

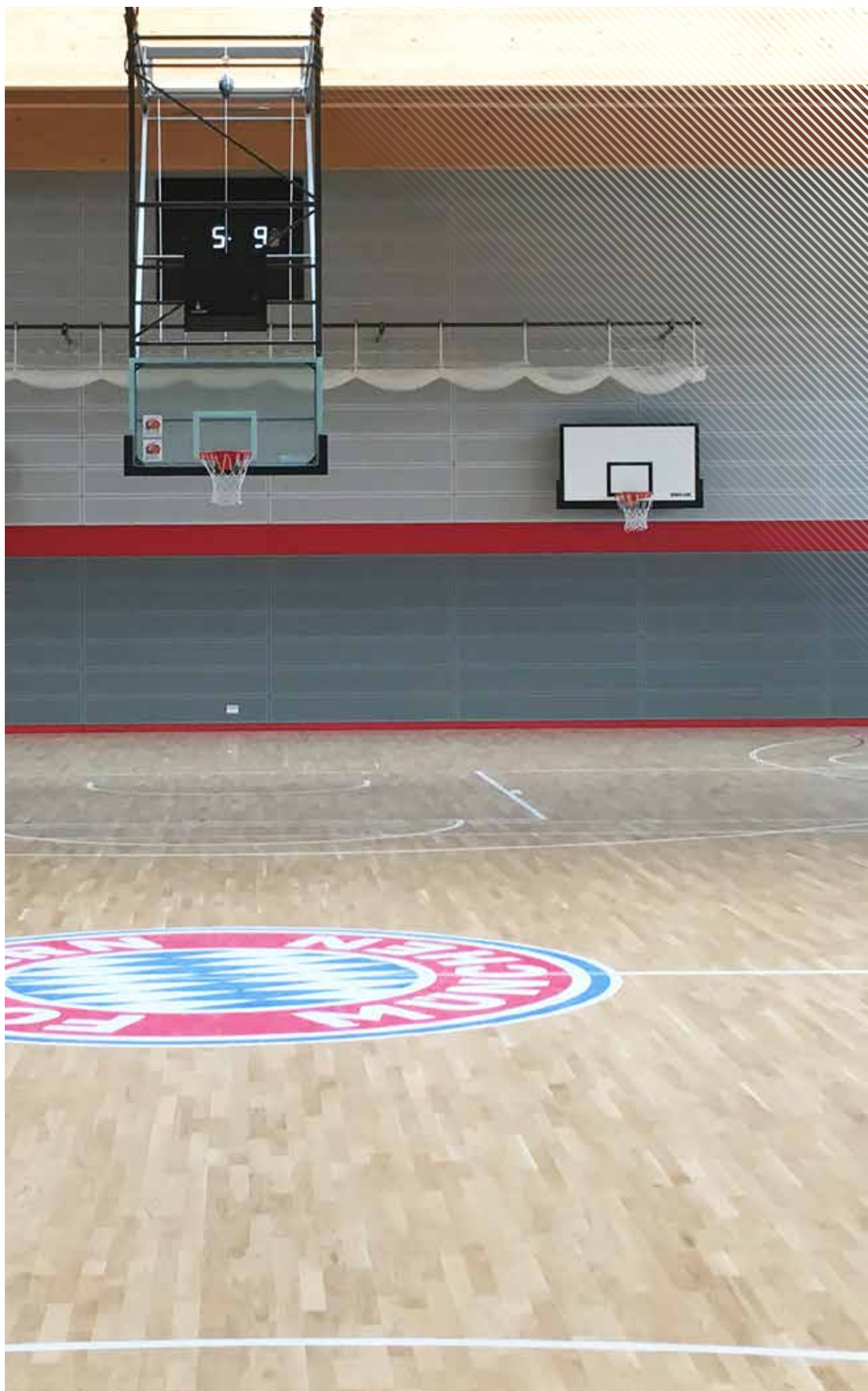
HARO **[PROTECT]** PROTECTIVE WALLS

Dominating the game



AREA ELASTIC INSTALLATION FOR MAXIMUM SAFETY
TOP PERFORMANCE ALONG WITH HIGH SHOCK ABSORPTION
AND BALL-THROWING SAFETY
INDIVIDUAL SOLUTIONS FOR DOORS AND GATES
LARGE RANGE OF DECORS
FAST AVAILABILITY
MADE IN OUR VERY OWN PRODUCTION FACILITIES

HARO Sports floors are found worldwide: in large Olympic arenas as well as in sports halls around the corner. Why? Because HARO offers professional consulting and thorough service as well as top-notch products. All from one source, sports floors and protective walls. One stop shop for the entire hall.



HARO [PROTECT]



ONE THING IS CERTAIN

For more than half a century, Hamberger has been developing, producing and selling the most important device in a sports hall: the sports floor. An engineered, top-notch product that offers advantages for hall operators, investors and athletes alike.

A new chapter in this unique history has been written when **HARO PROTECT protective walls** were introduced to the market. Hamberger utilizes its profound knowledge for the third dimension. All-in-one solutions for sports and multi-purpose halls are now possible that meet operator's and user's needs.

Protective walls reduce the risk of injury for the athlete when hitting the walls – without loss of sports physiological properties. What matters most for designers and operators is to be in compliance with requested norms, the adherence to regulatory stipulations as well as low life cycle costs.

