

VEPE-ICEPRO LTD
**TECHNICAL
DOCUMENTATION**

ICE HOCKEY DASHER BOARDS
X-SERIES

TABLE OF CONTENTS

1	GENERAL.....	3
2	ANCHORING	4
3	ELEMENTS.....	5
4	GATES	7
5	PROTECTIVE SHIELDING.....	9
6	POSTS	10
7	BOXES	11
8	OPTIONAL EQUIPMENT	14
9	STANDARDS AND CERTIFICATES.....	15

1 GENERAL

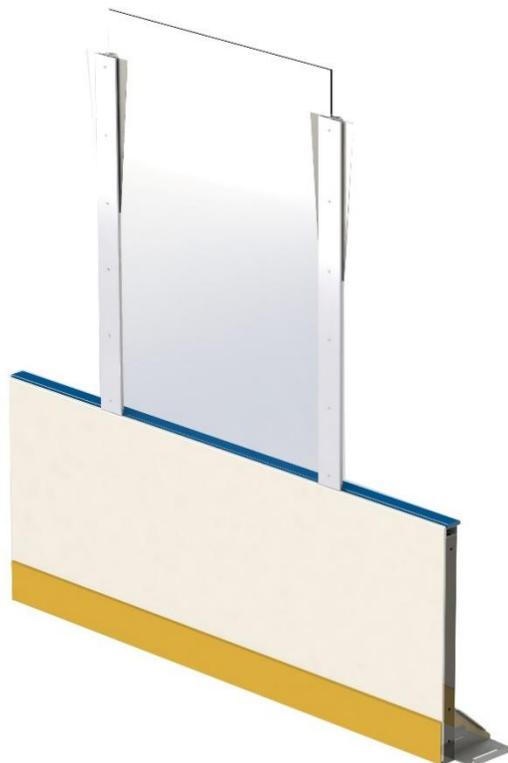
Vepe-Icepro X-Series is a lightweight flexible ice hockey dasher board system equipped with the most flexible polycarbonate (PC) posts or with more stable aluminum post. Due to its structure, it is perfectly suited for arenas where all levels of ice hockey is played. Frame structure consists of a profile system with an integrated attachment of shielding to the rink frame. Stable aluminum posts are used in gate elements.

The structure of the board frame allows using various types of support legs to meet the most challenging requirements of board fastening to concrete slab.

X-Series dasher boards are designed, manufactured, and sold by Vepe-Icepro. All production is made according to EN 1090-1:2009+A1:2011. Dasher board models are developed and optimized using FEM analysis, and the performance has been verified through tests in laboratory conditions as well as in real conditions.

Vepe-Icepro X-Series standard measurements:

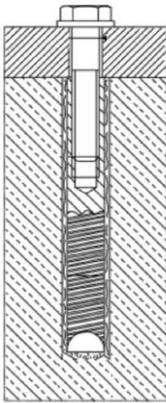
- Standard rink sizes: 26-30m x 56-60m
- Curve Radius (standard): R8.5m
- Height from concrete slab: 1.1m



2 ANCHORING

For existing arenas

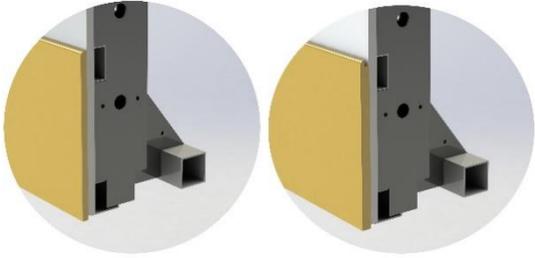
X-Series is specially designed to existing arenas with existing anchors. Various types of anchoring legs enables fastening to existing anchor points in most cases. However, in case the existing anchors are not enough, the new anchors are drilled into concrete. Anchoring legs are always used due to single frame structure in the lower part of the board element.



Technical drawings

Project-specific section drawings are always included in Vepe-Icepro dasher board delivery. Drawings are available in PDF and DWG formats. Ask for BIM model!

