100,0
	3	0					3				8	

Bij de interpretatie van deze gegevens moeten de afwijkingspercentages in de tabel als relatieve afwijkingspercentages gezien worden. De “85 %” bij “glijbaan” en “verstrikking.” moet gelezen worden als: 85 % van de verstrikking-afwijkingen werd bij glijbanen geconstateerd.

## **Dutch=english**

Verstrikking = entanglement

Bodem = surface

Poeren = incorrect installed (concrete foundation above ground level)

Kapotte onderd. = broken or missing parts

Rotte onderd = rotten or worn out parts

Glijbaan = slide

Klimtoestel = climbing-equipment

Schommel = swing

Draaimolen = merry-go-round

Wip = see-saw

Kabelbaan = cable-way

Kanteldoel = movable-goals

Veertoestel = spring-equipment

Kruiptunnel = crawl-tunnel

Zandbak = sandbox

Tuimelrek = tumble-rack

Speelhuisje = play-house

Bank = bench

Wigwam = wigwam

Evenwichtsbalk = balance-beam

Stappalen = stepping-poles

Uitkijktoren = watchtower

Tuimelnet = tumble-net

Waterpomp = waterhoose

Loopton = walking-tun

Looprad = walking-wheel

Ruimte-net = space-net

Trampoline = trampoline

Loopschijf = walking-disc

Kettingbrug = chain-bridge

Banden = tires

Doelen = goals

Afscheiding = fences

Basket = basket

Klimtouw = climbing-rope

Skatebaan = skating-track

Klimladder = climbing-ladder

Springpalen = jumping-poles

Appendix V Leaflet Of The Inspectorate For Health Protection

## L. Forms For Reporting Statistical Inspection Results

### Traders Inspection Sheet – Statistics

No	Action	Number	Comments
1	The number of traders (producers/importers) controlled		
2	The number of equipment controlled		
3	The number of equipment which met all the requirements		
4	The number of equipment which failed the safety requirements		
5	Number of specific risks posed by the equipment	Fall (lack of barriers, handrails etc.)	
		Entrapment (other than strangulation)	
		Strangulation	
		Injuries due to broken or missing parts, poor finish	
		Injuries due to shearing and crushing	
		Other (what kind of?)	

### Playgrounds Inspection Sheet – Statistics

No	Action	Number	Comments
1	The number of playgrounds controlled		
2	The number of equipment controlled		
	The number of equipment which failed the safety requirements		
3	The number of equipment which met all the requirements		
	Number of specific risks posed by the equipment	Fall due to lack of barriers, handrails etc.	
		Entrapment (other than strangulation)	
		Strangulation	
		Injuries due to inappropriate surface	
		Injuries due to broken or missing parts; poor finish	
		Injuries due to shearing and crushing	
		Risk of collision of children with each other or with parts of playground equipment	
		Incorrect installation	
		Other (what kind of?)	
5	The number of other defects (e.g. fences, bins, sand, etc.)		

## **M. Ensuring The Quality And Efficiency Of Inspections Through An Audit Of The Municipalities, *Directorate For Civil Protection And Emergency Planning (DSB), Norway***

In the opinion of the DSB, the absence of an internal control system or its malfunction creates the biggest shortcomings. This is why at present the activities of DSB focus on audit of the municipalities. The job of DSB is to boost the focus of municipalities through audits to ensure that the legislation is being followed/practiced. Municipalities, private businesses/developers are responsible for ensuring safety of the playgrounds, for which they are the owner. This can be done by gathering documentation on:

- Municipalities risk assessment of playground equipment;
- Action plans and maintenance management;
- Reporting routine for maintenance/inspection/renovation of playground equipment;
- Routine for correcting, finding and reporting lacks on playground equipment;
- Training and knowledge of municipalities on purchase, control and maintenance of playground equipment.

The DSB can be more efficient when they perform their inspections on the playgrounds if, prior to this, they have carried out audits of internal control system of municipalities. Carrying out on-site inspections would require involving many more inspectors and more time. The DSB has all the necessary powers to conduct audits, which were conferred to them by the Norwegian Internal Control Act. The Act also describes in detail what is required from the municipality. Checking of documentation and interview of the staff uncovers irregularities the Directorate wants to discover.