HARO walks new paths also in terms of materials – a result of its ample knowledge from parquet and laminate production. No other company delivers a complete package that's as adaptable to the architecture of the hall, to any given dimension and of course your desires. HARO is using advanced material technologies as well. High-tech machinery from parquet and laminate production may be retooled for the protective wall coverings, always under strict adherence to ISO 9001/14001.

HARO expands its range of products with area-elastic protective walls for sports and multi-purpose usage. The wall paneling with brand new coating reverts to Hamberger's extensive knowledge from the floor covering technology.



Sports Hall of the Turnerbund Wiesbaden J.P.

INNER VALUES COUNT TOO

Unlike most other competitors, HARO bets on **area-elastic protective walls**, which not only combine protective and sportive features, but also material characteristics to one hundred percent. Only those can be mounted directly onto unplastered or uneven surfaces. **HARO PROTECT protective walls** are on the top of the game in every event and incidentally meet the following requirements:

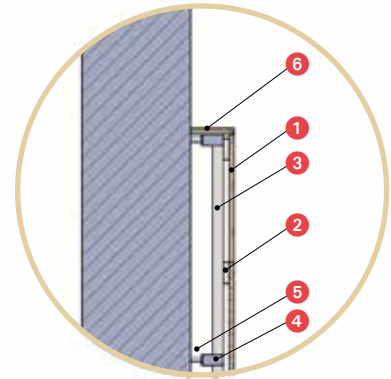
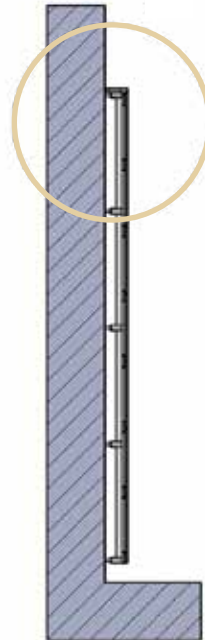
- **Shock absorption 60%**
- **Ball-throwing safety (hand- and hockey ball)**
- **Resilience 5 mm**
- **Planar, closed and splinter proof up to 2 m above ground**
- **Joint width 8 mm**
- **Fire protection optional**

Area-elastic construction	Point-elastic construction
Wooden cladding	Textile cladding on elastic foam
— Higher investment cost	+ Cheaper acquisition
+ No lifecycle costs	— High lifecycle costs
+ Easy cleaning (smooth surfaces)	— Difficult cleaning (crude surfaces)
+ Model hygiene-qualities	— Problematic hygiene-properties
+ Long life cycle	— Shorter life cycle



HARO [PROTECT]

The installation of protective walls up to two meters height is obligatory in all sports halls. They can be impact resistant from two meters onwards



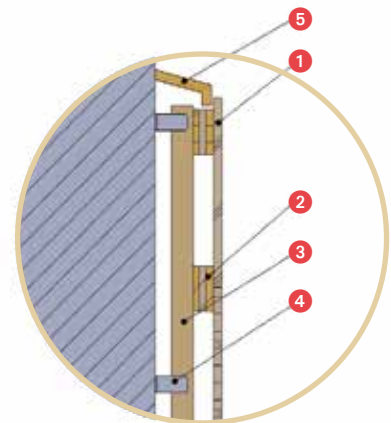
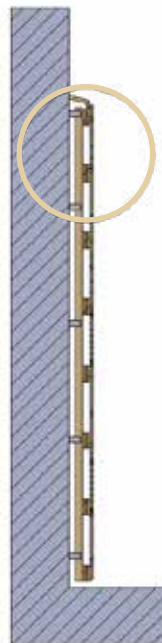
HARO PROTECT PRO

- 1 Wall cladding
- 2 Square steel tube
- 3 Steel profile
- 4 Metal bracket
- 5 Steel compression spring
- 6 Cover strip

CLASSIC OR PRO? THE CHOICE IS YOURS!

The supporting structure of **HARO PROTECT Classic protective walls** is made of metal brackets with spruce bolts. The elastic girders are then fitted on top. HARO uses spruce panels, plywood boards with innovative decor coatings or **Celenio**, a novel wood composite material – and a result of flooring's ample know-how, invincible when compared to traditional veneer techniques.

For usage in meeting places, **HARO PROTECT Pro protective walls** are equipped with a non-flammable subconstruction made of steel. Shock absorption is achieved with steel compression springs. Adequately treated spruce panels, plywood boards with special decor foil or Celenio are used for cladding.



HARO PROTECT CLASSIC

- 1 Wall cladding
- 2 Double elastic girders
- 3 Spruce bolts
- 4 Metal bracket
- 5 Cover strip

QUALITY „MADE IN GERMANY“



Passing the safety relevant and sports functional characteristics – no problem for HARO PROTECT. Protective walls and sports hall installation elements such as doors and gates meet all applicable regulations, especially the DIN 18032-1, the DIN 18032-3 and the requirements specifications of the safety information of the “Unfallkasse Sachsen (GUV-SI 8468)”.



Better safe than sorry!
The protective wall testing apparatus “Stuttgart” is used for testing shock absorption and force reduction.

Force reduction is tested with the testing devices “artificial sportsman wall” or “Stuttgart”.

A pendulum swings against a load cell and measures the force reduction of the wall. In order to meet current regulations, the protective wall must achieve values of at least 60% force reduction in every spot. The HARO PROTECT protective walls meet the 5 mm flexibility requirement.

