

**BAP6.0 SIGNATURE SERIES STEEL FRAME  
DASHER BOARD SYSTEM SPECIFICATIONS**

**GENERAL**

**A.) SCOPE:** Manufacturer shall furnish and install one complete set of steel framed dasher boards for a \_\_\_\_' x \_\_\_\_' x \_\_\_\_' radius rink as manufactured by **Becker Arena Products, Inc. Burnsville, Minnesota.**

**B.) MATERIALS:** All materials will be per plans and specifications and constructed, manufactured and installed per plans and specifications. All equipment and materials supplied under these specifications shall be new and of the best grade material and construction.

**C.) SUBMITTAL:** (shop drawings) Manufacturer shall upon receipt of contract from owner or its representative, prepare shop drawings, which will itemize sizes and materials as well as construction details for installation. The manufacturer will submit shop drawings to the owner and/or its representative for approval before fabrication of materials.

**D.) DELIVERY:** To be arranged with owner and/or it's representative to coincide with completion date of the project.

**E.) WARRANTY:** Manufacturer shall warrant all equipment from all defects in materials for a period of one year from completion of installation. Any misuse or abuse and/or accident not caused by normal conditions shall be the responsibility of the owner.

**SPECIAL PROVISIONS**

**A.) PROJECT DESCRIPTION:** The project outlined with these specifications consists of the manufacture and installation of a complete steel frame dasher board system as manufactured by Becker Arena Products, Inc., or equal and approved.

The contractor shall be responsible for all necessary and related appurtenances to complete the project as described in these specifications. These specifications have been written with quality in mind. Any deviations from the following specifications found after installation will be back charged to the dasher contractor at owner's discretion of value.

**B.) SAMPLES:** All contractors bidding this project shall supply a sample panel of proposed dasher system being bid showing exactly how the system will be manufactured. Samples will show how shield-mounting hardware will be attached to system, as well as samples of gate latches and related hardware.

Polyethylene samples shall be submitted for owner approval of color and quality prior to bid.

**C.) MATERIAL SUBSTITUTION:** In the specifications certain items are named by manufacturer, this is done for quality control. Other manufacturers of equal quality will be approved if submitted to the owner for review. Such requests must be submitted to the owner, in writing, seven (7) days before bid opening. Any such approved substitutions must be shown or noted at the time of bid. Any deviations from the specifications must be clearly indicated by the bidder. Bids offering lesser sizing or quality will not be considered. Bidders shall supply manufacturer's literature, specifications and fact sheets.

**D.) PROJECT COMPLETION:** The contractor shall commence work immediately upon receipt of a signed contract. Completion of the project shall be not later than \_\_\_\_\_.

## PRODUCTS

Acceptable system design shall be identical in design to:

### 1. Becker Arena Products, Inc. Burnsville, Minnesota

#### A. DASHER PANEL FRAMEWORK

1. Dasher panels shall be fabricated in demountable sections of nominal 8' lengths. The design of all panels, whether straight section, curved section, or section in which a gate is located shall be fundamentally similar. Each section shall be made of two horizontal 2" x 2" x 3/16" steel angles used at the top and intermediate locations and one horizontal 2" x 2" x 1/4" steel angle used at the base location. All angles will be welded to a specially designed 11 gauge x 6" deep steel end plates on each end of the panel. All vertical formed channels must have a minimum of 3/4" return edges.

Each end plate will have three matching holes to accommodate 1/2" through bolts.

An additional 2" x 1-1/2" x 1/4" steel angle shall be welded to the back and bottom of each panel to form a continuous slot for anchoring panel to the floor.

An additional 1" x 1" x .083 square steel tube shall be welded to the top and back of each panel to aid in the fastening of the top caprail to the panel.

**(Optional - used when permanent backer panels are specified) An additional 1" x 2" x .083 steel tube shall be welded horizontally to the back of each panel to aid in fastening and supporting of the backer sheets. The location of this steel tube varies with location and sizing of backer sheets.**

In panels over 5' in length an additional 2" x 3" x .120 steel tube shall be welded at the center point of the panel (vertically) to add rigidity.

All steel angles and formed channels used to make up dasher panels and gates will be pre-punched with 3/4" long slotted holes to allow expansion and contraction in the polyethylene dasher facing due to changes in temperature. Round holes and self-tapping screws are not acceptable.

