

BEST-HALL[®]
Best-Hall Oy



Harbour terminal, 186 x 36 m, 6,696 m² Port of Szczecin, Poland.

THE MAIN ADVANTAGES OF BEST-HALLS

A steel-trussed, PVC covered Best hall is a flexible and versatile solution for all hall construction and roofing.

Best-Hall designs, manufactures, equips and installs halls to meet customers' needs.

All operations are based on an ISO quality standard system certified by Det Norske Veritas (DNV).

The steel frames of the halls are made in Finland to the specifications and under the supervision of SFS and the German SLV.

Streamlined structure

The frame of the Best hall is built from steel trusses, which are joined together during installation with tubular profiles. The hall is normally supplied with a PVC cover, whose weight, strength and colouring are chosen to suit the location.

Economical and quick foundation

The steel anchoring foundation developed by Best-Hall Oy is more economical and quicker to build than a traditional concrete foundation.

Fast installation

A 1,500 m² PVC-covered hall complete with fittings can be assembled in two weeks.

Adaptability

The column-free clear span is 10-80 m. The wall height, doors and their position can be defined according to choice.

Mobility

Entirely prefabricated and PVC covered, a Best hall can be dismantled and moved to a new location.

Airtightness

Best hall covers are made completely airtight using automated equipment (CAM), thereby allowing the humidity conditions inside to be set at the desired level.



Storage shed 40 x 20 m (800m²) where heat insulation and automatic air dehumidifiers ensure optimum moisture conditions. Mustola Dryer Oy, Lappeenranta.



Production facility for metal industry. Hall's lowest free height 15 m, size of sliding door 30 x 15 m. Aker Mäntyluoto Oy, Pori.

Warehouse halls

- for protecting goods; for example, timber, paper and steel warehouses, and harbour stores and collection yards
- can be equipped with cranes, desired door solutions, automatic doors etc.

Product storehouses and production halls

- for protecting bulk goods and processes
- the roof slope is selected according to the friction angle of the product
- can be fitted with protective walls, conveyors, bridge cranes, service platforms etc. attached to the steel frame.

Sports halls

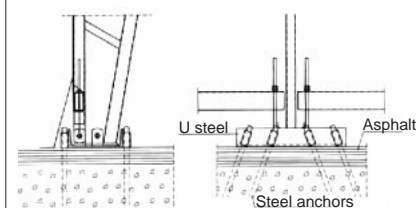
- full-size football halls, ice stadiums, tennis courts and riding halls
- option of roofing existing artificial ice rinks
- can be equipped with lighting attached to the steel frame, air-conditioning, spectator stands etc.

Other covering solutions

- covering of building and renovation sites
- covering of temporary projects such as oil drilling units, shipbuilding, bridge and other construction and repair sites

- the dimensions and structure of the covering can be made to match the requirements of the site exactly
- weather shelters can be erected quickly even using manual tools
- lightweight halls for crisis areas etc.
- tensioned mast covers for architecturally demanding projects

Best halls' asphalt foundation



Storage sheds for timber, total 4,800 m². Pinault SA, Honfleur, France.



Widerøe's Flyveselskap ASA, aircraft hanger at Sandefjord, Norway, 54 x 40 m (2,160 m²).



Mänttä Indoor Ice Stadium, 69 x 36 m (2,484m²).



The facades planned with customer; Best-Hall implemented the pre-engineered patterning. Vapo Timber Oy, Hankasalmi.



Printing paper industry, roll storage, 115 x 40 m (4,600 m²). StoraEnso Oy, Imatra.

TECHNICAL SPECIFICATIONS

Foundation

PVC-covered halls are erected on an asphalt base using steel anchoring developed by Best-Hall Oy. The steel anchoring method has been tested by the Finnish Technical Research Centre VTT (research reports RAK 1139/91 and RTE 2289/99). Asphalt-based steel anchoring can be used as the foundation of PVC-covered halls with spans of up to 40-45 m depending on the load-bearing capacity of the construction location and the loading on the structures.