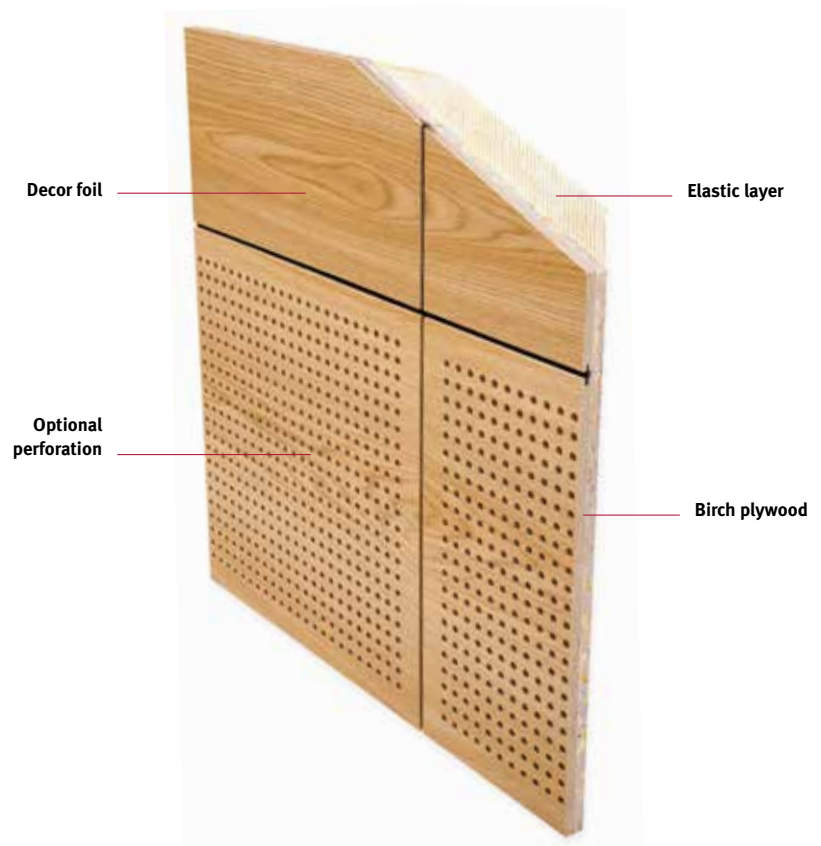
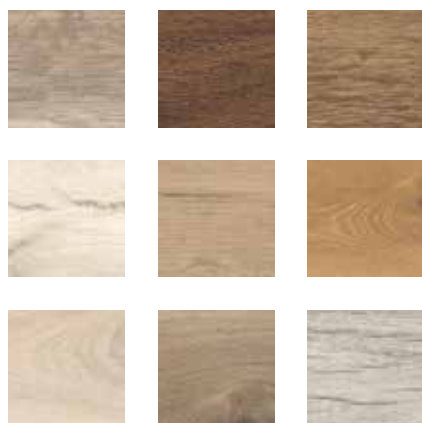
Next to the required protective function, the protective wall must also fulfill certain sports physiological properties. The ball-throwing safety of the walls must also be controlled, alongside force reduction and resilience. Testing engineers monitor the walls ball-throwing safety with the ball shooting machines “Wien” or “Fette Berta”. A hand ball is shot against the wall over 50 times. The impact speed is around 85 km/h. In addition to the hand ball, a hockey ball is shot against the wall 12 times – the impact speed is 65 km/h. Only after the wall has survived all these tests without damages it is considered absolutely ball-throwing safe.

HARO [PROTECT]



The test report is essential for interior hall wall cladding. It also confirms the ball-throwing safety.

[PROTECT] Light 19



LIGHT – QUICK, SIMPLE AND SPACE EFFICIENT

HARO Sports sets another benchmark with the area elastic protective wall system **PROTECT Light 19**. The factory-made protective wall plates come in two standard sizes and are available in 15 different designs. Both guarantee a fast and simple installation and have a cumulative thickness of only 19 mm, which saves a lot of space compared to previous systems.