Each panel is to be a complete welded construction. After the construction of the framing each panel is to be hot dip galvanized. Zinc or nickel plating is not acceptable. The use of steel tubing for horizontal framing members or end vertical framing members is not acceptable.

Systems that require separate support posts to support the dasher system are not acceptable.

2. Standard sizes of the dasher panels are to be 96" long by 42" high.

## **B. GATES**

1. Access gates (3'-0" wide standard) and player gates (2'-6" wide) shall be built into 8' panels and shall be left or right-hand swing. Gate panel framing shall be of the same construction as standard panels. Gate insert shall be made of pre-punched 3/4" long slotted-formed channels both vertically and horizontally.

2. The gate latch shall be equipped with a 3/8" x 2" steel flat bar, easily opened with a gloved hand. Latches must be a solid welded construction designed for their intended use. Access gate latches on gates with shielding must be equipped with push button releases located on the cap rail on the ice side of shielding so that the gate can be opened from the ice side. The use of cables, chains or other similar devices to open these gates is not acceptable.

3. The hinges for all gates shall be two, lift off type, welded to the frame. All hinge assemblies shall have grease fittings for easy lubrication. Hinges that are bolted to gate framework are not acceptable.

All single swing access and player gates shall have one 3/8" thick x 3-1/2" wide x 4-1/2" long door stop welded to the gate frame. Threshold of access gates shall be 3" above floor level.

Thresholds for all player and penalty box gates shall be 9-1/2" above floor level.

4. Equipment gates shall be a double leaf gates with 10'-0" opening. Size of gate leafs to be determined by the owner. Gate panel framing shall be made of pre-punched slotted channels vertically and horizontally.

5. Equipment gate latch is to be the sliding bar type 2-1/4" x 2-1/4" x 12 gauge steel tubing with a large grasp handle. Each equipment gate shall lock into the poly threshold by means of 3/4" x 12" long cane bolts. Each equipment gate leaf over 36" in length shall be equipped with adjustable casters.

The equipment gate will be furnished with a poly threshold 1-1/2" high.

## **C. HARDWARE**

All steel hardware shall be galvanized or zinc plated for rust resistance after welding. Hardware shall include hinges, latches, nuts, bolts, washers and miscellaneous fastening devices necessary for complete installation.

## **D. ANCHORS**

1. The dasher contractor shall install all new 5/8" epoxy anchors required for the installation of the dasher boards. (Reuse existing anchors or pre-cast optional if applicable) Dasher contractor shall furnish 1/2" x 4" x 5" steel hold down plate. Plate to have two (2) 7/8" holes to accept a 5/8" bolt and flat washer for securing of dasher panel to anchors.

## **E. DASHER FACING**

The dasher board facing will be 1/2" (12 mm) thick high-density virgin polyethylene. The polyethylene is to be furnished in a bright white color. Natural white is not acceptable. Whites must match.

On panels that require red and blue lines, the facing will be routed 1/4" deep by the width necessary so that a 1/4" thick red or blue panel of high-density polyethylene can be inserted into this area. Fastening the polyethylene red or blue line to the front of the white dasher panel or cutting the panels to insert a 1/2" thick line with a secondary backer is not acceptable.

The 1/2" polyethylene will be attached to the horizontal angles with 1/4" Phillips flat head machine screws, flat washers and 1/4" nylon insert lock nuts. Heads of screws to be painted to color match dasher facing and kickplate. Spacing of the 1/4" screws will not exceed 1'-0" on center. The use of self-tapping or sheet metal screws to attach dasher facing is not acceptable.

## **F. CAPRAIL**

Red or blue high-density polyethylene cap rail 1/2" thick, (3/4" or 1" optional) shall be fastened to the top horizontal framing members. The caprail must have a textured finish. The front edge of the caprail shall be attached to the top angle using 1/4" Phillips flat head machine screws, flat washers and 1/4" nylon insert lock nuts. The back edge of caprail will be attached to the 1" x 1" steel tube using 1/4" type F thread cutting screws. Heads of screws to be painted to color match caprail. The use of nylon rivets or sheet metal screws is unacceptable. The front and back edges of the caprail shall have smooth and radiused edges.

Caprail is to overhang backside of steel frame to match with the backer sheet to be installed after erection of the dasher system.