3 ELEMENTS

Dimensions of the board element	Height 1,1m from concrete slab, ca. 1,07 m from ice level. Standard element length 3m	
Frame, material and finish	Single frame structure of the lower part. Single frame structure in the middle enables better flexibility of the boards in a collision. Steel EN 10149-2, hot dip galvanization EN ISO 1461	
Thermal barrier	X-Series element ends are equipped with thermal barriers to prevent condense water running to ice side	
Materials	Kick lists and board lists are made of the same material as the boards ensuring consistent extension/shrinking and impact resistance.	
Puck board	10mm UV protected white HD polyethylene (HDPE)	
Kick plate	8mm UV protected yellow HD polyethylene (HDPE) without ad panel OR 12mm UV protected yellow HD polyethylene (HDPE) with ad panel	
Top sill	UV protected blue HD polyethylene (HDPE) Protective shielding integrated into the top sill. (recessed into the groove)	

Cap rail

Front cap rail with groove when advertisement panel system is used.



Line markings

Lines are integrated in the kick list. HDPE blue/red.



Advertisement panels
(optional extra)

4 mm clear polycarbonate (PC) sheet installed in a groove under cap rail and in kick list. Fastened to board element with 2 flush hexagon socket head cap screws. Fastening materials are made of stainless steel.



Rear panels
(optional extra)

PP Foam 6mm, color: white. Protects the frame from materials that do not belong there. Completes nice look to the boards.



Fastening

X-Series board elements are fastened into each other with the most reliable bolt-nut -fastening system. Fastening to anchors in concrete slab according to existing anchors.

4 GATES

Player gates 4pcs. (standard)

Width 80cm (standard)
Width 100cm (optional extra)

Threshold 210mm (standard)
Threshold 50 / 310mm (optional extra)

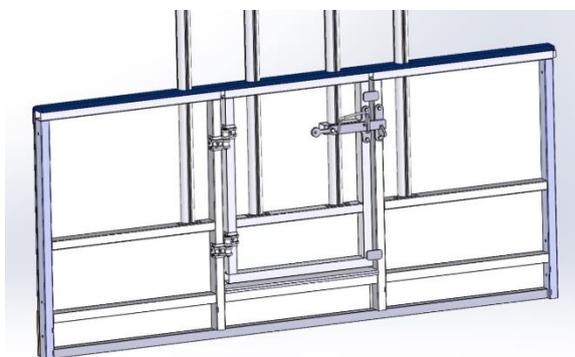
Strengthened frame structure
Adjustable hinges
Robust self-locking latch

Penalty gates 2pcs. (standard)

Width 80cm (standard)
Width 100cm (optional extra)

Threshold 210mm (standard)
Threshold 50 / 310mm (optional extra)

Push button device to open gate from ice side
Strengthened frame structure
Adjustable hinges
Robust self-locking latch



Extra gates Width 80 / 100 / 120cm
Threshold 50 / 210 / 310mm

Push button device to open gate from ice side
Strengthened frame structure
Adjustable hinges
Robust self-locking latch

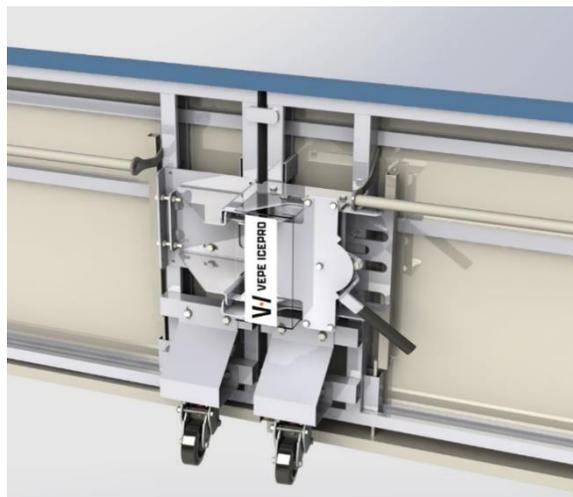
Service gates Width 3,5m (standard), 1 pc.