Steel frame

The frame of PVC-covered halls is made from tubular steel trusses and longitudinal secondary rafters. The steel frame is dimensioned for snow and wind loads in line with building regulations and for possible conveyor and crane loads. The steel frame is coated using shot blasting according to the Sa 2.5 SFS 8145 standard and epoxy painting, for example to the SFS 5873 standard or alternatively hot galvanising according to the SFS -EN ISO 1461 standard.

Covering material

The PVC-covered halls are coated with acrylic varnished, PVC-coated and fire-resistant polyester fabric. A PVC cover weighs between 750 and 1,050 g/m² and has a strength ranging between 3.0 and 4.2 kN/50 mm. The weight and strength are dimensioned to suit the size of the hall.



Best-Hall plant area, Kälviä.

A PVC cover can be supplied in a variety of shades. Transparent white PVC roofing is generally preferred.

In fire situations heat and smoke gases dissipate through the melting insulation, significantly reducing damage to the structural frame.

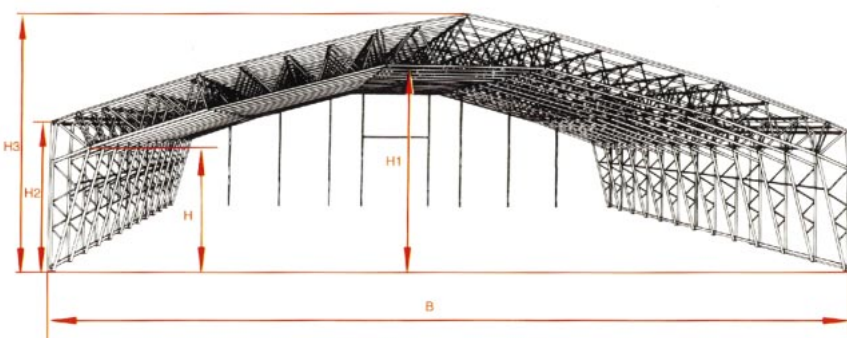
Fire safety

The fire-safety features of PVC-covered halls differ from those of other hall types. A PVC fabric melts at approx. +200° C, whilst the critical temperature of steel is +400-500° C. The PVC fabric conforms to the Nordic fire-safety standard SIS 650082.

Thermal insulation

A medium-warm hall can be obtained by fitting a PVC inner fabric on the inside surface of the frame. The halls can also be thermally insulated using heat insulation fitted inside the frame.