When these are found, the next steep can be or will be:

- Municipality must within six weeks present an action/progress plan describing measures that will ensure safer playground equipment.
- If the audits reveal serious shortcomings, the equipment must be removed or repaired. In these cases the equipment must be made inaccessible until satisfactory measures are taken.
- Compulsory fines will be given in case of a lack of action/progress plan or if the taken measures are not satisfactory.

## **N. The Information Campaign of the Joint Action**

For the Joint Action on the safety of playgrounds, the main message will certainly be drawing attention to the safe use of the playground equipment. Thus, in our case, the target groups are those who use the playground equipment and those who ensure its safety.

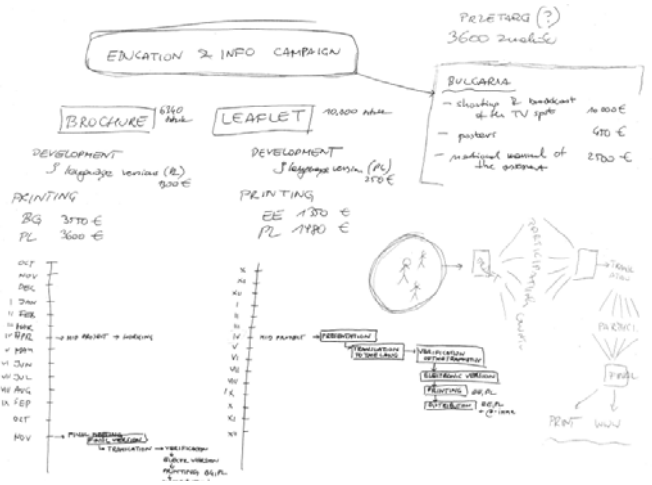
The core elements of the strategy are the tools thanks to which the campaign will be visible in the media, praised by the stakeholders and effective for the users. Below you will find some tools used for the information campaign of the Joint Action on the Safety of Playgrounds. These tools reach far beyond a “canonical” press conference, where the classical presentation of the outcomes of the Joint Action takes place.



**Tool**

**Description of the tool**

Calendar



**Comments**

The most important element of the strategy is the calendar of all events and the short description of each of the events. Next to these lines you can see the handwrite draft of the education and information campaign of the Joint Action on the safety of playgrounds. These two vertical lines represent the calendar for the preparation of publications as set out in the grant agreement.

Remember to plan everything within the financial frame of the project and adjust your ambitious plans to the financial possibilities.

T

he logotype



There is no logo of the Joint Action on the safety of playgrounds, though it is good to have one and to display it on the official documents, presentations and publications prepared in the course of the project. The uniform identification elements such as logo or other forms (as the Power Point presentations template or a symbol of the hand displayed next to these words) help to increase the stakeholders trust to the content of the project publications and activities.

Publications



Leaflet



Booklet



Handbook

As practical as they can be

In our Joint Action we used **different publications aiming at informing different target groups**. The aim of the leaflet was to inform parents on the necessity of due care for children playing on playgrounds. The booklet was designed to pass the information to the area administrators, since whereas the goal of this handbook is to give knowledge to the market surveillance inspectors.

Before you produce the publication you might use the **focus group** method with some two to twelve people who, under the specialist's supervision, will discuss on the possible content of the publication, what they like or dislike in it.

Please remember that the publications should be as informative and practical as possible. In our case we displayed the ruler at the bottom of the leaflet so that the parents might use our publication as a simple "measuring tool" to see whether the openings on the playground meet the standard criteria. We do know that such method is not perfect, but we added instructions of use and disclaimer in the publication, so everyone who would like to use it must know that it is for general orientation rather than for official statement that the equipment fails the safety criteria.

Obligatory information displayed in publications



Do not forget to include such information in the official documents of the project. This is an obligation set out in the grant agreement with the European Commission.

As for the second announcement – it is always welcomed if people use publications promoting the safe behaviour on playground, so there should be no limits to their further reproduction. It is good to know how such data was published and used, as it may cause problems in the future.

This publication was funded thanks to the Community financial support within the Joint Action *Safe play on the playground!* (Grant Agreement No. 17.020200/07/472840). The European Commission is not responsible for any use that may be made of the information contained therein.

