

What to do, how and when to keep a playground and its surfaces safe

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Last year the revised and updated version of the EN 1176-7 standard was published; it applies to playground equipment, surfaces and ancillary items. This standard is a guide for operators, a definition that we will introduce later: it assists them in the development of a maintenance and inspection regime to be applied to each playground.

In the definition given by the standard, the inspection is a check to ensure the continuous safe use of a playground; maintenance, on the other hand, is the intervention that is required to preserve the original conditions of the equipment and impact attenuation surfaces as long as possible.

Competent persons are suitably trained, qualified by knowledge and with practical experience to carry out the required task.

The operator, on the other hand, can be a person or an organization which operates, supervises and is the owner and / or manager of the playground.

The different phases analyzed by this standard are divided as follows:

- Installation
- Inspection
- Maintenance
- Operation.

The playground must be securely installed according to the manufacturer's instructions. At the end of the installation and before opening to the public, it must be inspected by qualified personnel who will ensure an adequate level of safety.

Over time the park has to be inspected; inspection is in fact the basis of preventive and adequate maintenance. The standard divides them into:

- Post-installation inspection;
- Routine inspections;
- Operational inspections;
- Annual main inspections.

Post-installation inspections are planned after an installation and prior to the opening of a playground for public use.

Then there are the routine visual inspections that are used to identify obvious hazards that can be result of normal use, vandalism or weather conditions. The frequency is decided by the operator, who usually follows the indications provided by the playground equipment manufacturers according to the EN 1176-1 requirements.

Then there are more detailed inspections (operational inspections) that check the operation and stability. They are usually performed every 1 - 3 months or as indicated by the producers. This frequency depends on amount and intensity of use and equipment's durability.



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Then follows the annual main inspection intended to establish the overall safety level of equipment, playing surfaces and foundations. The state of the equipment, the effects of atmospheric conditions, corrosion decay and any changes due to parts or elements added or changed are evaluated. This inspection must be performed by competent persons as it provides a wide-ranging level of competence and knowledge (it depends on the task required and on the different knowledge of the equipment). Above all, these persons must be independent, not involved in the installation and not responsible for possible corrections and costs.

In case of issues recorded during these inspections, the operator (manager, organization, owner, ...) must be immediately warned. He must ensure that the equipment is not used until the appropriate safety level has been restored.



Special attention must also be given to the impact attenuation surfaces. In fact, possible degradation or loss of attenuation properties and consequently reduction of the critical fall height must be considered; causes can be excessive use, vandalism, geographical location, air pollution or the effects of aging.

The effects of all this can be measured over time using the EN 1177 standard (for more info click here: [UNI EN 1177: Impact attenuating playground surfacing Determination of critical fall height](#)).

The operator shall prevent accidents by ensuring that his inspection protocol is clear, defined and maintained for each equipment. This protocol shall consider the climatic conditions and the instructions provided by the manufacturer of the equipment; it can be changed in frequency and type of inspections. This protocol shall explain which inspections must be carried out and the method by which they are to be conducted. Surfaces may have a separate protocol that includes verification of compliance with the impact attenuation in relation to the maximum height of falls and will vary depending on the type of surface.

Also maintenance is diversified like inspection. The standard describes two types of maintenance: routine maintenance and corrective maintenance.

Routine maintenance helps to reduce accidents and keep equipment and surfaces safe.

Routine maintenance refers to:

- tightening of fasteners;
- maintenance of equipment surface finishes;
- maintenance of any impact attenuating surfacing;
- lubrication of bearings;
- cleaning;
- removal of broken glass and other debris;
- restoring loose fill material to the correct level;
- maintenance of free spaces and falling spaces free from obstacles.

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Corrective maintenance, on the other hand, shall include measures to correct defects and re-establish the necessary playground security level, including equipment and surfacing.

It includes:

- replacement of fastenings;
- welding or welding repair;
- replacement of worn or defective parts;
- replacement of defective structural components;
- replacement or repair of defective impact attenuating surfacing.

As regards the general requirements for the operating of playgrounds and their surfaces, operators shall take into account, as well as in the previous phases, the information provided by equipment manufacturers, as defined in the EN 1176-1 standard. In addition, at least once a year, he shall systematically assess the effectiveness of all safety measures used and alter them if it is necessary on the basis of experience, changed circumstances, known and recorded accidents or risk assessment.

The documentation for each playground equipment shall be recorded and shall contain:

- report of inspection and testing;
- inspection and maintenance instructions;
- operating instructions;
- operator's records of all inspections and of all maintenance works;
- tender document and specific design.

These documents shall be accessible for maintenance, inspections, repairs and especially in the event of an accident.