## **G. KICK PLATE**

Kick plate shall be constructed of 1/2" thick (12 mm) high-density yellow or light blue polyethylene 8" high. The top edge of the kickplate shall have a 1/4" radius. The kickplate shall be fastened to the bottom of the dasher panel using 1/4" x 1-3/4" Phillips flat head machine screws, flat washers and nylon insert locking nuts. The heads of the screws are to be painted to color match the kickplate. The use of nylon rivets or sheet metal screws is not acceptable.

## **H. THRESHOLDS**

Access and player gates shall have 1" thick high-density polyethylene thresholds that can be removed and replaced when wearing occurs. Polyethylene thresholds less than 1" are not acceptable.

## I. SPECTATOR SHIELD MOUNTING HARDWARE

1. Spectator shield mounting supports shall be round in design of two piece construction made of solid architectural grade extruded aluminum (alloy #6061-T6) with 202R1 clear anodized finish. Support back shall be installed through a snug fitting contoured opening in the finished sill and secured at the bottom with a support-mounting bracket to the center stringer of the dasher panel. Support front to be attached to the back using 1/4" x 1-1/4" self-tapping screws. Installation of glass panels to be from the rink side with the vertical support within the dimensions of the boards, with no protruding anchors behind the boards. The supports to be furnished complete with shield gaskets integrally attached to both the support post and support faceplate. Shield gaskets furnished, as a separate entity to the support post is not acceptable. Total width of supports shall not be less than 2-1/8" in diameter nor shall exceed 2-1/2".
2. Mounting hardware is to be removable so that the spectator shielding can be removed without demounting the dasher system. The round shield supports shall be attached at the center angle using a "J" fitting that extends a minimum of 1-1/4" below the center angle. Round support posts that stop short of center angle or fittings that attach above the center angle are not acceptable.
3. Gate shield mounting hardware shall be made of solid architectural grade extruded aluminum (alloy #6061-T6) with 202R1 clear anodized finish, it shall be of one piece design to allow the operation of gate sections. The supports to be furnished complete with integrally attached shield gaskets.
4. The anodized extruded aluminum shield supports shall be \_\_\_\_\_" above the caprail on the sides of the rink where the use of \_\_\_\_\_" high acrylic panels is indicated and \_\_\_\_\_" above caprail at the ends of the rink where the use of \_\_\_\_\_" high acrylic panels is indicated.
5. The spectator shield supports are to be 48" apart except at gates or similar openings in the dasher boards.
6. The contractor shall route a continuous channel in the top of the polyethylene caprail to hold and support the tempered glass shielding panels.

## J. SPECTATOR SHIELDING

1. Spectator shielding shall be clear float safety tempered glass. The tempered glass shields shall have the top two corners radiused and all edges ground to minimize breakage and for safety in handling. Seamed edges are not acceptable.

All shields shall be 47-1/2" wide except those at gates, removable sections, or similar openings in the dasher boards.

Height of spectator shielding at the sides of the rink to be \_\_\_\_\_ above dasher panels. Tempered glass panels on the sides of the rink to be 1/2" thick.

Height of spectator shielding at the ends and radius corners to be \_\_\_\_\_ above dasher panels. Tempered glass panels on the ends and radius corners to be 5/8" thick.

2. Spectator shield supports and shields shall be installed across the back, front and sides of the penalty and scorer's boxes. Spectator shield supports and shields shall be installed behind and along side of but not in front of team boxes.

3. Spectator shield supports at both ends of the players boxes and the supports at the front corners of the penalty boxes shall have a specially designed safety pad to provide safety from injury.

#### **K. BOXES**

1. Player boxes shall consist of two \_\_\_\_\_' long team boxes, two \_\_\_\_\_' long penalty boxes and one \_\_\_\_\_' long timekeeper box. All boxes to be \_\_\_\_\_' deep.

#### **L. ELEVATED FLOORING**

Elevated flooring will be furnished for the players, official and penalty box areas. The elevated flooring will be fabricated with 1-1/2" x 1-1/2" x 3/16" steel angle welded into frames 7" high by 4'-0" wide and 1" less than the depth of the areas they are used in. All flooring sections shall have adjustable bases welded to the bottom of the steel framework to allow the elevated floor sections to be leveled.

The steel framing shall be hot dip galvanized after fabrication.

The steel framework shall be covered with 3/4" wolmanized treated plywood, tek screwed in place and covered with 1/4" light or dark gray Protect-All flooring.

