



Time to inspect your playground.

A guide to proper maintenance and safety in compliance with the Swedish and European Standard EN 1176.

HAGS

Inspirerar nya generationer



STANDARDS – for all playground equipment

From 1st January 1999 playground equipment is required to comply with new standards. These far-reaching standards were updated and revised in 2009.

It is not the purpose of the requirements of this standard to lessen the contribution that playground equipment makes to the child's development and/or play, which is meaningful from an educational point of view.

This standard acknowledges the difficulties of addressing safety issues by age criteria alone because the ability to handle risk is based on the individual users' level of skills and not by age. Also users other than the intended age range will almost certainly make use of the playground equipment.

Risk-taking is an essential feature of play provision and of all environments in which children legitimately spend time playing. Play provision aims to offer children the chance to encounter acceptable risks as part of a stimulating, challenging and controlled learning environment. Play provision should aim at managing the balance between the need to offer risk and the need to keep children safe from serious harm.

The principles of safety management are applicable both to workplaces in general as well as to play provision. However, the balance between safety and benefits is likely to be different in the two environments. In play provision exposure to some degree of risk may be of benefit because it satisfies a basic human need and gives children the chance to learn about risk and consequences in a controlled environment. Respecting the char-

acteristics of children's play and the way children benefit from playing on the playground with regard to development, children need to learn to cope with risk and this may lead to bumps and bruises and even occasionally a broken limb. The aim of this standard is first and foremost to prevent accidents and to lessen serious consequences caused by the occasional mishap that inevitably will occur in children's pursuit of expanding their level of competence, be it socially, intellectually or physically.

Refusal of admittance and access as a safety precaution is problematic due to, for example, breach in supervision or help by peers. Requirements of significant importance, such as, for example, head and neck entrapment and protection against inadvertent falls, have been written with this in mind. It is also recognised that there is an increasing need for play provision to be accessible to users with disabilities. This of course requires play areas to provide a balance between safety and the offer of the required level of challenge and stimulation to all possible groups of users. However, for the purposes of protection against head and neck entrapment, this standard does not take into account children with an increased size of the head (e.g. hydrocephalus or Downs Syndrome) or wearing helmets.

Those responsible for play equipment must have an in-depth understanding of the standards to ensure compliance in every aspect. This leaflet covers the most critical areas of the standards and is not intended to provide comprehensive details for a full inspection of playground equipment.

INSPECTION – maintenance and operation

Service, maintenance and inspection

- It is essential that play equipment has been installed correctly and is serviced, maintained and inspected regularly to ensure user safety and proper operation.
- Equipment must be installed by qualified professionals and in accordance with manufacturer's specifications.
- Equipment must be serviced, maintained and inspected by qualified professionals with the expertise and experience for the job and in compliance with manufacturer's specifications and stipulated time intervals or more frequently. Inspection intervals are determined by factors such as heavy usage, vandalism, coastal climate, age of the equipment, etc.

Operation and responsibility of the owners

- The owners or the person responsible for operation of the play equipment must ensure that

appropriate service, maintenance and inspection schedules and procedures are in place.

- The person responsible for operating the equipment must ensure that staff have been properly trained for the tasks they perform and have received adequate information about their responsibilities.
- The person responsible for operating the equipment must ensure that a logbook is kept detailing service, maintenance and inspections, and that documents are created, saved and made available to those concerned.
- If the equipment is found to have defects that could cause injury to users, the equipment must be placed out of bounds to the general public until the problem is corrected.

A CLEAN ENVIRONMENT – our shared responsibility

The general public's interest in and concern for the environment has increased considerably in recent years. In the past, it was often pressure groups and local and government authorities that promoted awareness of environmental issues. Nowadays, consumers and private individuals are also very aware of the importance of environmental responsibility.

HAGS has always demonstrated a clear commitment to creating a pleasant environment for children and adults alike. The importance of the green element cannot be over-emphasised. The very best play environments are those furnished with special equipment that complements and harmonises with the natural surroundings. Every aspect of our life is dependent on nature, clean water and fresh air – resources that must not be taken for granted.

No one disputes how important it is to care for the environment, but tackling the problems effectively is a challenge that requires knowledge and a systematic approach. Every aspect of our lives depends on natural resources in one way or

another. Our commitment to the environment is a priority for every one of us. We must all embrace a new way of thinking about environmental sustainability.

Please turn to page 15 for information on how HAGS products can be recycled.

Practically all the raw materials in HAGS products can be reused or recycled to generate energy.

The ISO 14001 accreditation that HAGS achieved in 1997 proves the company is committed to managing its impacts on the environment.