The standard also describes additional safety measures. Specifically, each playground area must have a visible sign with the following information:

- General emergency telephone number;
- Means or methods to contact maintenance personnel;
- Name of the playground;
- Address of the playground;
- Other relevant local information.

Playground entrances and exits way shall always remain accessible and free from obstacles.

The last paragraph is dedicated to the procedures to be followed in the event of an emergency (accidents, fires, ..). Also in this case, public access shall be avoided until safety in the playground is re-established.

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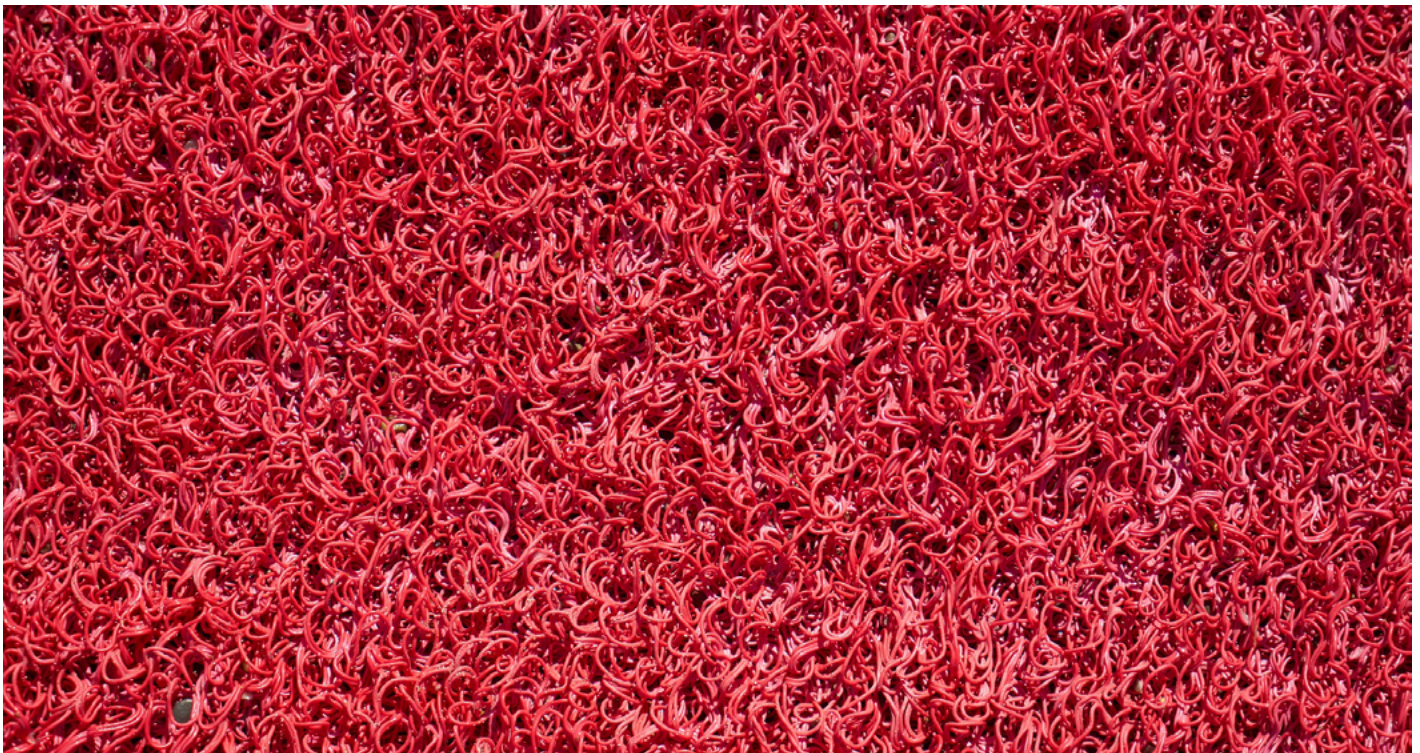
The standard also defines the procedures for recording accidents that may occur with the information to be found and filed.

Final considerations

This standard is a helpful tool to those who manage and carry out maintenance and inspections in the playground. When a playground is designed, it is important to take into consideration which are all the operations, phases and costs necessary to keep it safe longer. These information are provided by the playground manufacturer, as already stated above (requirement of EN 1176-1), but shall be integrated with information and non-compliance issues during the inspections and maintenance that the operator will perform and during the annual inspections of third parties.

Maintenance of equipment and surfacing is very important to maintain the correct safety level.

In particular, CATAS is able to verify if the surfaces in the fall areas maintain the impact attenuation features, according to the EN 1177 standard. The periodical verification allows the operator to keep under control the surfacing which, due to ageing, due to the degradation (sun and cold) can change its characteristics. This is a natural process that is not easy to determine before, because it is influenced by multiple factors and therefore changes depending on the latitude or geographical area of the installation.



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