In the players area, a two-tier framework will be fabricated for a coach's walkway behind the benches. The coach's walkway will be elevated 7" above standard floor height and will be 18" deep. The construction of this walkway to be identical to the elevated flooring in the player boxes. The change in elevation will have white high-density polyethylene covering.

#### **M. BENCHES**

The benches used in the players and penalty box areas will be made of 1-1/2" thick (1" optional) x 9-1/2" wide recycled high-density polyethylene. A formed steel channel frame shall be used to support benches. Player box benches to be \_\_\_\_\_' in length and penalty box benches to be \_\_\_\_\_' in length.

The polyethylene benches will be supported using a formed steel channel framework attached to bench supports constructed of 8" x 8" x 1/4" steel plates welded to 2-1/4" square, 12 gauge steel tube.

The tube supports will not exceed 6'-0" on center. The tube supports will be fabricated so that they rise vertically out of the steel sleeve welded in the elevated flooring framework and are mitered 15 degrees toward the front of the boxes so that players cannot hit the tubes with their skates. The benches will be mounted flat to the support tubes.

#### **N. INSTALLATION**

Manufacturer will construct, fabricate and deliver all materials to job site per plans and specifications. All materials will be installed to result in a complete steel frame dasher system with all dashers and spectator shielding to be straight and true to line and properly braced. Installation shall be done under the direct supervision of a factory representative at all times. The use of subcontractors without factory supervision is not acceptable.

**O. PROJECT CLEAN UP & RESTORATION:** The contractor shall be responsible for all area clean up of construction debris.

**P. OTHER MATERIAL**

Provide other materials, not specifically described but required for a complete and proper operational installation, as selected by the contractor subject to the approval of the owner.

**Q. EXECUTION**

Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

Installation shall be in strict conformance with manufacturer requirements and instructions.

Erect units rigid, straight, level, plumb, and true with horizontal and vertical lines level.

No defective, scratched, marred or otherwise damaged equipment and materials shall be installed.

**R. ADJUSTMENTS**

Put all items of equipment and systems through at least five complete cycles of operation, verifying that each item is properly installed and properly operating, and making required adjustments to achieve optimum operation.

## **DASHER PANEL ADDERS & OPTIONS**

BACKER PANELS (PERMANENT)  
POLYETHYLENE DEMOUNTABLE QUICK RELEASE BACKER PANELS  
LIFT-OUT PANELS  
CUSTOM GATES  
ICE RETAINER - STEEL  
ICE RETAINER POLYETHYLENE  
PANEL STORAGE CARTS  
CUSTOM COLOR POLYETHYLENE  
    DASHER FACING  
    CAPRAIL  
    KICKPLATE  
    BACKER SHEET

## **SPECTATOR SHIELDING ADDERS & OPTIONS**

TEMPERED GLASS SHIELDS  
ACRYLIC SHIELDS  
SPECTATOR SHIELD & SUPPORT STORAGE CARTS  
SHIELD REMOVAL CUPS  
SUPPORTLESS SHIELD SYSTEM

## **PLAYER, PENALTY & SCORER'S BOX ADDERS & OPTIONS**

ELEVATED FLOORING - STEEL  
RAISED COACHES WALKWAY IN PLAYERS BOXES  
PLAYER, PENALTY & SCORER'S BOX BACKER PANELS  
PLAYER BOX STORAGE SHELVING  
SOLID POLYETHYLENE SCORER'S TABLE  
GOAL JUDGES BOXES  
ELEVATED FLOORING STORAGE CARTS



## **DASHER PANEL ADDERS & OPTIONS**

### **BACKER PANELS**

3/8" high-density polyethylene panels will be attached to the backside of the dasher board framework, including all personnel gates and equipment gates.

All polyethylene will be attached to the framework with 1/4"-20 x 1-1/4" Phillips flat head type F thread cutting screws.

Standard color of backer sheets is white. Additional colors available are red, dark blue, light blue or yellow.