Strengthened frame structure
Adjustable hinges.
Adjustable kick list (hem) at the lower end.
Adjustable diagonal supports on both sides to guarantee the best stability
Nose wheels to support gate leaves when opening



Locking: service gates

Service gate has a reliable locking mechanism with which the gate can be opened and closed fast and reliably with one hand grip.



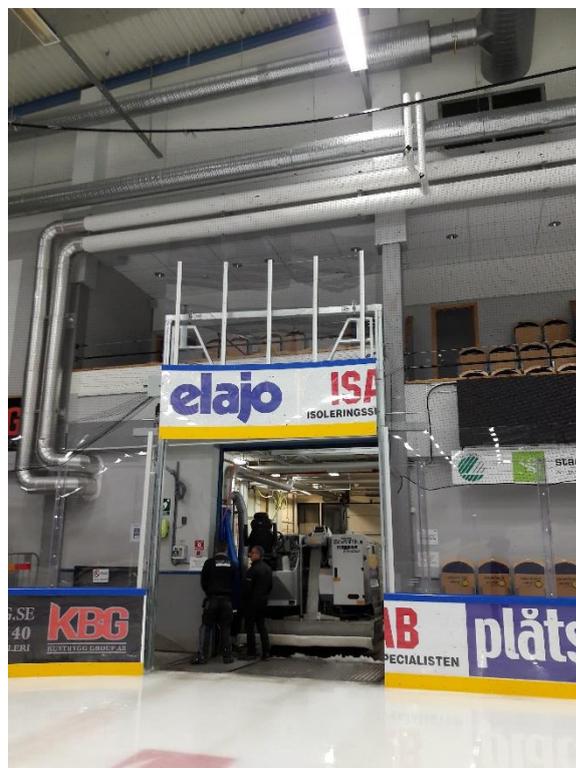
Additional information

Number of gates can be increased as needed. Location of these extra gates (player/public entrance and service gate) can be determined based on needs of end customer.

Lift gate (optional extra)

Standard service gate may be replaced by lift gate, which is suitable for the tightest places because it needs very little space at the back side of the boards.

Liftgate can be either straight or in curve. Standard liftgate is 3,5m wide.



5 PROTECTIVE SHIELDING

Height	H=1,5m / H=1,8m / H=2,0m / H=2,4m	<i>According to the IIHF Official Rulebook: Height of public protection in short ends and curves 2,4 m, height of public protection in sides 1,8 m</i>
Material	Polycarbonate (PC) 8 / 10 / 12mm Acrylic (PMMA) 12 / 15mm	
Hard coating (HC) (optional extra)	Hard coated PMMA and PC has a better scratch resistance and good optical qualities when compared to non-coated. Hard coated sheets are also easier to keep clean.	
Termination points	Curved acrylic 12mm / R500mm	<i>Where the public protection deviates from the boards at the vicinity of player boxes, there are curved, flexible player protections made from PMMA.</i>
Lower end of the shielding	Protective shield integrated into the top sill (hold in the groove).	



6 POSTS

Aluminum post The most rigid choice especially for training purposes. Long lasting and robust.



PC-post (optional extra) The most flexible option for competitive use. Enables the best safety for players and the best visibility for spectators.