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Events and meetings

Big events (with media appearance)

Small events

Conferences, seminars, the meetings within the market surveillance network (national and international)

Every meeting is a good excuse to inform about the Joint Action. In this project, we have taken the opportunity to update people regarding the Joint Action at an “open forum” of stakeholders of the playground safety, some study visits of foreign market surveillance officials in our institutions, press conferences when the product safety issues were on the agenda, consumer education classes at schools, get-togethers of the people responsible for acquiring money from the EU funds etc.

Being on the  
media agenda

Press-clippings, media monitoring and analysis – reacting  
whenever something related to our Joint Action will take place

During the campaign, our tasks are not only informing and educating but also screening what was *really* published. It is also important to analyse the current media agenda and react accordingly. Our information could be significant if the Joint Action is regarded as an element of a common European attitude towards dangerous products in general or a benchmark for EU-funded projects.

## O. Frequently Asked Questions

All the questions are written in general, except for the questions number 2 (national legislation), 12, 15, 18, 26, 27, 28, which should be prepared by every participant according to the specific conditions in his/her country.

### 1/ What does it mean “playground equipment”?

According to the definition included in the EN 1176-1 standard, playground equipment is the equipment and structures including components and constructional elements with, or on which, children can play outdoors or indoors, either individually or in groups, according to their own rules or own reasons for playing which can change at any time.

The playground equipment excludes the activity toys - equipment for domestic family use attached to or incorporating a crossbeam, and similar toys intended for children under 14 years of age to play on or in and to bear the mass of one or more children. The standard EN 71-8: 2003 deals with this.

### 2/ Which regulation is dealing with the safety of playground equipment placed on the market ?

It is Directive 2001/95/EC of the European Parliament and of the Council on General Product Safety/GPSD. According to this directive, only safe products, including PE, shall be placed on the market.

(In Slovakia, the implementation of this directive is the Act on Consumer Protection 250/2007 Coll. In Estonia, the implementation of this directive is through the Product and Service Safety Act)<sup>23</sup>.

### 3/ Who is responsible for the safety of the playground equipment?

At the time of sale, the seller (manufacturer, importer) is responsible for the safety of the equipment; this applies for both its design and manufacture.

During the use of the equipment, the manager of the playground is responsible for its safety.

### 4/ What are the essential ideas of the standards EN 1176 and EN 1177?

EN 1176 refers to the standards for playground equipment and is (provisionally) subdivided into 7 parts. Part 1 states the general requirements for all playground equipment. Parts 2 to 6 state additional requirements for specific items of equipment.

EN 1177 concerns with the surfacing materials used and specifies requirements for surfacing to be used in children’s playgrounds and specific requirements for areas where impact attenuation is necessary.

Some of the standards are also interesting for managers: European standard EN 1176 part 7 gives guidance for the installation, inspection, maintenance and operation of playground equipment.

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<sup>23</sup> Each country should write the relevant information concerning the national act on general product safety

**5/ What are the basic requirements for the safety of materials of playground equipment, according to the EN 1176?**

- Materials should be manufactured in a work-man-like manner;
- Materials should exclude potential toxic hazards of surface coatings;
- Materials should be resistance to very low or very high temperatures to avoid possible hazards through direct skin contact;
- Materials known to produce surface flash shall not be used to avoid the risk of fire and associated hazards;
- Timber parts shall be designed in such way that precipitation can drain off freely and water accumulation shall be avoided;
- Metal parts shall be weatherproof against harsh atmospheric conditions;
- Synthetic materials should be ultra-violet resistant;
- The layer beneath the gel coat of glass-reinforced plastics shall not become exposed to ensure that children are not exposed to glass fibres;
- Dangerous substances shall not be used in PE, such as asbestos, lead, formaldehyde...

no water accumulation
no splintering
no corrosion of metal parts
no protruding nails
no projecting wire rope terminations
no pointed or sharp- edged components
no rough surfaces
access of adults within the equipment
connections- secured, safeguarded
wire ropes- made from galvanized or corrosion resistant wire
wire ropes for climbing...- sheated with yarn from synthetic or natural fibres

**6/ Is the playground equipment safe if all the requirements of the EN 1176 are met?**

If the equipment is compliant with the EN1176, then it also leaves up to the safety level in respect to a relevant hazard. However, the standards are only instruments intended to help the manager or the manufacturer to make their equipment safe.

**7/ Are the standards EN 1176 and EN 1177 legally mandatory?**

These European standards are NOT legally mandatory.