Installation on an even wall acc. to DIN 18202, 2005-02, chart 3

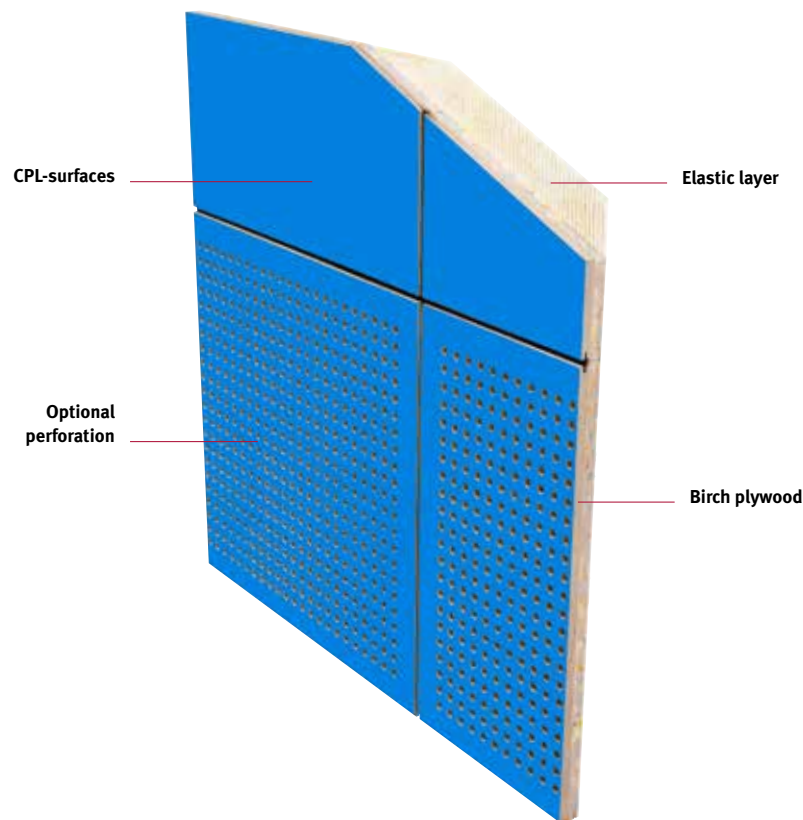
Construction height

19 mm

PROTECT Light 19 is not only perfect for the replacement of old, point-elastic protective walls, but is also suitable for new construction. The wall claddings are also available in various bores to improve room acoustics.

- Area elastic protective wall
- Sports and multi-purpose usage
- Plywood with special decor foil
- Protective wall sizes 610 x 400 mm or 1.225 x 400 mm

[PROTECT] Light 27 Pro



COST EFFECTIVE? GREAT DESIGN!

The **Light 27 Pro** model can be used on all surfaces within the sports hall.

With an installed depth of only 27 mm the system is suitable for refurbishments, to provide a new protective wall, or the replacement of old point elastic protective walls as well as new build projects.

The whole construction of the **Light 27 Pro** system is fully compliant with current fire regulations.

Installation on an even wall acc. to DIN 18202, 2005-02, chart 3

Construction height

27 mm

The choice of finishes is almost infinite, whether plain colours or a classic wood-effect design is preferred.

The panels are adhered directly to the existing wall, which speeds up the installation to provide a highly cost effective solution.

- **Area-elastic protective wall with low construction height**
- **Sports and multi-purpose usage**
- **CPL-surface available in a huge range of colours and wood-effects**
- **Protective wall sizes: 610 x 400 mm or 1.225 x 400 mm**
- **Fully compliant with current fire regulations**

[PROTECT] Classic Spruce



NO COMPROMISE ON QUALITY

HARO PROTECT Classic Spruce is the most cost-efficient solution for an area elastic protective wall. Nothing has to be sacrificed: not the double elastic battens in the sub-construction, not the attractive design, not the excellent performance and especially not the compliance with all relevant DIN norms concerning protective and sports requirements.

- Area elastic protective wall
- Sports and multi-purpose usage
- Nordic Spruce
- Length: ca. 2 m up to 5 m
- Longitudinal edge rounded 5 mm

Installation on an even wall acc. to DIN 18202, 1997-04, chart 3

Wall cladding	18 mm
Construction height	≥ 107 mm

[PROTECT] Classic Spruce VNK



INVISIBLE MOUNTING

HARO PROTECT Classic Spruce VNK is the most cost-efficient solution for an area elastic protective wall. Nothing has to be sacrificed: not the double elastic battens in the sub-construction, not the attractive looks, not the excellent performance and especially not the compliance with all relevant DIN norms concerning protective and sports functionalities.

This version has the advantage of a clip which grips into a groove and holds the spruce battens from behind- no screwing needed.

- Area elastic protective wall
- Sports and multi-purpose usage
- Nordic Spruce
- Length: ca. 2 m up to 5 m
- Longitudinal edge rounded 5 mm



Installation on an even wall acc. to DIN 18202, 1997-04, chart 3

Wall cladding

18 mm

Construction height

≥ 107 mm

[PROTECT] Classic Plywood

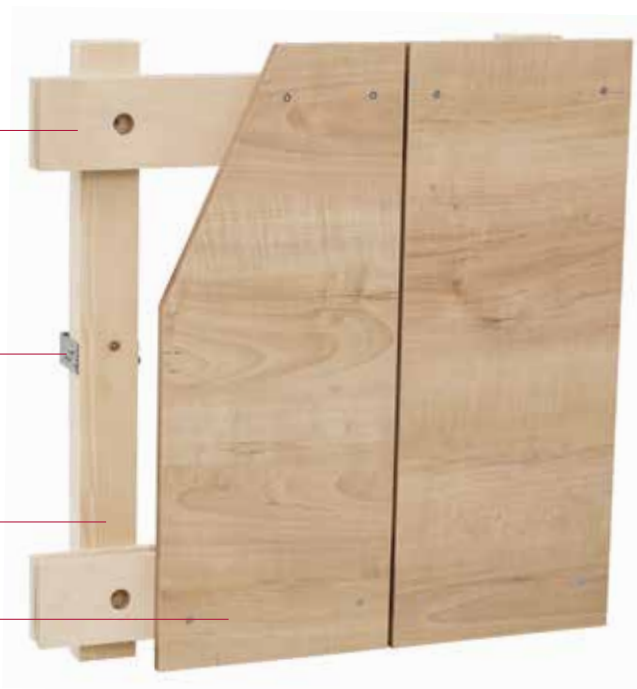


HARO double elastic girders

Metal bracket

Spruce bolt

Wall cladding plywood with decor coating, visibly bolted



PRETTY SOLID: DISANO DECOR PLATES

The HARO designed decor plate allows a wide range of decors that would be very costly as a veneer – a big advantage especially for architecturally challenging multi usage halls. The plywood panels of the **HARO PROTECT Classic Plywood** are mounted via visible bolts. In case of damage, the panels can be easily exchanged. The plywood panels are also available with acoustic perforation.