A BEST HALL CROSS-SECTION AND A REFERENCE CROSS-SECTION TABLE



Width		Internal dimensions			External dimensions			Width		Internal dimensions			External dimensions		
B	H	H1	H2	H3	B	H	H1	H2	H3	B	H	H1	H2	H3	
10.0	4.0	5.1	4.6	6.0	22.0	4.0	5.9	4.8	7.5	34.0	4.0	8.0	5.0	10.0	
	5.0	6.1	5.6	7.0		5.0	6.0	5.8	8.5		5.0	9.0	6.0	6.0	11.0
	5.9	7.0	6.5	7.9		5.9	7.9	6.7	9.4		5.9	10.0	6.8	6.8	12.0
12.0	4.0	5.3	4.7	6.4	24.0	4.0	6.2	4.9	7.9	36.0	4.0	8.4	5.0	10.4	
	5.0	6.3	5.6	7.2		5.0	7.2	5.9	8.9		5.0	9.4	6.0	6.0	11.3
	5.9	7.3	6.5	8.1		5.9	8.1	6.8	9.8		5.9	10.3	6.9	6.9	12.2
14.0	4.0	4.9	4.8	6.5	26.0	4.0	6.4	4.9	8.2	38.0	4.0	8.7	5.0	10.7	
	5.0	5.9	5.8	7.5		5.0	7.4	5.9	9.2		5.0	9.7	6.0	6.0	11.7
	5.9	6.7	6.6	8.4		5.9	8.3	6.8	10.1		5.9	10.6	6.9	6.9	12.6
16.0	4.0	5.1	4.8	6.7	28.0	4.0	7.0	4.8	8.8	40.0	4.0	9.4	4.9	11.4	
	5.0	6.1	5.8	7.7		5.0	8.0	5.8	9.8		5.0	10.4	5.9	5.9	12.4
	5.9	7.0	6.7	8.6		5.9	8.9	6.7	10.7		5.9	11.3	6.8	6.8	13.3
18.0	4.0	5.5	4.8	7.0	30.0	4.0	7.4	4.8	9.1	45.0	4.0	10.4	5.0	12.5	
	5.0	6.4	5.8	8.0		5.0	8.4	5.8	10.1		5.0	11.4	6.0	6.0	13.5
	5.9	7.3	6.7	8.9		5.9	9.3	6.7	11.0		5.9	12.3	6.9	6.9	14.4
20.0	4.0	5.7	4.7	7.3	32.0	4.0	7.7	5.0	9.6	50.0	4.0	11.2	5.1	13.0	
	5.0	6.6	5.8	8.3		5.0	8.6	6.0	10.6		5.0	12.2	6.1	6.1	14.0
	5.9	7.6	6.7	9.2		5.9	9.6	6.9	11.5		5.9	13.1	7.0	7.0	14.9



Frame elements are arranged at the hall location and fastened together into frame sections with bolted joints.



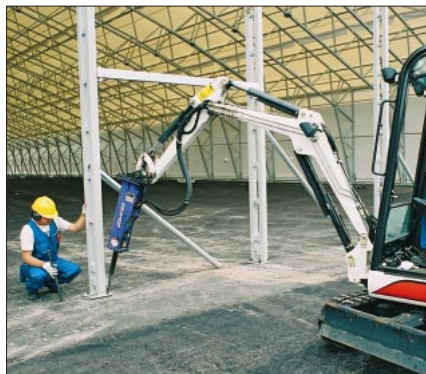
The frame is raised one section at a time and the sections joined together.



After the frame is erected the cover is lifted onto the frame.



The cover is attached to the frame and tightened.



The cover is attached to the frame and the gable columns are anchored in place.



The end walls' fabric is lifted and attached to the frame.

DESIGN AND FITTINGS

Best halls are supplied with a full design service:

- building permit drawings
- structural drawings
- strength calculations

The halls are designed using CAD-based applications. The hall width, height and length can be selected according to requirement. The preliminary measurements can be made according to the cross-section table on Page 3.

The facades

The shades of Best hall surface materials can be freely selected.

Owing to the adaptability of the PVC material, various patterns, colourings and logos can be made in the hall walls and roof.

Made entirely from tubular profiles, the steel truss frame is structurally spacious. The standard colour of the frame is light-grey (RAL 7038).

The doors

Sliding or roller-shutter doors are used in the halls and can be located either at the gable end or in the side.

The doors can be supplied in a variety of sizes, and even doors the size of the gables can be provided.

The doors can be fitted with smaller doors for staff entry.

Ventilation

Halls are always equipped with mechanical ventilation provided by powered roof-ventilators.

Dehumidification

When goods sensitive to humidity, such as extra-dry timber, are being stored, automatic air dehumidifiers can be installed in the hall. In premises generating a great deal of moisture, such as ice stadiums, automatic air dehumidifiers are essential items of equipment.

Lighting

Lights can be fastened straight on to the frame structures. Due to the transparency of the roofing materials, separate lighting is not required in uninsulated halls during daytime hours.

DELIVERY AND INSTALLATION

Best halls are supplied fully assembled and erected on an asphalt base or on concrete foundations made by the customer.

Installation also includes doors, mechanical ventilation and necessary fittings, in other words the entire hall is ready for use.

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