

Operations and Maintenance Manual

Scope of Works and Warranty

We detail below the sports flooring product we have installed in each area together with the applicable warranty:

Area	Scope of Works	Warranty*
Sports Floor	The supply and installation of ASB Glass Floor complete with the following line markings: - - - - - - -	10 years
	LED lighting system, including drivers.	2 years

*The warranty, which is attached, should also read in conjunction with the appropriate ASB Terms and Conditions at the end of this document. The relevant Terms and Conditions must be adhered to at all times.

ASB Contact Details

Address:	Systembau Horst Babinsky GmbH, Fabrikstr. 14, 83371 Stein a. d. Traun, Germany
Telephone:	+49 8621 9874-0
Email:	info@asbglassfloor.com
Website:	www.asbglassfloor.com

ASB GlassFloor Technical Information

Technical Specifications

As per attached datasheet

Performance Characteristics	Requirement	Performance
Certification	EN 14904 - Class A4	
Shock Absorption	55% <75%	av. 65 %
Vertical Deformation	2.3 mm <5.0mm	av. 3.9mm
Rolling Load	1,500 N	No damages
Ball Rebound	≥ 90%	av. 93 %
Friction (DIN)	0.4 - 0.6	av. 0.43

Care and Maintenance Instructions

Introduction

We hope you enjoy your glass floor for many years. The glass floor surface is made of etched safety glass panels, sealed with silicon joints. The control of the LED line marking is done via touch pad to enable the selected lines to be switched on and off. The glass floor will serve as an area-elastic sports floor for both sport and non-sporting activities.

We want you to enjoy your new sports floor for many years to come, and to ensure it performs to its full potential it must be maintained in accordance with this manual.

In this manual you will find instructions on how to clean and maintain your floor.

You will also find information on environmental conditions, i.e. what temperature and humidity your hall should be set at, how to protect your floor and considerations when using equipment, etc..

All this information will assist you in maintaining your sports floor to the highest standard.

Contact Us

If you should have any doubts about any aspects of your new sports floor please do not hesitate to contact one of the following:

Project Manager: *tba*

Sales Manager: *tba*

Floors Performance & Compliance

The surface as installed upon completion meets the requirements as set out in the EN 14904 for sports surfaces.

In order to maintain your floors performance, the cleaning regime detailed in this manual should be adhered to. All ASB sports surfaces are designed to perform for all athletes and in turn they must be maintained to the very highest standard.

Hall Temperature

The temperature in the hall should not rise above 26°C and should not drop below 12°C at all times. Do not rapidly increase or decrease the temperature.

Relative Humidity Levels within the Atmosphere

The relative humidity levels should not exceed 65%, and should not drop below 35% at all times.

Static charge

Should the athletes experience static electric discharge after use of the floor, anti-static floor mats are recommended at all entries and exits. This is a result of insufficient air humidity in the hall and poses no threat to the athletes.

Floor Expansion and Contraction

If there is expansion or contraction when the atmospheric conditions are above or below the manufacturer's recommendations, this is not a manufacturing or an installation defect.

Use of Equipment

You should take care when:

- collapsing equipment such as a trampoline, as when they are folded they may fall over and damage the floor.
- equipment with wheels including bleacher seating is operated; wheels should be free running and preferably rubber.
- placing heavy objects (e.g. a piano) in the hall it should be placed on a protective mat and carefully transported.
- Do not drag heavy objects as these may scratch the floor.
- For indoor cricket, mats should be used at all times.
- Portable basketball goals – these must be moved to their final position on the floor using 18mm plywood boards to distribute the load. Their final position on the centre court of the floor includes additional supports to take the extra loadings imposed by the goals.

Entry Points into the Hall

It is recommended that access to the hall from an outside entrance should be avoided. This reduces the risk of dirt and debris being carried into the sports hall which may cause the floor to become dirty and lead to premature wearing of the surface finish. We would also recommend the use of barrier matting at all external doors.

Sports Floor Protection

Provided dirt and debris are not brought onto the floor surface, no form of surface protection should be required.

Game Lines

The LED games lines are incorporated into channels under the glass surface of the floor. Should any of the LED lights require replacement this is carried out by removing the appropriate glass panel and replacing the defective LED strip.

Mobile Access Equipment

Mobile access equipment is often used in order to carry out high level repairs, be this painting, roof repairs or simply the replacement of light bulbs. These are very heavy and in order to accommodate these it is essential that 2 layers of 12mm plywood laid with a stagger so no joints overlap are laid out to distribute the load.