CHILDREN'S SAFETY – a question worth considering

It is unlikely that we will ever be able to eliminate risks altogether. After all, risks don't only include physical hazards, but factors that can curb the development of children too. Our ambition must always be to create interesting, stimulating environ-

Fact 1 Children have the right to play (UN's Convention on the Rights of the Child).

Fact 2 Responsibility for maintaining and managing playgrounds to minimise the risk of accidents is governed by statutory law.

Fact 3 The European safety standards EN 1176–1177 provide regulations on hazard assessment, elimination and control.

Fact 4 The landowner/playground owner is responsible for safety (under the Swedish Planning and Building Act).

Fact 5 The product safety act covers play equipment and states that those who manufacture and market the products are responsible for product safety.

Fact 6 Courses are available – HAGS* offers courses in the following:

Category 1 Current laws and standards

Category 2 An introduction to practical inspections of existing playgrounds and analysis of the results.

ments for children to play in, with risks that children can understand and overcome. It is here that we can use our knowledge of how children play to demonstrate just how much we care.

Category 3 Safety standards – EN 1176–1177. A theoretical study of the general introduction and sub-sections of the standards.

Category 4 Contract law – who is responsible in different procurement situations?

Category 5 Field inspections. Groups of 3 to 5 people apply their knowledge of the EN 1176–1177 standards during an inspection of play equipment.

Category 6 Oral presentation and written inspection report.

Fact 7 Certified Inspector HAGS inspection courses. HAGS runs playground inspection courses, leading to qualification as a certified inspector. Please contact our sales department for further details. For information about certification, please contact the certifying organisation SERENO Certifierings AB on +46 (0)8- 556 953 30.

* Quality accredited in accordance with the ISO 9001 standard

SAFETY ASPECTS – regular inspections and services

This concerns all adults who come into daily contact with children. Parents, teachers, pre-school staff, park staff, property maintenance employees and many others.

By adopting a responsible and proactive approach we can achieve positive results.

It's important that we notice a broken board, a worn rope or the potential hazards caused by wilful destruction. We can either notify someone or fix the problem ourselves. There are also other reasons for immediate action – broken or damaged equipment is an open invitation to further vandalism.

The checklist on the following pages provides suggestions and instructions on what to do. Vulnerable features are illustrated and described

along with tips on how to identify and deal with problems.

Important issues

This checklist complements, but does not



replace, the European standards. Inspection and maintenance intervals for each item of equipment can also be found in HAGS catalogues and on www.hags.com.

Some plants, especially pollen-bearing plants, can pose problems for people with allergies. The area around the playground must also be carefully checked to ensure that none of the plants are poisonous. All manhole covers must be locked securely.

Pay particular attention if you feel equipment may overstretch a child's physical capabilities. Children love to experiment, climb, crawl and investigate. Often this means that they unwittingly expose themselves to all kinds of risks. Adults are responsible for children's safety and can minimise the risks by:

- Making sure that children's clothes do not have strings that could get trapped and choke them while playing. The same goes for scarves, fitted hoods and

other such items on clothing that can get caught in equipment as they play.

- Children should not wear bicycle helmets on playgrounds as the helmet can get trapped on the equipment and the child can be strangled by the chinstrap. There are helmets with a weaker chinstrap buckle (with a green colour code) for automatic release. Current standards do not take helmet sizes into consideration.

Traffic accidents

Traffic accidents are usually the most serious kind of accident involving children, accounting for more than half of all child fatalities. Young children are exposed to risks from traffic when they play on pavements and roads close to their home. Today's traffic environments are not designed from a child-safety perspective. Poor urban planning often means that very young children are required to negotiate busy roads to reach their playgrounds.

CHECKLIST for easy access/wheelchair-friendly access

Sometimes it can be important to create slightly more challenging exercises in the playground, for instance, by increasing the incline of some of the ramps. Obviously, this must be done with due consideration to safety. It can therefore be difficult to specify exact sizes, inclines, etc. for playgrounds. What's most important is to make playgrounds fun and challenging for children of all physical abilities. The following sizes are general guidelines but must always be considered in relation to the overall play equipment:

Ramps

Inclines up to 5% are considered easy

Inclines between 5% and 7% are considered moderate

Inclines up to 10% are considered challenging and difficult

Inclines greater than 10% require regular inspection (used at training centres)

Gaps and openings

Same requirements as specified in play equipment standards

Side walls

Ramps must be fitted with side walls (50 mm high) to prevent wheelchairs from slipping over the edge. Ideally these raised edges should be in contrasting colours to help children who are visually impaired.

Ramp sizes

Ramps must be 0.9-1.2 m wide to allow a wheelchair and person to pass. Ramps must be 1.8 m wide to allow two wheelchairs to pass.