- Area elastic protective wall
- Sports and multi-purpose usage
- Plywood with decor coating
- Maximum length: 2.450 mm
- Maximum width: 400, 600 and 1.200 mm



- 1 Decor coating
- 2 Plywood board

Installation on an even wall acc. to DIN 18202, 1997-04, chart 3

Wall cladding

15 mm

Construction height

≥ 104 mm

[PROTECT] Classic Plywood VNK



ROLE MODEL IN TECHNOLOGY & DESIGN

The **HARO PROTECT Classic Plywood VNK** meets even higher demands when it comes to the perfect finish. The mounting of the plywood panels is hidden. In addition to high durability, the panels also score highly with consistent visual appearance. Tests for **HARO PROTECT Classic Plywood VNK** certify absolute ball-throwing safety, which also applies to the panels with acoustic perforations.

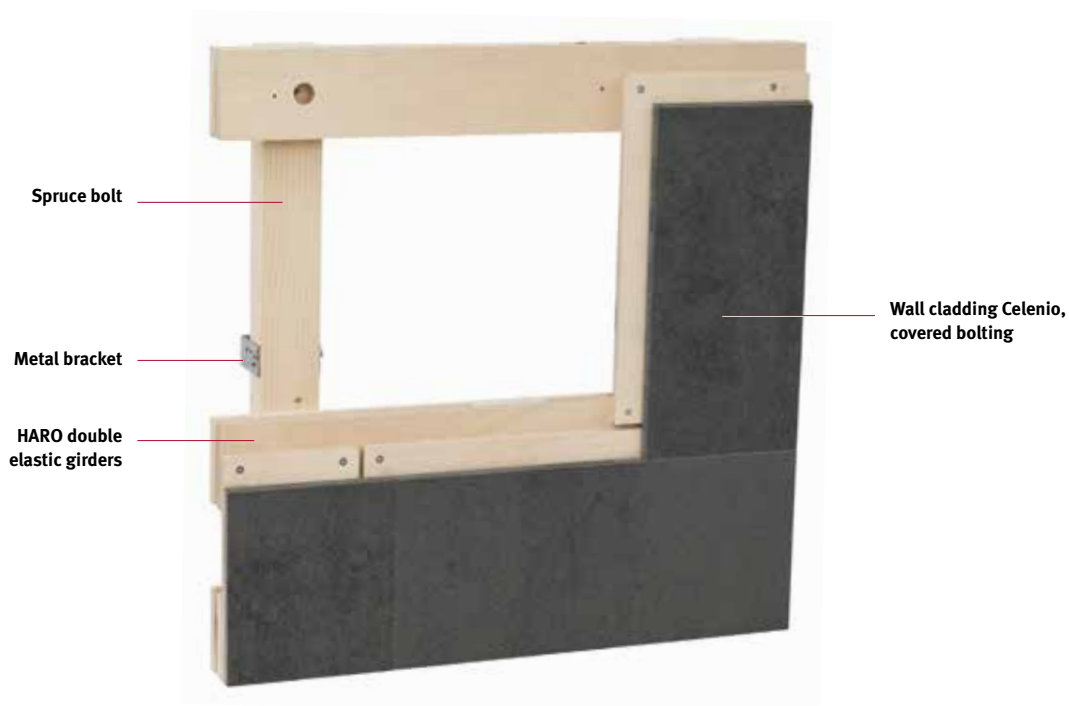
Perforated wall cladding improves the room acoustics. Customized perforation is carried out in our facilities. We recommend the smallest possible perforation in areas of up to 2 meters for good acoustic properties.

- Area elastic protective wall
- Sports and multi-purpose usage
- Plywood with decor coating
- Maximum length: 2.450 mm
- Maximum width: 400, 600 and 1.200 mm



Installation on an even wall acc. to DIN 18202, 1997-04, chart 3	
Wall cladding	15 mm
Construction height	≥ 104 mm

[PROTECT] Classic Celenio



QUITE A SIGHT

Not all sport halls need to look identical. **HARO PROTECT Classic Celenio** opens new prospects to demonstrate more individuality. With four available decors and covered bolting, the Celenio wall cladding turns every hall into something very special. It goes without saying that the protective wall complies with all standards in terms of functionality and durability. After all, this is a HARO product and represents our immense technical capabilities.



Installation on an even wall acc. to DIN 18202, 1997-04, chart 3	
Wall cladding	17 mm
Construction height	≥ 106 mm

- Area elastic protective wall
- Sports and multi-purpose usage
- Celenio wall cladding – stone appearance
- Single element: 526 x 350 mm
- Double element: 1.052 x 350 mm (appearance like single)

[PROTECT] Pro Spruce



FIRE PROOF STEEL SUB-CONSTRUCTION

In comparison to a plywood sub-construction, all models of the HARO PROTECT Pro series with patented steel sub-construction are fully compliant with all current fire regulations. This is a crucial consideration especially for multi-purpose sports hall operators.

Installation on an even wall acc. to DIN 18202, 1997-04, chart 3	
Wall cladding	18 mm
Construction height	≥ 97 mm

Despite the low entry-level price the **HARO PROTECT Pro Spruce** has the best scores when it comes to shock absorption and ball-throwing safety.

