

SOUND BARRIERS

PREFABRICATED STEEL FRAMED DASHER BOARD SYSTEM (PF-S-01)

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A) Division 1, General Requirements, is a part of this section and shall apply as if repeated here.
- B) To supply and install factory pre-fabricated steel framed dasher board system as per layout.

1.02 INTENT

- A) Work included in this section is as follows:
 - 1. Anchors into concrete (by dasher board contractor).
 - 2. Factory prefabricated structural steel frames.
 - 3. Polyethylene covering.
 - 4. Aluminium gates and zinc plated hardware.
 - 5. Aluminium glazing supports.
 - 6. Tempered glass or acrylic shields.

- B) Related work specified elsewhere is as follows:

- 1. Concrete.
- 2. Painting.
- 3. Electrical.

1.03 QUALITY ASSURANCES

- A) Qualifications
 - 1. Employ persons skilled in this trade and proficient in the use of materials specified.
 - 2. Perform work in strict accordance with manufacturers instructions.
 - 3. Dasher system manufacturer shall have a minimum of 5 years experience in manufacture, design and installation of dasher board projects.

1.04 SUBMITTALS

- A) Samples
 - 1. Submit samples, when requested, of material thickness and colours to architect for review.

B) Shop Drawings

1. Submit shop drawings on items of this specification to the architect for review.
2. Drawings are to show;
 - Sizes and locations of gates and removable sections, relative to floor layout.
 - Anchor layout.
 - Detail on player penalty and timer boxes.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A) Deliver on site in a safe manner.
- B) Deliver and store material packaged in protective wrapping as to protect finishes and surfaces from scratching and marring.

1.06 SITE CONDITIONS

- A) Permanent lighting and power shall be installed and functional.
- B) Perimeter surface and freezing surface are to be in place prior to work in this section commencing. Both surfaces are to have no more than 1/4" (6 mm) variance in height over the length of the arena. Perimeter concrete at machine gates must be level.
- C) All overhead painting is to be completed prior to work in this section commencing.

1.07 GUARANTEE

- A) Submit a written guarantee against defects of material and workmanship for a period of one year from date of substantial completion.

PART 2 - PRODUCT

2.01 ACCEPTABLE MANUFACTURERS

- A) Dasher Boards, glazing and two-piece aluminium glazing support system as supplied by Sound Barriers, or approved equal. Phone #1-800-252-9498.

2.02 MATERIALS

A) Steel Components

1. Dasher Panels shall be fabricated in demountable sections of nominal 8' lengths. The design of all panels, whether straight section, curved section or a section in which a gate is located shall be fundamentally similar.
2. Standard size of straight dasher panels to be 96" long by 42" to 48" high.
3. Standard size of curved dasher panels to be 88" long by 42" to 48" high.
4. All steel is to meet CAN 3-G40.21-M81, Grade 300 W.
5. After the construction of the framing each panel is to be hot dip galvanized to meet or exceed CSA-G-164-M1981.
6. Sections to be used in construction of the welded frame shall be:
 - Top front stringer (horizontal) – 1 1/2" x 1 1/2" x .100 HSS tube.
 - Top back stringer (horizontal) - 1 1/2" x 1 1/2" x .100 HSS tube.

- Middle front stringer (horizontal) - 1 1/2" x 1 1/2" x .100 HSS tube.
- Front **Ice Machine Guide Wheel** stringer (horizontal) - 1 1/2" x 1 1/2" x .100 HSS tube, on radius panels only.
- Bottom front and back stringer (horizontal) - 2" x 2" x 1/4" HRS angle.
- Panel end plates (vertical) - specially designed 12 gauge x 6" deep formed channel two 9/16" diameter matching holes to accommodate 1/2" diameter through bolts.
- Intermediate post (vertical) – 1 1/2" x 3" x .125 HSS tube.
- Anchor plates - 5" x 5 1/2" x 1/2" galvanized steel with 3/4" holes punched in centre.
- Panel to panel connector plates – 5" x 3" x 3/8" galvanized steel with 9/16" holes punched in the centre.

B) Anchors

1. **New** - Adjustable anchors shall be cast in place for new construction. Anchor height is to be the thickness of the slab less 1/8". Anchors are to be cast into freezing slab a minimum of 4" from edge of freezing slab.
2. **Retrofit** - Existing anchors are to be re-used for all retrofit dasher board installations.

Note: 1. **5/8" x 3 1/2" adhesive or wedge anchors can be used when required and when possible.**

C) Board Cladding

1. High impact, white, high-density polyethylene shall be 1/2" (13 mm) thick. Natural white is not acceptable.
2. Kick strip shall be nominal 8" (203 mm) high and 1/2" (13 mm) thick. Kick strip is to have top edge routed to a 1/4" (6 mm) radius.
3. Top sill shall be 7" (165 mm) wide and 1/2" (13 mm) thick.
4. Official line markings, 1/2" x 12" wide (13 x 305 mm) red centre line and blue lines, and 1/2" x 2" wide (13 x 51 mm) red shall be carried vertically up the face of the boards in such a fashion that they are flush and interrupt the white surface completely from the ice to the bottom of the top sill.
5. Colours of kick strip and top sill shall be from manufacturers standard colour selection; white, gold, dark blue, red and yellow.
6. Fasteners for board cladding are to be 1/4-20 colour-matched Philips flat head type F screws.

D) Threshold

1. High density, stress relieved polyethylene skate threshold shall be 1" (25 mm) thick and 7" (163 mm) deep to cover entire width of all door openings. Fasteners are to be counter-sunk 1/2" (13 mm) deep.