The maximum length of the ramp to the platform is 3.6 m

Platform/landing must be 1.5x1.5 m

Protection against falls

Same requirements as specified in standards for barriers and safety rails (see SS-EN 1176).

Handrails/railings for support

Handrails/railings must be placed at a height of 0.6-0.9 m. Handrails/railings for younger children are available for lower heights of 0.30-0.4 m.

Handrails/railings can also serve as safety rails if placed at the specified height (see SS-EN 1176).

Wheelchair access

At the side: equipment can be positioned 0.50-0.90 m and 0.40-1.10 m respectively depending on the age of child (3-12 years).

Above the user: Position of play equipment, measured from the wheelchair seat, can be between 0.60-1.05 m depending on the age of child (3-12 years). Please contact the resources/training centre if you require more exact details about the placement of equipment.

Impact-absorbing surfacing

HAGS recommends rubber surfacing or the equivalent for playgrounds that are completely accessible.

Please contact HAGS Aneby AB for more information.

CHECKLIST – inspection and maintenance

Certain key items must be checked on all types of play equipment in connection with supervision and maintenance routines.

Bolts and screws

- Tighten when necessary. Loose bolts can cause chronic safety problems and are always a safety risk, especially in wooden constructions and those with moving parts.
- Check that no bolts or screws are missing. A hole means that a screw is missing.

Unacceptable gaps and openings

- Fingers: 8–25 mm for equipment with forced motion, e.g. slides, fireman's poles, etc. at heights in excess of 1.0 m above ground level. Tested in compliance with EN 1176–1. (*Appended*)
- Feet: Gaps more than 30 mm on standing surfaces inclined at < 45° and which do not yield to pressure.
- Openings 89–230 mm. The size of the opening is tested regardless of whether the play equipment is easily accessible or not. Probes C or E and D (A and B are obsolete) are used to identify unacceptable openings and gaps. A set of probes can be purchased from HAGS. **Note:** The standards do not take helmet sizes into consideration.
- Openings should not include sections which form V-shaped openings at an angle of less than 60° and at a height of 0.6 m or more above the play area.

Anchoring

- Play equipment and other equipment must be firmly anchored. See Fig. 1.
- Check for stability and risk of tipping.

Painted finishes

- Check for rot.
- Sawn and planed wooden structures and plywood must be oiled and stained every three years.
- Repaint steel components as necessary when they become worn.
- Powder-coated components are best maintained by regularly repairing any damage to paintwork.
- Check that drainage openings have not become blocked.

Surfaces – Impact surface

- The maximum free fall height is 3.0 m. See special requirements for climbing frames, swings, slides,

roundabouts, etc.

- Impact-absorbing surface in accordance with EN 1176.
- Fall protection mats of a type approved for the fall height.
- Impact-absorbing surfacing must extend to at least 1.5 m beyond the play equipment itself. For fall heights over 1.5 m see table C, page 10. (Special requirements apply to surfacing around swings, slides, cableways and roundabouts.)
- Make sure there are no hard or sharp-edged objects.

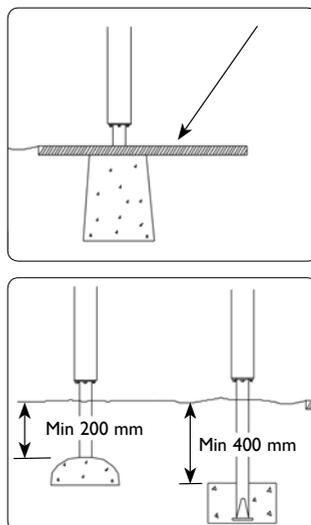
Spare parts

- Always use original spare parts and those that have been tested for safety.

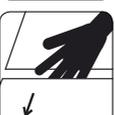
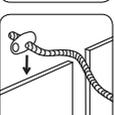
Moving parts

- Lubricate at regular intervals.
- Replace any worn components.
- Make sure there is no risk of entrapment between moving parts and fixed parts. (> 12 mm).
- Cables in cableways must be inspected, lubricated and tensioned as necessary.

FALL PROTECTION – Fig. 1



THIS IS WHERE HAZARDS CAN OCCUR

| | Completely bounded openings | | Partially bounded openings | V-shaped openings | Projecting parts | Moving parts |
|----------------------|--|--|---|---|---|---|
| | Rigid | Non-rigid | | | | |
| Whole body |  | | | | |  |
| Head/neck head first |  |  |  |  | |  |
| Head/neck feet first |  |  | | | | |
| Arm and hand | | | |  | |  |
| Leg and foot |  | | |  | | |
| Finger |  |  |  |  | |  |
| Clothing | | |  |  |  |  |
| Hair | | | | | |  |

CHECKLIST – play equipment

Beams and crossbars

- Check fitting points, screws and hardware as well as signs of wear in pre-drilled holes.
- No projecting or protruding components are allowed in the head and feet area. (Unobstructed area) See Fig. 1.