- Area elastic protective wall
- Sports and multi-purpose usage
- Nordic Spruce
- Length: ca. 2 m up to 5 m
- Longitudinal edge rounded 5 mm

[PROTECT] Pro Spruce VNK



WITH SECRET FIXING

In comparison to a plywood sub-construction, all models of the HARO PROTECT Pro series with patented steel sub-construction are fully compliant with all current fire regulations. This is a crucial consideration especially for multi-purpose sports hall operators. Despite the low entry-level price the **HARO PROTECT Pro Spruce VNK** has the best scores when it comes to shock absorption and ball-throwing safety.

Now with secret fixing, this version has the advantage of a clip which grips into a groove and holds the spruce battens from behind- no screwing needed.

- Area elastic protective wall
- Sports and multi-purpose usage
- Nordic Spruce
- Length: ca. 2 m up to 5 m
- Longitudinal edge rounded 5 mm
- Secret fixing clips



Installation on an even wall acc. to DIN 18202, 1997-04, chart 3

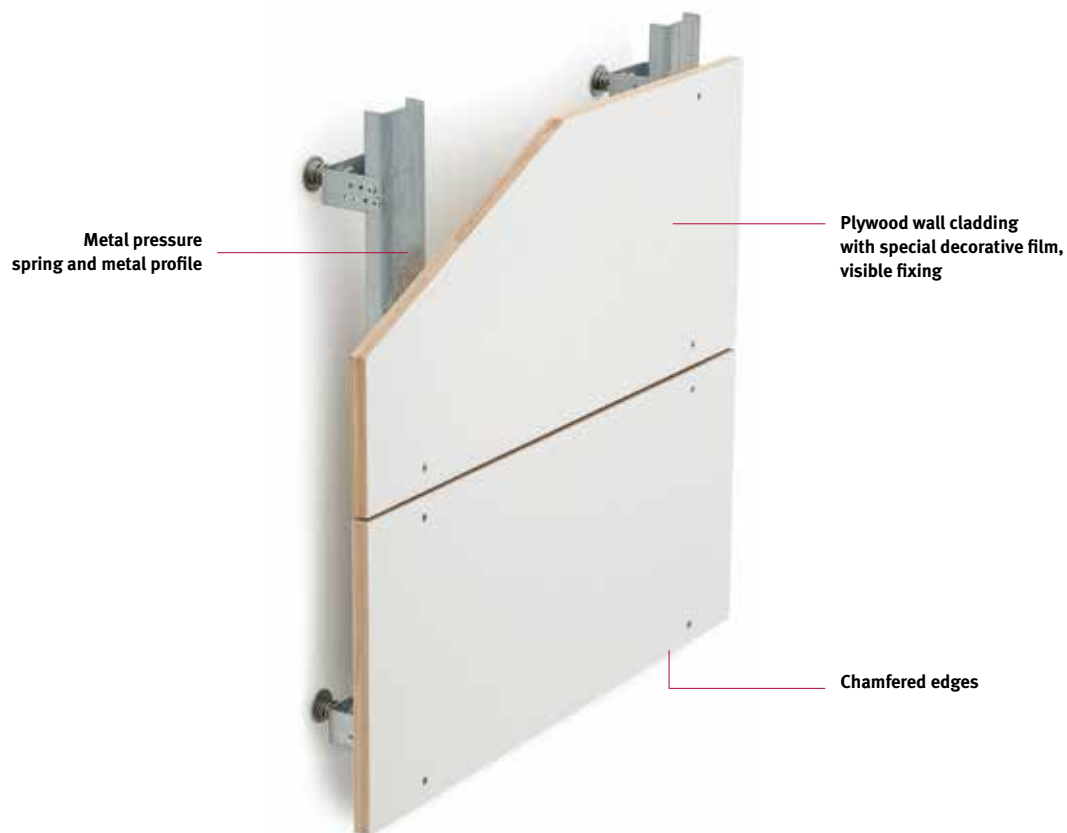
Wall cladding

18 mm

Construction height

≥ 97 mm

[PROTECT] Pro Plywood L



AVAILABLE IN ALMOST EVERY COLOUR!

PROTECT Pro Plywood L was developed to provide a more cost-efficient version of the existing Pro Plywood systems.

The broad range of decors offers a wide spectrum of creative options for developers, architects and specifiers alike. The assortment ranges from classics like beech to extravagant finishes like Galiano Oak or Zebrano.

In addition to the wide range of wood decors we also offer many plain alternatives, as well as structured or non-structured finishes upon request.

By the way: all surfaces are extremely scratch resistant and easy to clean. The new **PROTECT Pro Plywood L** naturally meets all current sports and multi-purpose compliance requirements.

Installation on an even wall acc. to DIN 18202, 1997-04, chart 3	
Wall cladding	15 mm
Construction height	≥ 94 mm

- Area elastic protective wall
- Sports and multi-purpose usage
- Plywood with special decor coating
- Maximum length per panel: 2.450 mm
- Maximum width per panel: 400, 600 and 1.200 mm

[PROTECT] Pro Plywood L VNK



PRECISION. PROTECTIVE. PRO.

The secret fixing of the protective wall panels represents geometrical clarity in the highest form. However, the technical qualifications that meet all legal requirements including fire safety are within the precision design. The secret lies in the solid metal pressure spring within the steel construction. **HARO PROTECT Pro Plywood L VNK** is suitable for sports halls as well as community spaces.