### **POLYETHYLENE DEMOUNTABLE QUICK RELEASE BACKER PANELS**

3/8" high-density polyethylene panels shall be attached to a 1" x 2" x .083 steel horizontal tube along the top of the panel and shall fit flush into the back of the dasher panels. All panels of 8' shall have a minimum of four magnetic latches to secure the top of panel to the dasher framework. On the bottom of each 8' panel a minimum of three securing clips shall be used. All steel framework, clips magnetic latches shall be concealed within the framework of the dasher panel so that there are no protrusions on the backside of dasher system. There shall be no holes, slots or protrusions on the back outside surface of backer panels. All backer panels shall be readily demountable. Bottom of the backer panel shall drop over bottom angle of dasher framing and lock securely and hold panel flush.

Standard color of backer sheets is white. Additional colors available are red, dark blue, light blue or yellow.

### **LIFT OUT PANELS**

Lift-out panels shall be installed in areas noted on drawing. These lift-out panels shall leave a 48" wide (60" optional) x 33"-1/4" high opening and shall have a replaceable 1" high-density polyethylene threshold. These lift-out panels will be similar in design to the standard gate panel construction.

### **ICE RETAINER - STEEL**

A continuous steel ice retainer shall be installed around the perimeter of the ice surface. The ice retainer will be furnished in radius and straight sections and will match the length of the dasher board panel they support. The ice retainer will consist of a C6 x 10.5 structural "C" channel having 1/2" x 4" x 5-1/4" anchor plates welded at the interior to the vertical legs. All anchor plates will have 7/8" diameter holes used to receive anchor bolts. The anchor plates will be welded in the channel to match the location of the existing anchors already in place. The "C" channel will have 2" square holes cut into the back wall for access to the anchor bolts.

Approximately 2'-6" in from each end of the "C" channel (5'-0" on center) a 1-5/16" diameter hole will be placed in the "C" channel so that a 1-1/4" OD type 304 stainless steel insert can be welded in place. The insert will have a 3/4"-10 continuous internal thread. The insert will be held at its base with a 1/2" x 4" x 5-1/4" plate having a 1-5/16" diameter hole. The plate will be welded to the vertical legs of the "C" channel and the stainless steel sleeve insert.

The steel ice retainer channel will be furnished with a hot dip galvanized finish after fabrication. After the ice retainer has been hot dip galvanized, all access galvanizing will be removed from threads of other locations on the channel.

The ice side of the ice retainer channel will be furnished complete with one thickness of 1/2" white polyethylene and one thickness of 1/2" yellow polyethylene. Screws used to fasten the polyethylene in place shall be 1/4" x 1-3/4" Phillips flat head machine screws with flat washer and nylon lock nut with yellow painted heads. Screw spacing will not exceed 4" on center. As noted, the ice retainer channel will be one continuous structural section. Welded angles used to form a channel section are not acceptable.

### **ICE RETAINER - POLYETHYLENE**

A 1" x \_\_\_\_\_" natural white high density polyethylene ice retainer shall be installed under the entire dasher board system.

The ice retainer shall be installed using separate 3/4" anchors to hold in place (2 per 8 foot section). Ice retainer shall be countersunk and be fastened to the floor using 3/4" x 1-1/2" socket cap screw.

### **PANEL STORAGE CARTS**

The panel storage carts will be fabricated with structural framing members having 4 casters welded to them. Framing shall be hot dip galvanized after fabrication.

The carts will be 60" long by 54" wide. The carts will have removable side supports used to keep panels in line. Total weight capacity of each cart is 6000 pounds.

### **CUSTOM COLOR POLYETHYLENE**

Custom color dasher facing, caprail, kickplate and backer panels are available.

### **SPECTATOR SHIELDING ADDERS & OPTIONS**

#### **TEMPERED GLASS SHIELDS**

See section H. Spectator Shielding of attached specifications.

#### **ACRYLIC SHIELDS**

1. Spectator shielding shall be cell cast acrylic sheeting manufactured in the United States and be identical to Polycast acrylic sheets. All acrylic sheets shall be no less than .470" in thickness, clear and colorless. Acrylic shielding shall have the top two corners rounded to a 1" radius and the two sides and top shall have beveled edges. All shields shall be 48" wide except those at gates, removable sections, or similar openings in the dasher boards, height of spectator shielding at the ends of the rink to be \_\_\_\_\_" above dasher panels. Height of spectator shielding on the sides of the rink to be \_\_\_\_\_" above dasher panels. Extruded acrylic material is not acceptable.

2. Spectator shield supports and shields shall be installed across the front, sides and backs of the scorer's and penalty boxes.