Pedal roundabout

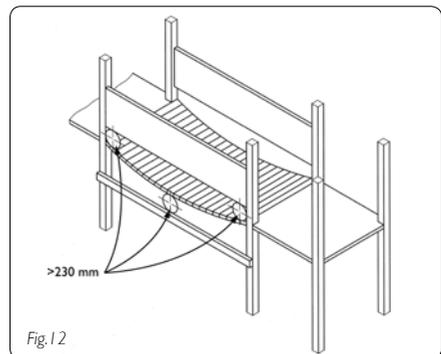
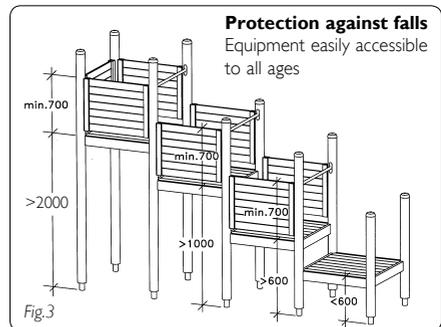
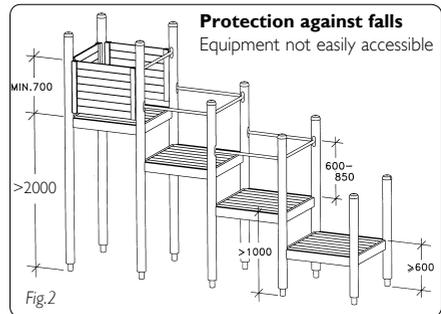
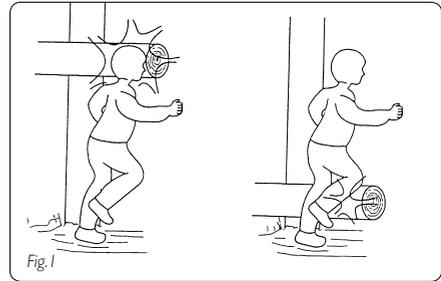
- Check that the wheels are freewheeling. This is an important safety factor.
- Examine pedals and tyres for wear. Check that the scrape protectors over the wheel housing are intact.
- Lubricate the central bearing. Check that seats are intact.

Floors and decking

- Check screws, hardware and boards. Replace if necessary.
- For equipment not easily accessible: Platforms higher than 1.0 m must incorporate protection against falls in the form of a protective barrier with a height of 600–850 mm at the top edge. Platforms higher than 2.0 m must incorporate a protective barrier that is at least 700 mm high. See Fig. 2.
- For easily accessible equipment: Platforms higher than 600 mm above the play area must have a protective barrier at least 700 mm high. See Fig. 3.
- Barriers: Check fitting points, screws and hardware. Replace damaged boards if necessary.
- Barriers must not incorporate intermediate horizontal bars which encourage climbing.

Swings

- Check suspension fittings regularly for signs of wear.
- Use short-link chain or equivalent materials.
- Maximum of 2 swing seats per swing bay.
- Unobstructed space between ground and underside of swing seat must be more than 350 mm. The gap must be more than 400 mm for tyre swing seats.
- Distance between swing seats: see table A.
- Unobstructed space and extent of impact absorbent material in front of swing: see table B.



- Swing seats designed for small children may not be fitted on the same crossbeam next to seats for older children. HAGS recommends that different ages have their own swing sets.

Suspension bridges

- Check handrails and link chains. Replace the plastic covered chain if it is damaged.
- Openings for suspension bridges must be greater than >230 mm (stressed or unstressed). See Fig. 12. *In compliance with EN 1176-1.*
- Check all fitting points.
- Check whether any boards are missing, broken or worn. Replace if necessary.
- Check there are no dangerous openings or gaps between rigid and non-rigid parts both stressed and unstressed.

Sports equipment

- Check sports equipment that needs regular maintenance.
- Examine, repair or replace sports nets where necessary. This includes special netting too.

Roundabouts

- Check operating functions.

Climbing nets, rope ladders and scrambling nets

- Check all climbing components for wear: ropes, climbing nets, rope ladders, scrambling nets, trapezes and Roman rings.
- Rungs must be 16-45 mm in diameter.

Chains

- Maximum opening: 8.6 mm. <8.6 or >12 mm at fitting points.
- Check for wear at fitting points.
- Chains must not be long enough to make loops (risk of strangulation).