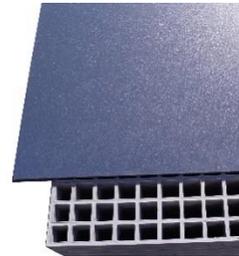


Height Post height always according to protective shielding height

7 BOXES

Size	Standard setup according to IIHF Rulebook	Player boxes 1,5 x 10 m, 2 pcs Scorekeeper box 1,5 x 6,5 m, 1 pc Penalty boxes 1,5 x 4 m, 2 pcs
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Box floor	Adaptable and robust grating structure made of steel
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Walls	Behind and at both sides of player boxes. Behind and at both sides of scorekeeper box. Behind and at both sides of penalty boxes.
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Protective shielding	All sides
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Doors	At both sides of player boxes (total 4 pcs) as standard. All other configurations as optional
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Furniture	Bench frame made of galvanized steel, coated with wooden lacquered planks, with back rest equipped with drink bottle holder for player boxes. Coach walkway made of galvanized steel, coated with plywood for player boxes. H=20cm, W=50cm. Bench frame made of galvanized steel, coated with wooden lacquered planks for penalty boxes.
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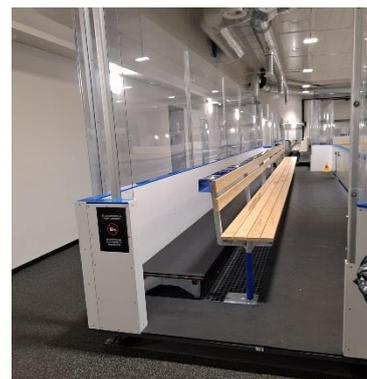
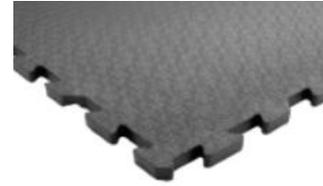


Table with 6 seats for scorekeeper box.

Rubber mats

Mabomat module mat as standard, black
ERGO P12 module mat as optional, black



Roof
(optional extra)

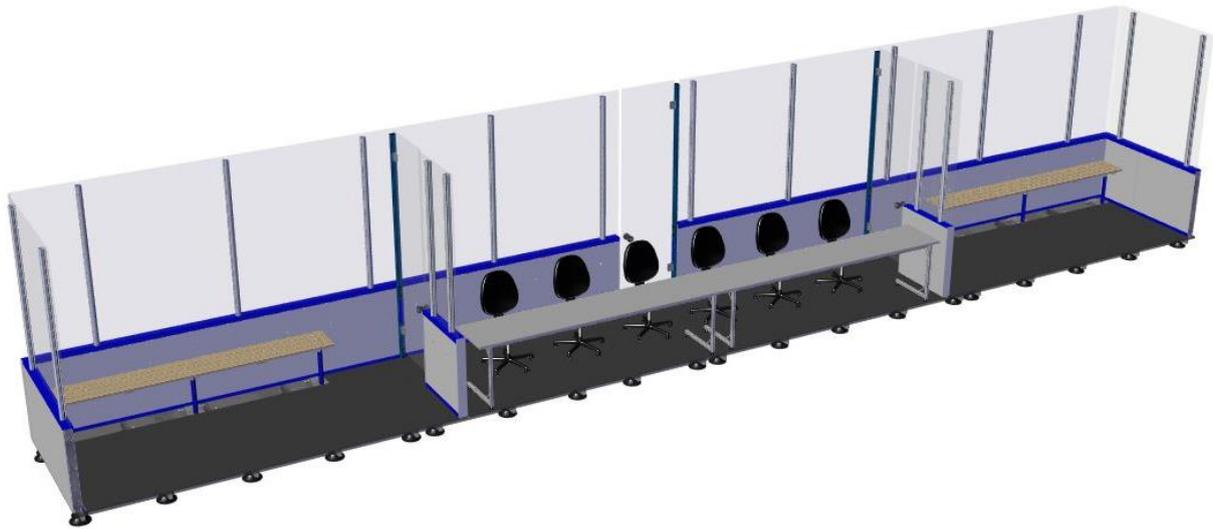
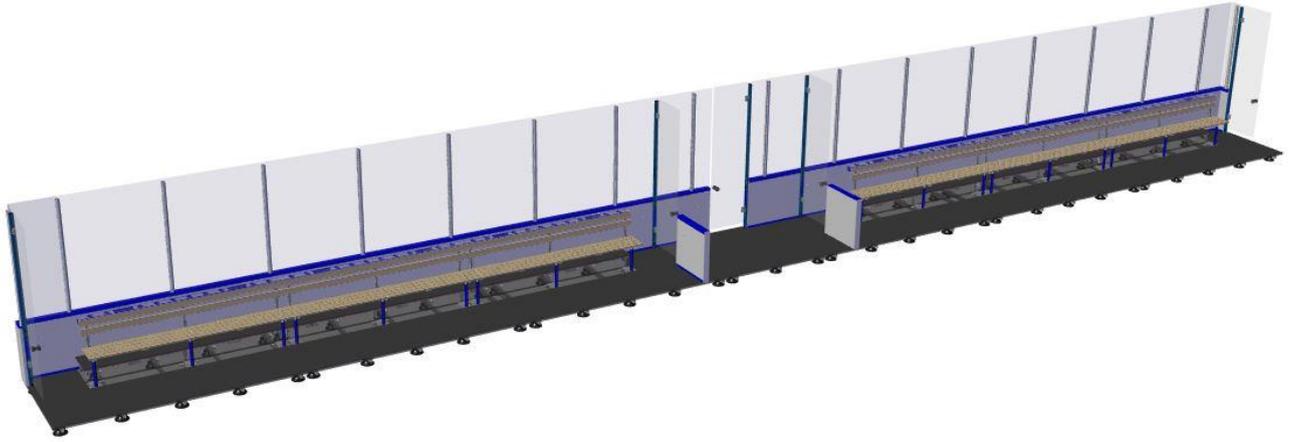
All boxes may be equipped with roof to provide more protection from spectators