E) Gates

1. Player gates (30" wide standard), access gates (36" wide standard) and machine gates (120" wide standard) shall be constructed utilizing 1/4" x 6" aluminium channel with a minimum 3" (76 mm) return edge to accept mounting hardware.

F) Hardware

1. All metal hardware is to be zinc plated.

2. Player and access gate hinges are to be 10 GA. steel, continuous piano type on gates **without** glass. Lift-off self-lubricating, adjustable pin hinges are to be used on player and access gates **with** glass.
3. Machine Gate hinges are to be heavy-duty adjustable hinges.
4. Player and access gate latches are to be 3/8" x 2" (9 x 50 mm) flat bar, easily opened with a gloved hand, with a downward movement.
5. Ice-side release mechanisms shall be installed on all player and access gates with glazing.
6. Heavy-duty spring loaded, phenolic tired, adjustable casters are to be equipped on each leaf of doors over 48" (1220 mm) in width. Perimeter concrete must be level for the entire track of the caster for proper operation.
7. Closure bars are to be sliding type, manufactured from 2" diameter solid steel rod secured to the left leaf of the machine gate which slides into 2" I.D. pipe brackets mounted on opposite leaf. Handle on closure bar is to turn down to avoid excessive protrusions on back of dashers. Two closure bars per gate are to be used.
8. All fasteners are to be zinc plated. Fasteners are to be colour matched where necessary.

G) Glazing Supports

1. Extruded aluminium glazing supports are to be alloy No. 6061-T6. Support back shall be secured to the center stringer with a "J" Hook bracket. Supports are to be Sound Barriers 2P Series, which is a two-piece support with a removable ice-side cap fastened through the back member with 1/4-20 x 2 1/2" bolts threaded into an anti-strip mechanism, eliminating any protrusions. Necessary gaskets, fasteners or brackets are to be provided.
2. Sound Barriers "End" supports, alloy No. 6005A-T6, are to be provided at glazing terminations, doors and 90-degree corners.
3. Vinyl covered polyethylene foam protective bumpers are to be provided at glazing termination points.

H) Glazing

1. Dasher shielding shall be tempered glass or acrylic. Shields shall be 5/8" (15 mm) or 1/2" (12 mm) thick as indicated on drawings. Tempered glass shall conform to CAN2-12.1-M79, Type 2. Acrylic shall conform to ASTM D4802-88. **Glass is 5/8" (15 mm) on ends and radii and 1/2" (12 mm) on sides of rink** and on the front and sides of the timer's enclosure. Acrylic is to be 1/2" (13 mm) on ends and sides.
2. Sill channel is used to support acrylic glazing only.
3. All shielding shall have the top two corners rounded to a 1/2" radius and the sides and top to have bevelled edges.
4. All shields shall be standard sizes except those at gates, removable sections or similar openings in the dasher boards.

I) Players, Penalty and Timekeepers Boxes

1. Interior finish of boxes is to be of similar construction as ice-side of dasher boards, utilizing 3/8" (10 mm) polyethylene. Framing is to be of similar construction as the ice side dasher boards.
2. White high impact, integrally coloured, high density polyethylene 3/8" (10 mm) thick shall be installed on the backside of the ice side dashers to form a water bottle shelf. This shelf is to be equal in height to the middle stringer of the dasher board frame.
3. Player's boxes are to be 30' long by 68" deep. Access via two gates per box on ice side.
4. Penalty boxes are to be 8' long by 68" deep. Access via one gate on ice side.
5. Timekeepers box is to be 6' long by 68" deep. Access via one gate on spectator or penalty box side.

J) Players, Penalty Benches and Timekeepers Table

1. Player and Penalty bench construction is as follows:
 - Benches shall be 24' long in player's boxes and full width of the penalty box.
 - Benches are to be a nominal 9 1/4" deep and 20" above the finished floor.
 - Bench surface is to be 2" x 10" "plastic wood" attached to aluminium channel.
 - Bench supports are to be constructed of 1 1/2" x 3" x 1/8" galvanized HSS uprights and 1 1/2" x 1 1/2" x 3/16" horizontal galvanized angle.
 - The bench supports will not exceed 6'-8" (2032 mm) on centre and will be attached to the bench with 3/8" carriage bolts (2 per bench support) and 3/8" lock washers & nuts.
 - Bench supports are to be mounted to removable brackets in sockets for raised flooring or permanently secured to the finished floor.
 - All hardware is to be plated or galvanized.
2. Timekeepers table shall be constructed with 1" (25 mm) polyethylene supported by three wall mounted brackets.

K) Floors For Players/Penalty/Timekeepers Boxes

1. Elevated flooring will be furnished, when requested, for the players, penalty and timekeepers box areas.
2. Floor construction is as follows:
 - 2" x 6" (51 x 152 mm) pressure treated spruce at 16" (406 mm) O.C. base frame
 - Frames are to be constructed 4' wide and not more than 2" (51 mm) less than the depth of the box areas they are used in.
 - 3/4" (19 mm) Douglas fir plywood screwed to base.
 - 1/2" (12 mm) rubber matting is to be loose laid on the plywood sub floor.
3. Please specify if raised coach's walkway, 6" high x 18" deep behind benches is required.

PART 3 – EXECUTION

3.01 Delivery and Installation

- A) Manufacturer shall construct, fabricate and deliver all materials to the job site per plans and specifications. Installations shall be in strict conformance with manufacturer's requirements and instructions.
- B) Installation of the dasher board system shall be completed in one of three following ways: complete installation by the manufacturer, on-site supervision by the manufacturer, or by an experienced dasher board contractor who is approved by the manufacturer.
- C) We are committed to safety, innovation and value and we reserve the right to change specifications at any time. Please call us before you send your project out to bid to ensure that you have up to date specifications.

END OF SECTION