Cableways

- Check that the pulley cradle runs smoothly.
- Check the wire: loose threads and other damage indicate the need for replacement. Lubricate as necessary.

- Purchase a HAGS cableway repair kit if any of the components are defective.
- The seat must be suspended at least 2.1 m below the cableway wire.
- There must be an unobstructed space between the seat and the ground of at least 400 mm when loaded with 130 kg. Tension the wire as necessary.
- Free fall height max. 2.0 m when sitting, or 3.0 m when suspended overhead.
- The cable must be fixed at least 2.5 m above ground level.
- If there is a platform, there must be an unobstructed area of 1.5 m outside the equipment. 2.0 m on each side of the cableway wire and 2.0 m at the exit point when the seat is at its lowest point.

Open slides

- Slides which form part of larger play arrangements must have guard rails fitted at the start platform.
- Check side walls. The old-style open type Must be replaced by solid walls for safety reasons.
- If steps are placed next to embankment slides, make sure these are not closer than 1.5 m.
- Check embankment slides, especially the incline, to make sure that water does not gather in puddles on the run-out section. Raise the upper section of the chute if necessary.
- The safety zone must be greater than 1.5 m around the climbing platform, 2.0 m in front of the run-out section and at least 1.5 m on either side of the chute. Impact-absorbing surfacing at the run-out must comply with the surfacing specifications for a 1.0 m fall height.
- IMPORTANT: Make sure there is adequate sand at the run-out.
- Check there are no wedge-shaped openings where slides are connected to other equipment. (Risk of entrapment, toggles on clothing)
- The run-out section must not finish at a height of more than 350 mm above the playing surface.
- There must not be any hard, fixed objects in the free area around the equipment.
- The run-out section of the slide should always face north to reduce the danger of burns from metal surfaces on hot sunny days.

Tubular slides

- Check all joints. Tighten bolts if necessary. Bolt heads must be turned to face upwards.
- Check that the last tubular component in the run-out section is fitted with guard rails or a new angled end-section.
- Fit signs prohibiting climbing on the tubular sections.
- Check joints on the inside of the tube.

Roofing

- Check fitting points, screws and hardware and replace any damaged boards.

Benches

- Check the condition of the wooden slats. Repaint or replace if necessary.
- Under normal conditions, wooden benches require re-staining every three years.

Sand and water play

- Sandplay is one of the most popular features in a playground. Check all moving components: scoops with chains, hatches on sand hoppers, sand pipes, and fittings on sand cranes.
- Check connections and shut-off valves (ball valves). Drain off water in winter.
- When reconnecting the water in the spring, check that the pump works as

intended and replace if necessary. Check the condition of the water channels. Pumps are now available for connection directly to the main water supply.

Steps and ladders

- Steps/ladders constructed of wood must have mortice and tenon joints or equivalent (not just nailed or screwed) for all rungs/steps. Rungs must not rotate.
- Steps are exposed to heavy use. Replace worn rungs/steps.

Windbreaks and fencing

- Check exposed playgrounds and sandpits. Install a windbreak to provide shelter, preferably south facing.
- Check fencing and safety barriers. Replace and repaint if necessary.