If the requirements of EN are met, then the equipment meets the safety level relating to the relevant hazard aspects. They may therefore be used to demonstrate that something is safe. The compliance with the requirements of the EN is the presumption of the safety.

If the producers do not manufacture the product in compliance with the EN then he must demonstrate that at least the same safety level has been reached (by means of a risk analysis).

**8/ What in case if the requirements of the standards do not cover all the safety characteristics of playground equipment?**

If standards do not discuss a specific hazardous aspect, then a risk analysis must be drawn up for this hazard.

All items of equipment inspected in compliance with the European Standards (EN) need not be subjected to a risk analysis for the relevant hazard aspects. All other playground equipment must undergo a risk analysis.

**9/ Should the playground equipment be marked with a CE marking?**

A CE marking is NOT valid as a declaration of conformity with the European safety standards for playground equipment.

A CE marking shall be present only on the products that are toys - playground equipment intended for use in house. These products are excluded from the definition of PE.

**10/ Is there an obligation to issue the Declaration of conformity on playground equipment, before they are put in to market/use?**

No, that is not necessary.

It is a bonus for the buyer if an item of equipment is accompanied by the manufacturer's declaration that the playground equipment complies with the standards.

The manager is advised to purchase an item of equipment with such a declaration because s/he will not need to perform a risk analysis for that item.

**11/ Who is able to check if all the characteristics/aspects of the PE are safe?**

The manufacturer of the product must be able to assess the safety of the PE. Of course, he can ask the accredited laboratory to assess the safety of PE or perform the risk analysis.

Also the manager must be able to perform the risk analysis or ask the third party for help.

Even though the risk analysis is performed by a third party the manager remains responsible for the performed analysis.

**12/ What does it mean "accredited laboratory"?**

The accredited laboratory is the laboratory which has a licence about the ability to perform all the test methods stated in the licence. The licence is granted by National Accreditation Agency of the relevant Member State.

Name of the Estonian accreditation agency is the *Estonian Accreditation Centre*<sup>24</sup>

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<sup>24</sup> Each country may put the name of its national accreditation agency here

**13/ What data shall test reports include ?**

- Identification data and details of the PE tested /including its manufacturer/;
- The number and date of this EN 1176-1: 199X;
- Details of the condition of the PE tested including any defects observed before the test;
- Details of any change in the condition of the PE observed after the tests;
- The test results;
- The name and other identification data of the accredited laboratory that has carried out the tests.

**14/ What are the visual shortcomings which may indicate the danger of the playground equipment?**

The list of the risk elements will be stated in the checklist included in Appendix C.

**15/ What data should be marked on the playground equipment?**

With reference to EN 1176-1 point 7 “Marking”, the equipment shall be marked legibly and permanently with at least the following:

- Name and address of the manufacturer or his authorized representative;
- Equipment reference and year of manufacture;
- Basic level mark;
- The number and date of this European Standard, i.e. EN 1176-1:199X.

In addition, the national legislation can provide for specific requirements with respect to this issue.

**16/ Does the data marked on the playground equipment always have to be conveyed the national language?**

Yes, it must be always presented in the national language.

There may be multiple languages on the signs. In some neighbourhoods, this may even turn out to be useful. The use of icons could also prove practical.

**17/ Should a swimming pool also be present at a playground?**

Swimming pools with slides are considered as playground because slides are playground equipment



**18/ Are dogs allowed on a playground ?**

Dogs (and other pets) may be allowed on a playground. However, there must be no confusion between the sand pit and a dog toilet. It is the competency of manager to allow it or not.

**19/ Who is responsible for the safety of the playground?**

There is the manager that is responsible and should always perform a risk analysis of the playground because there are no European Standards for playgrounds.

Thus a playground, in which all playground equipment meets the EN, should also undergo a risk analysis.

**20/ Who is responsible for the safety of installed PE on the playground?**

During the use of the equipment, the manager is responsible for its safety.

**21/ Could the manager be exempt from the performing of the risk assessment of the playground ?**

No, because there are no European Standards for playgrounds. This means that the manager should always perform a risk analysis of the playground. Even though the risk analysis is performed by a third party the manager remains responsible for the performed analysis.