- Area elastic protective wall
- Sports and multi-purpose usage
- Plywood with special decor coating

Installation on an even wall acc. to DIN 18202, 1997-04, chart 3	
Wall cladding	15 mm
Construction height	≥ 94 mm



[PROTECT] Pro Plywood



SUITABLE FOR COMMUNITY SPACES

Architects, clients and users are definitely on the safe side with HARO. The compliance with all relevant norms goes far beyond the sports range. **HARO PROTECT Pro Plywood** proves that perfection can also look good. The wood cladding made of plywood and special decor foil is no different to veneers, but considerably less expensive. Thanks to the visible fixing, it is easy to replace individual panels.

- Area elastic protective wall
- Sports and multi-purpose usage
- Plywood with special decor foil
- Maximum length: 1.200 mm
- Maximum width: 500, 1.000 and 2.000 mm



Installation on an even wall acc. to DIN 18202, 1997-04, chart 3	
Wall cladding	15 mm
Construction height	≥ 109 mm

[PROTECT] Pro Celenio



UNIQUE SPORTS HALL

For those who are looking for a functional and also aesthetically pleasant surface, **HARO PROTECT Pro Celenio** is the right choice. Celenio combines the assets of wood with the visual appearance of stone – fascinatingly elegant from the outside and tough on the inside. The steel sub-construction also ensures optimal fire safety. With four surfaces and secret fixing the protective wall is quite a sight.

Installation on an even wall acc. to DIN 18202, 1997-04, chart 3	
Wall cladding	17 mm
Construction height	≥ 111 mm



- Area elastic protective wall
- Sports and multi purpose usage
- Celenio wall cladding – stone appearance
- Single element: 526 x 350 mm
- Double element: 1.052 x 350 mm (appearance like single)

[PROTECT] Glass ESG + VSG



CLARITY: GLASS FRONTS

Protective walls made out of glass are gaining popularity because of the rising demand for large window facades. To guarantee full safety in these areas as well, protective walls are mounted on top of actual windows.

HARO PROTECT Glass ESG + VSG combine the safety of an ESG or VSG glass panel with the performance of a glass protective wall according to DIN 18032 part 1 and 3.

- Area elastic protective wall
- Sports and multi-purpose usage
- Steel sub-construction

Installation on an even wall acc. to DIN 18202, 1997-04, chart 3

Glass thickness	10 mm
Construction height	42 mm

[PROTECT] Optional Equipment



PERFECTION DOWN TO THE LAST DETAIL

Not only is the compliance with all current norms part of the success story of HARO PROTECT protective walls, but also its low life cycle costs. First class consulting and excellent service – from the planning stage down to

the last detail. Many times it's the optional equipment that compliments practical suitability for your sports hall.

Please find a selection of options below:



Gates and doors: If gates, doors or windows are included in the design, HARO will find a standard solution without compromising athlete's and other sports hall user's safety.



Switches: Switches are mounted almost invisibly into the wall for easy accessibility of utility services.



Acoustic perforation: Perforated wall cladding improves the acoustics particularly in multi-purpose halls. HARO specialists will adapt it to your individual needs.



Special requests: Rope flaps or power sockets – HARO delivers all optional equipment that fits your requested wall design.

[PROTECT] Decor Range

At HARO Sports the decor range is defined by fire rating. The protective wall systems are tested as a whole system and not as individual panels and are therefore defined into two model series: Classic – not fire tested and Pro – fire tested.

THE HARO CLASSIC – MODELS ARE AVAILABLE IN FOLLOWING DESIGNS:

Disano



Stone oak creme* structured



French smoked oak* structured



Wild oak* structured



Oak Glacier* authentic



Sand oak* structured



Field oak* structured



Crystal oak* structured



Tobacco oak* structured



Country oak grey* rustic

* Wood reproduction

Spruce plywood

Pine knots are allowed. Sound knots up to 20 mm diameter and a cumulative diameter of 50 mm/m² are also permitted. Mended cracks and peel defects up to 2 mm

width and 200 mm length are limited to one piece per meter of panel width. Slight discoloration and streaks are allowed. One wooden plug per m² is permitted.

THE HARO CLASSIC - AND PRO – MODELS ARE ALSO AVAILABLE IN CPL:



Wood-effect finishes



Uni decors



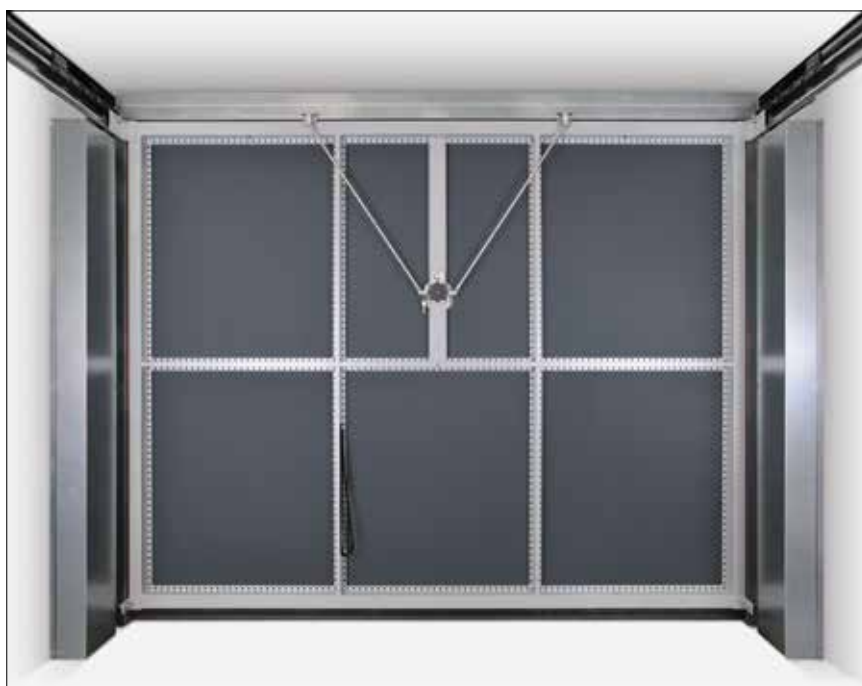
Cleantouch decors

The CPL surfaces are available in almost every color and design and are colourfast and highly scratch resistant. All of our protective wall systems can of course be obtained as an acoustically compliant version.

HARO [PROTECT]

The gate neither swings outwards
when opened, nor juts into the hall.
A flush surface with the wall hall
is created when closed.

HARO®
Sports Flooring



The door frame is made out of solid rectangular pipes with a horizontal reinforcement pipe and is therefore perfectly prepared to carry our HARO PROTECT.



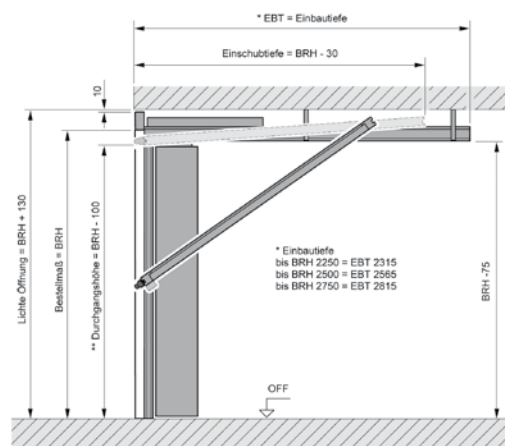
Inside the hall the flush mounted, recessed handles prevent injuries. Even more safety is provided on the inside through the two-sided independently locking spring-bolts.



THE GATE TO THE HALL

Professional know-how is good, but experience is better. HARO trusts its partner's expertise when it comes to sports hall gates. Every gate and every door is custom-made according to the required on-site installation requirements.

With the PROTECT series coatings, HARO ensures that all doors and gates meet the shock absorption and ball-throwing safety unconditionally. Even if the client requires ventilation grids, switches or windows, HARO will find a solution.



** Tore ab BRB ≥ 4500 mit Verstärkungsprofil - Durchgangshöhe = BRH - 140





Since 1971, Peter Hamberger has successfully guided the company's destiny as the managing director. Dr. Peter M. Hamberger joined the management board in 2002. Today, the fourth and fifth generation is jointly managing the company.

EXPERIENCE CREATES MUTUAL TRUST

With HARO sports floors or protective walls you will experience the ultimate sports performance, technical competence and personal safety. They are made for students, amateurs and professional athletes, for planners and architects, associations, municipalities and public institutions. All of the above rely on a large and reliable manufacturer with over 60 years of experience. As a manufacturer of branded quality products, it goes without saying that environmental awareness is a key element of our corporate philosophy. After all, we work with nature each and every day and as anyone who does, we treat nature with great respect. Not the exploitation of the forest, but its ecologically sustainable management governs our actions.

We have been certified according to DIN EN 14001 and validated to the EU Eco Audit since 1998 for our commitment to the preservation of natural resources. In 2003, we were awarded the European PEFC certificate, which proves that the timber we use can be traced throughout the entire product supply chain – called the “chain of custody” – from the certified, sustainable forest all the way to the final product.



The HARO headquarters:
Aerial view of the company's 250,000 m² premises located in the foothills of the Bavarian Alps.



HAMBERGER

ISO 9001
quality system approved

HAMBERGER

ISO 14001
environmental quality



Our commitment to environmental safety is also reflected by our entire production cycle. We think not only in terms of economy, but also ecology. For this reason, we operate a high-performance combined heating and power station. Here, a modern furnace unit converts the waste wood into heat for the production processes and heating facilities and into ecological power. The output corresponds to the power requirement of 60,000 households.

To preserve and protect the environment, we will continue to invest in progressive ecological technologies. In times of a growing shortage of resources, we rise to meet this challenge.

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HARO PROTECTIVE WALLS – PRECISION. PROTECTIVE. PRO.

When it comes to quality, we leave nothing to chance. Starting with careful selection of raw products and quality control, leading to production, delivery and installation – everything is handled by professionals in their own field.

HARO PROTECT Protective Walls



- are manufactured in the most advanced production facilities.
- comply with QMS quality control system under ISO 9001 and 14001.
- meet all safety and sports functional requirements as well the current DIN 18032-1, DIN 18032-3 and are in accordance with the GUV requirements.
- open up new possibilities for designers and architects.
- offer players the best conditions for peak performance.
- provide sports and multipurpose facilities with an attractive look.

Please use our comprehensive tender documents or contact us - our experts would be happy to assist you and you will quickly find out “why we are dominating the game”.