Table A*

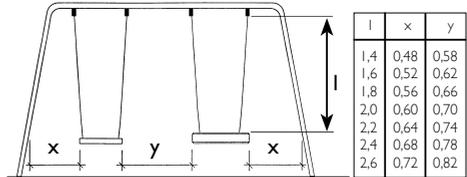


Table B*

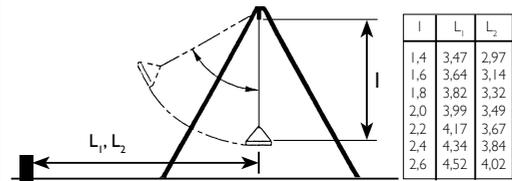


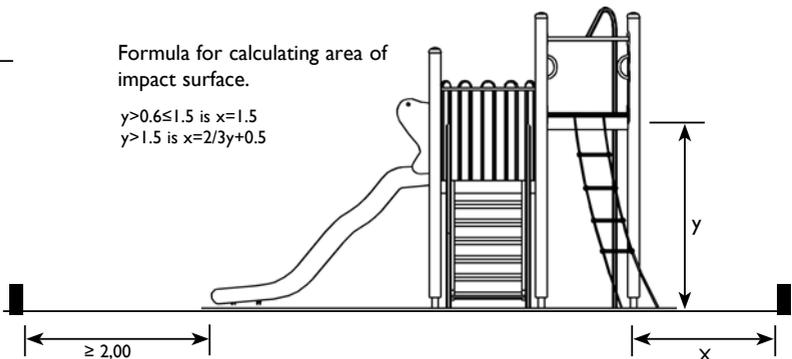
Table C*

| Fall height metres (y) | Area metres(x) |
|------------------------|----------------|
| 0-1.5 | 1.50 |
| 1.6 | 1.57 |
| 1.7 | 1.63 |
| 1.8 | 1.70 |
| 1.9 | 1.77 |
| 2.0 | 1.83 |
| 2.1 | 1.90 |
| 2.2 | 1.97 |
| 2.3 | 2.03 |
| 2.4 | 2.10 |
| 2.5 | 2.17 |
| 2.6 | 2.23 |
| 2.7 | 2.30 |
| 2.8 | 2.37 |
| 2.9 | 2.43 |
| 3.0 | 2.50 |

Formula for calculating area of impact surface.

$$y > 0.6 \leq 1.5 \text{ is } x = 1.5$$

$$y > 1.5 \text{ is } x = 2/3y + 0.5$$





GENERAL INFORMATION

MATERIALS

In order to meet the stringent standards we set for safety, durability, finish and functional performance, the materials we use are of the highest quality. Plywood is of a quality intended for outdoor use. HPL (High Pressure Laminate) is the obvious choice for boards where requirements are extra high. Our timber is mainly fine-ringed Swedish pine, preferably from northern Sweden. Certified in accordance with FSC or PEFC.

The timber is planed and the edges rounded. Sandboxes are manufactured from oak, among other things. Screws and nuts are protected against vandalism by a plastic HAGS cover cap or zinc-covered screw grooves. Nets and ropes are manufactured from hot-galvanised chain coated with solid polyurethane for durability and minimal sensitivity to temperature variations.

The stainless steel pattern-rolled plate used in the slide chutes ensures a long life and even friction. Bolt joints are galvanised to protect against rusting. Posts and metal parts are made of high-tensile steel.

WOOD PROTECTION

All timber is pressure-impregnated according to the norms of the European standard EN 351 Class P5 and the directives of the Nordic Wood Preservation Council. The need for chemical protection varies according to how great the risk is for timber-destroying organisms in the local environment.

Wood protection class P5 is intended for above ground timber and is applied to all free surfaces after machining. The active ingredients

in the oils used for this impregnation technique are biologically degradable and protect timber against moisture, drying-out and fibre-raising. It is an environmentally safe treatment and is in no way harmful to the wood. We use HAGS treated oak for wooden components that come into direct contact with the ground.

SURFACE TREATMENT

Wood is treated with one coat of woodstain primer and one coat of film-forming woodstain finisher to ensure the very best durability and resistance to wind and rain at the same time as it preserves and enhances the natural graining of the wood. Wooden components are flow-coated twice to saturate the fibres with pigment for the finest possible quality.

Steel components are either hot-dip galvanised or

powder-lacquered with polyester-type powder coatings. Galvanised steel is powder-lacquered.

QUALITY SYSTEMS & ENVIRONMENTAL SYSTEMS

HAGS is quality accredited in Sweden in accordance with the SS-EN ISO 9001:2000 and ISO 14001:2004 quality management systems.

WARRANTY

Classification of materials in relation to years of warranty:

10 years. Against failure due to material or production defects on all galvanised and other non-painted steel and metal parts, solid plastic and HPL panels and engineered timber.

5 years. Against failure due to material or production defects on springs, painted metal parts, moulded plastic parts and net constructions.

2 years. Against functional errors due to material or production defects on movable plastic and metal parts.

The warranty is only valid for the customer who bought the product from HAGS or its authorised agents.

THE WARRANTY DOES NOT APPLY

- To natural wear and tear occurring with normal use.
- If the product is subject to abuse, product misuse, excessive strain or vandalism.
- If the purchaser fails to perform and document inspection and maintenance procedures in accordance with the instructions in General Information, Guidance for operating a playground in public areas and the product's maintenance instructions.
- If the product has not been installed in accordance with our instructions provided.
- If the product is exposed to environmental conditions not foreseeable by HAGS.
- If the product is being used or installed together with products not approved by HAGS Aneby AB.
- If the customer does not inform HAGS or our authorised agents of the defect within three (3) months of the defect being discovered or when it should have been discovered.
- If the purchaser fails to follow the instructions provided by HAGS or its authorised agents with regard to complaints procedures.

During the warranty period, HAGS undertakes to replace a defective part with a new component or, at its discretion, repair the defective component. The replacement component shall be sent to the purchaser, or the component repaired, without unreasonable delay. Replaced components must be returned to HAGS upon request. Components replaced or repaired during the warranty period shall carry the unexpired portion of the original warranty.