For the avoidance of doubt: 2 layers of 12mm plywood must be laid down over a clean floor and the mobile access equipment moved into its operating position by being maneuvered over the plywood – it should never be maneuvered straight over an unprotected surface.

We recommend that any equipment using wheels on the floor features high quality rubber wheels.

Maximum Distributed Loadings

The table below illustrates the maximum distributed loadings we would recommend for the ASB Glass Floor respective systems. The 2 layers of 12mm plywood must be laid over a clean floor when mobile access equipment is being used to accommodate the rolling load and to avoid damage to the surface finish.

	Without plywood protection*	With 2 layers of 12mm plywood
ASB Glass Floor	500kg /m ²	750kg /m ²

***Although a floor without plywood protection can take a distributed load of 500kg/m² it can only take a rolling load of 150kg/wheel. Accordingly, plywood protection should be incorporated when rolling any sports equipment or mobile access equipment over the floor.**

Maximum Point Loadings

For small areas (typically up to 1,500mm² - approximately 30 x 50mm) the point load must be considered. The **point load should never exceed 150 kg**. This is relevant for example when tables and chairs are used on a sports floor.

Broken Glass Panels

Care should be taken to avoid breaking the glass panels. This is best achieved by protecting the floor from excessive loadings as noted above and when any maintenance works involving tools or equipment are being used over the floor, be this at a high or low level. Typically, panels are broken when sharp hardened metal objects impact the glass surface. In the unlikely event of a broken glass panel, the facility has been provided with some spare panels and silicone seal, together with 4 suction lifters which should be used to replace a broken panel as soon as is practicable.

If required, additional panels can be ordered from ASB

The colour of the panels is: *tba*

The colour and type of silicone to be used is: *tba*

Cleaning Instructions

It is imperative that these instructions are adhered to from handover. If they are not, the warranty offered by ASB will be null and void.

We recommend using the cleaning products as detailed below.

These instructions must be followed and undertaken by a competent person and training records should be kept.

Regular checks must be made to ensure that cleaners are using the correct cleaning products, that the specified cleaning regime is being followed and that records are being kept. These checks should be carried out by someone other than the cleaner, and if the correct products are not being used or machinery is not working or the floor is becoming dirty then this should be reported to the relevant person.

We recommend the use of a scrubber dryer for an effective cleaning regime. The floor must not be subjected at any time to any amount of standing water. In order to maintain your floor, you will need the following:

- Scrubber dryer
- Matching pads
- V Mop
- Cleaning and maintenance products

Daily Cleaning

Collect and remove all surface dust and debris using a V mop. The V mop must be kept clean and dust free at all times to maintain its effectiveness.

Weekly Cleaning

The floor should be mechanically cleaned once a week or after every 35 hours of use. Generally the cleaning cycle should meet each facilities requirements as per frequency of use and/or degree of contamination.

- Collect and remove all surface dust and debris using a V Mop as per daily clean.
- Clean the floor with a mild universal cleaner (under no circumstances should acid-based cleaning products be used – these can destroy the silicone), using a standard speed rotary scrubber dryer (150 – 250 rpm) fitted with a Red Pad. One side of a red pad should be used to clean approximately 100m² of floor surface, the pad should then be turned over and used for the next 100m², a 2nd pad should then be used for the next 100m², and turned over for the next 100m², then a 3rd pad is used etc., repeating this process until the floor is cleaned.
- At the end of each cleaning session these pads should be washed thoroughly, ready for future use.

General Advice

- **Contact with and dropping of hardened steel onto the surface of a glass floor may cause the upper glass panel to break. Please note that tools and tool inserts (bits), among other things, may be made of hardened steel. Extra caution is advised the handling tools within the facility.**
- Remove spills of tea, coffee, etc. with a cloth dampened in warm water. Heavier contamination such as e.g. body fats, dirt and grease should be removed using a 'low foam' mild detergent, and then wiped with a clean damp cloth.
- The silicone seal between the glass panels can be damaged by solvents and acetone and any spillages or stains thereof must be wiped up immediately to avoid damage.
- The silicone joint between the glass panels should be regularly inspected for damages. Silicon joints that show cracks or gaps must be replaced immediately to avoid further damages.
- The above should be taken as a general guide since each individual facility can vary, for example if there is an excessive amount of airborne dust a more frequent cleaning regime will be required.
- Should you have any further questions, please do not hesitate to contact ASB. We are happy to assist you.