**22/ Is it necessary to permanently check the safety of the installed playground equipment or playground?**

*Yes, it is necessary.*

The manager must inspect the playground equipment for safety or have it inspected. This need not be an inspection by a third party; the manager can do this him/herself. S/he may also entrust this inspection to specialised firms who “inspect” existing playground equipment and give advice on their safety.

Even though the risk analysis or inspection is performed by a third party the manager remains responsible for the preformed analysis.

**23/ How can the manager prove that the PE or the playground is safe?**

The manager must keep accurate records. All the data about risk analysis, preventive measures, inspections and maintenance must be recorded. This shall prove that the manager did the utmost effort to ensure a safe playground.

**24/ What are the measures that the market surveillance authority takes against the producer in case of placing a dangerous product on the market?**

With reference to the GPSD, the market surveillance body can impose the following measures:

- Ban the dangerous product to be placed on the market;
- Obligation to inform the purchasers about the dangerous product;
- Obligation to modify the PE (if possible) to make it safe or the obligation to remove the PE.

**25/ What are the measures from the side of market surveillance authority when it is carried out that:**

- The playground is not safety?
- Installed PE /after the using/ is not safety?

The answer of Slovakia:<sup>25</sup>

STI as Slovak market surveillance authority is not authorized to take measures against the manager of the playground or PE. It is authorized to cooperate with the municipality to take necessary measures.

The answer of Estonia :

In the case of indoor playground equipment :

The Consumer Protection Board of Estonia takes the following measures when violations are discovered:

- Demand to improve the product and remove the deficiencies;
- Demand to remove the product from the market (also temporary).

**26/ How to ensure the cleanliness of sand at a playground?**

It must be borne in mind that the presence of animal parasites in sandpits can pose problems to health, because they are the source of dangerous animal diseases, e.g. toxocarosis. This disease can cause blindness. In order to prevent epizootic diseases, it is necessary to regularly change the sand in sandpits and cover them with special covers. The national authority responsible for the issue of the cleanliness of sand is:

**27/ Which plants should not grow on a playground?**

Toxicity

The following woody plants should be absolutely avoided:

Daphne mezereum spp. (mezeon);

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<sup>25</sup> Each country should write the information relevant for the national legislation.

*Ilex aquifolium* (European holly);  
*Laburnum anagyroides* (common laburnum);  
*Taxus baccata* (European yew).

Woody plants to be avoided in play zones apparently designed for toddlers or pre-schoolers:

*Andromeda polifolia* (marsh andromeda);  
*Clematis vitalba* (old man's beard / traveller's joy);  
*Cytisus* spp.  
*Euonymus europaeus* spp. (European spindle tree);  
*Genista* spp.  
*Hedera helix* "arborescens" (English ivy);  
*Juniperus communis* (common juniper);  
*Juniperus sabina* (savin juniper);  
*Juniperus virginiana* (Eastern juniper);  
*Kalmia* spp. (lambkill);  
*Ligustrum* spp. (wild privet);  
*Lonicera*, except *Lonicera pileata* (privet honeysuckle) and *Lonicera nitida* "Elegant";  
*Lycium barbarum* (Goji berry);  
*Pieris japonica* (lily-of-the-valley bush);  
*Prunus laurocerasus* (cherry laurel);  
*Prunus serotina* (black cherry);  
*Prunus virginiana* (chokecherry);  
*Rhamnus cathartica* (common buckthorn);  
*Rhamnus frangula* (glossy buckthorn);  
*Rhododendron* spp. (rhododendron);  
*Rhus* spp. (sumac);  
*Robinia* spp. (locust);  
*Sambucus ebulus* (dwarf elderberry);  
*Sambucus racemosa* (red elderberry);  
*Viburnum*, berry-bearing species (snowball bush, guelder rose);

Alongside the above-mentioned woody plants, there are a number of herbaceous plants that pose a serious risk because of their toxicity.

*Aconitum napellus* (monkshood);

*Arum maculatum* (lords-and-ladies);

*Chelidonium majus* (greater celandine);

*Colchicum byzantinum*;

*Convallaria majalis* (lily of the valley);

*Delphinium cultorum* (King Arthur);

*Digitalis purpurea* (common foxglove);

*Helleborus* spp.;

*Heracleum mantegazzianum* (giant hogweed);

*Papaver somniferum* (opium poppy);

*Solanum nigrum* (black nightshade);

Toxic exotic plants are not included in the above lists!