If replacement or repairing services are required, the customer must present the valid original invoice or the original warranty certificate to HAGS or our authorised agents. In addition, the customer must, upon request, present HAGS with a copy of documents indicating how inspection and maintenance procedures have been conducted.

Any disputes, claims or controversies arising out of or relating to this warranty shall be settled and determined by arbitration conducted in Sweden at a location decided by HAGS.

SAFETY

A well-functioning safety standard has been developed with the aim of creating as safe a playground environment as possible without losing the value of play, and thus its attraction. Our products meet the safety requirements of standard EN 1176 and are inspected and certified by TÜV. The products that are also certified in accordance with the relevant US standard, ASTM F1487, are listed on IPEMA's website, www.ipema.com. HAGS has participated in European safety work with the aim of continuously updating the relevant safety standard for many years.

SPACE REQUIREMENTS

The safety areas for each piece of equipment may overlap. However, this does not apply to the safety areas for slides, swings, roundabouts, ropes and other moving equipment, i.e. play associated with forced movement.

IMPACT-ABSORBING SURFACE

Impact surface materials must, in terms of properties and thicknesses, meet the requirements of EN 1176 and EN 1177. The material must be arranged so that water drains away to the required degree.

Rubber:

- Prefabricated sheets are placed on an even, drained base.
- Granulate is placed on an even, drained base.

Other synthetic materials:

- See the instructions from each manufacturer.

Loose fill material such as sand, gravel, bark and wood chips:

For sand and gravel, HAGS recommends a fraction between 0,5 and 5 mm which is as uniform in size as possible. See EN 1176 and EN 1177 for specifications on fractions for other materials.

Recommended fill thicknesses for loose fill material:

| | |
|-----------------------------------|------------|
| Thickness for loose fill material | Drop up to |
| 200 mm + 100 mm | 2.00 m |
| 300 mm + 100 mm | 3.00 m |

The values above take account of the fact that loose fill material is moved during frequent play.

Other types of loose fill material:

Impact-absorbing materials of a type not mentioned in EN 1176 and EN 1177 must be tested and verified by an EU accredited testing facility.

ASSEMBLY

Transportation requirements and environmental considerations mean that HAGS play equipment is delivered in one of three ways:

- Unassembled kit, e.g. swing set.
- Pre-assembled sections, e.g. play system.
- More or less fully assembled units, e.g. slides.

ANCHORING

For safety, stability and theft prevention, the play equipment needs to be properly secured. The most important reason is to prevent serious accidents and injuries caused by inadequately anchored equipment.

HAGS play equipment is supplied for different types of ground installation:

- Prefabricated ground anchoring. Unless otherwise stated, anchoring must be performed in sand/gravel material.
- Anchoring above ground, against a concrete slab, etc.
- Anchoring through sunken foundation.

Some products require ground anchoring with cast-in-place concrete. The casting components are fixed in place before concrete work starts. The strength of the concrete should correspond to at least the requirements for each product. Concrete work must be carried out by personnel with the required expertise.

For ground anchoring in loose fill material such as bark, wood chips, etc., deeper foundations will be required. Please contact your HAGS representative for further details.

ASSEMBLY INSTRUCTIONS

To ensure that the play equipment is installed safely and correctly, the assembly work must be carried out in full compliance with the assembly instructions that are included in all products from HAGS. The equipment must be installed by qualified professionals. The failure to install equipment according to assembly instructions can involve safety hazards and may render the warranty null and void.

If additional assembly instructions are required, please contact your HAGS representative.

In order to prevent accidents, the play equipment must be made totally inaccessible until the assembly work has been fully completely.

INSPECTION

Once assembly work has been completed and the play equipment is securely and safely in place, it has to be inspected with regard to safety, functional performance and assembly. Any deviations must always be dealt with before the equipment is used.

GUIDANCE FOR OPERATING A PLAY-GROUND

Information about Operation – Assembly – Maintenance – Inspection:

see “Guidance for operating a playground in public areas”, which you will find on our website, www.hags.com.

Recommended intervals for inspection and maintenance are specified for each item in the HAGS product catalogues according to the following codes, where the first letter specifies the inspection interval and the second the maintenance interval.

A/A Inspection/maintenance every workday.

B/B Inspection/maintenance every week.

C/C Inspection/maintenance every month.

D/D Inspection/maintenance every season.

E/E Inspection/maintenance less frequently.

Inspections must always be based on the degree of use and the type of product. Recommendations refer to normal use. In playgrounds with an intensive visit frequency, the interval should be reduced and adapted as required. Information on both inspection and maintenance are also specified in the assembly instructions that accompany the product.