Fully closed scorekeeper box
(optional extra)

Standard scorekeeper box may be replaced by fully closed option to provide the best possible protection for off-ice officials. The walls are also insulated in order to keep the box warm.





8 OPTIONAL EQUIPMENT

Ice hockey goals

Competition and training goals with all necessary parts and accessories.



Stick racks

Different stick racks to be fastened to the wall or if necessary removable, movable and provided with locks.



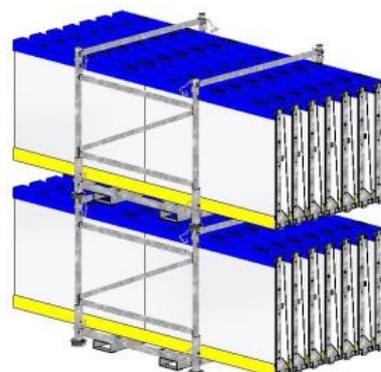
Alternative mat models for boxes

Several different options for covering box floors. Mats and covers are very comparable in quality. The biggest differences lie in the material sizing, shaping and surface slipperiness.



Storage racks

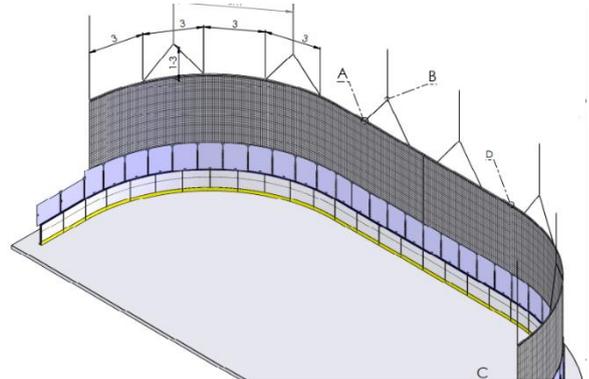
Storage racks for board elements, protective shielding and supporting posts.



Kevlar® safety nets

Unnoticeable, durable safety net. #38/1,2mm, black. NHL tested and approved.

PP safety nets	Basic safety nets to the ends and curves as well as to sides. Material: polypropylene. Options: Mesh #42mm, thread 2mm, black Mesh #40mm, thread 2.3mm, black Mesh #40mm, thread 2.3mm white Mesh #30mm, thread 1.5mm, black Mesh #30mm, thread 1.5mm, white
Net holding bars	Steel bars with installation material for safety nets.



Net lifting hoists	Mechanical net lifting hoists to facilitate lifting, installing and dismantling of nets.
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9 STANDARDS AND CERTIFICATES

- Internal quality auditing certificate 0416-CPR-8823-02 Certificate for steel production EXC1 and EXC2/ EN 1090-1:2009+A1:2011
- Material acquired by company with ISO 9001 certificate
- Surface treatment by company with ISO 9001 and ISO 14001 certificates
- Hot-dip galvanizing according to SFS-EN ISO 1461
- Tested according to BFU test procedures considering board flexibility and player safety