MAINTAINING HAGS WOODSTAINED WOOD PRODUCTS

Proper maintenance is essential to preserve the appearance and functional properties of wood. The time interval and choice of maintenance methods depend on the location of the equipment and the amount of use it gets.

Before starting maintenance work, it is necessary to assess the state of the surface finish. Surfaces with fairly little mechanical damage and a film-coating that is otherwise intact are repaired using a transparent stain (A). Surfaces with extensive damage

To the film-coating should be repaired using a solid colour (pigmented) (B).

A. Transparent woodstain

Do not work in direct sunlight or at temperatures below +10°C.

1. Clean the old surface or damaged area thoroughly with pre-paint cleaner. Rinse carefully with water. Clean between the boards wherever necessary so that moisture run-off works properly.
2. Let the surface dry until the moisture content is not above 18%.
3. Scrape or sand the damaged (black) areas to remove loose paint and then apply two coats of oil primer. Or treat the entire surface. Let it dry between applications.
4. Leave it to dry for at least 4 hours at a temperature of at least +10°C.
5. Then apply two coats of woodstain to the damaged areas or until the correct colour is achieved. It may be necessary to apply a final coat to the entire surface. Let it dry between applications.
6. Leave it to dry for at least 4 hours at a temperature of at least +10°C.

B. Solid colour woodstain

Do not work in direct sunlight or at temperatures below +10°C.

1. Clean the old surface or damaged area thoroughly with pre-paint cleaner. Rinse carefully with water. Clean between the boards wherever necessary so that moisture run-off works properly.
2. Let the surface dry until the moisture content is not above 18%.
3. Scrape or sand the damaged (black) areas to remove loose paint and then apply two coats of oil primer. Or treat the entire surface. Let it dry between

applications.

4. Leave it to dry for at least 4 hours at a temperature of at least +10°C.
5. Then apply two coats of solid colour woodstain to the damaged areas. It may be necessary to apply a final coat to the entire surface. Let it dry between applications.
6. Leave it to dry for at least 4 hours at a temperature of at least +10°C.

Although the pigments of our solid colour woodstains have been specially developed to match our transparent woodstain shades, slight differences may arise, as it is technically impossible to guarantee a 100% match at all times.

WOODSTAINS FOR MAINTENANCE WORK

Maintenance woodstains are available from HAGS.

- Oil Primer (colourless) HAGS R353 340 in 5-litre cans.
- Woodstains are available in required colours (0.75 l cans).
- Woodstains are available in required colours (0.75 l cans).

Please contact your HAGS representative for more information.

IMPROVING POWDER-LACQUERED STEEL COMPONENTS

HAGS touch-up paint should be used to repair any damage to powder-lacquered surfaces. Minimum temperature +10°C. Do not work in direct sunlight.

1. Carefully sand rough edges around the damaged area.
2. Use white spirit to clean the area.
3. Apply touch-up paint and leave to dry for 8 hours.

TOUCH-UP PAINT CAN BE ORDERED

Please visit our website www.hags.com for information about paints and order numbers.

MATERIAL RECYCLING

The raw materials in HAGS products are chosen on the basis of their technical performance and their environmental impact during the full course of their service life. The majority of products consist of different materials that can be separated quite simply for recycling. We recommend the following disposal

methods for the various different kinds of material at the end of their useful life.

Materials

Wood (class B impreg.)
Metal
HPL
Plastic, solid
Plastic foams

Method

Recycling, energy extraction
Reuse
Energy extraction
Recycling, energy extraction
Energy extraction

DESIGN CHANGES

We reserve the right to make changes to the designs of our products without prior notice.

HAGS PROBES

(in compliance with EN 1176: 2008)

An excellent tool for trained staff! A set of probes, with instructions and bag, can be purchased from HAGS. These comply with the specifications of the EN 1176 standard.

| Order no. | Description |
|---------------|-------------|
| HAGS 00117610 | Aluminium |
| HAGS 00117710 | Plastic |





A good playground has well-designed features

- Activity games to train motor skills
- Role-play
- Construction games to encourage creativeness
- Games that teach rules
- Sensory perception exercises
- Activities for toddlers
- Integrated for children of all abilities
- Safety
- Attractive design
- Encouraging development of social skills
- Green and environmentally-friendly
- Shelter from the elements

Compare the features in your existing playground with what's on offer above. Add what's needed to widen the appeal and increase the use of your playground. Variety is the best way to make a playground more stimulating and interesting.

Playgrounds need to be more attractive than other places where children otherwise tend to play – streets, shopping centres, underground stations, construction sites, etc.

By adapting the playground to the existing surroundings, where trees, shrubs and grassy areas are part of the overall environment, you'll succeed in creating a place that's appreciated by the whole family.

HAGS
Inspiring a new generation

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