3. Spectator shield supports and shields shall be installed on the sides and behind the player boxes.

4. Spectator shield supports at both ends of the player boxes and the supports at the front corners of the scorer's box shall have a specially designed safety pad to provide safety from injury.

## **SPECTATOR SHIELD & SUPPORT STORAGE CARTS**

The spectator shield & support storage carts will be fabricated with structural framing members having 4 casters welded to them. Framing shall have a painted finish.

The carts will be sufficient size and quantity to accommodate all spectator shields and shield supports. The carts base shall be covered so that no sharp metal or metal surface comes in contact with the shields.

## **SHIELD REMOVAL CUPS**

Provide one set of "glass handler" suction cups, to provide a firm grip to facilitate removal of shields, including storage cases.

## **“VISION” SUPPORTLESS SHIELDING SYSTEM**

Each panel shall have a specially designed track system installed to secure the bottom of each tempered glass shield. Track system shall be designed so that shield panel shall be easily installed or removed. The specially designed track system shall be designed to secure and protect the glass panels without the use of separate cushions.

Gate shield mounting hardware shall be made of solid architectural grade extruded aluminum (alloy #6061-T6) with 202R1 clear anodized finish, it shall be of one piece design to allow the operation of gate sections. The supports to be furnished complete with integrally attached shield gaskets.

## **PLAYER, PENALTY & SCORER'S BOX ADDERS & OPTIONS**

See section J. Elevated Flooring of attached specifications.

### **ELEVATED FLOORING - WOOD**

Elevated flooring will be furnished for the players, official and penalty box areas. The elevated flooring will be fabricated with 2" x 8" treated lumber into frames 7" high by 4'-0" wide and 1" less than the depth of the areas they are used in.

The wood framework shall be covered with 3/4" wolmanized treated plywood, screwed in place and covered with 1/4" light or dark gray Protect-All flooring.

### **RAISED COACHES WALKWAY – WOOD FRAME**

In the player's area, a two-tier framework will be fabricated for a coach's walkway behind the benches. The coach's walkway will be elevated 7" above standard floor height and will be 18" deep. The construction of this walkway to be identical to the elevated flooring in the player boxes. The change in elevation will have white high-density polyethylene covering.

### **PLAYER, PENALTY & SCORER'S BOX BACKER PANELS**

3/8" high-density polyethylene panels will be attached to the backside of the dasher board framework in the player, penalty and scorer's boxes, including all personnel gates and equipment gates.

All polyethylene will be attached to the framework with 1/4"-20 x 1-1/4" Phillips flat head type F thread cutting screws.

Standard color of backer sheets is white. Additional colors available are red, dark blue, light blue or yellow.

### **PLAYER BOX STORAGE SHELVING**

Incorporated into the front of the player box area shall be a shelf for the storage of player's water bottles, etc. This shelf shall be completely lined with 3/8" polyethylene identical in color to the 3/8" dasher backer panel material.

### **SCORER'S TABLE**

One 1" x 18" x 6' solid polyethylene scorer's table shall be installed in the scorer's box.

### **GOAL JUDGES BOXES**

Goal judge boxes will be fabricated from 1-3/4" x 1-3/4" square steel tubing. The steel tubing will be welded into a three sided framework 3' square. Top section to be designed to accept the 1/2" acrylic shielding.

The base part of the boxes, shall be 42" high and will be covered with 1/2" white high density polyethylene facing and 1" polyethylene caprail that match the dasher boards.

The remaining height of the boxes will have 1/2" x \_\_\_\_\_" high acrylic shields on three sides and top. Acrylic shields will be held in place by extruded aluminum retainers.

All steel framing to have a painted colored finish after welding.

The goal judges boxes will be equipped with four lockable 4" high casters attached to the bottom of the base section so that the goal judges boxes can be moved when not in use.

All electrical and lighting by others.

## **OUTDOOR APPLICATION**

### **OUTDOOR FIBERGLASS FACING**

The dasher board facing will be 1/4" (.250) thick UV resistant FRP sheet. The fiberglass is to be furnished in a bright white color. Natural white is not acceptable. Whites must match within manufacturer tolerances.

The 1/4" fiberglass will be attached to the horizontal angles with 1/4" Phillips flat head machine screws, flat washers and 1/4" nylon insert lock nuts. Heads of screws to be painted to color match dasher facing and kickplate.

### **OUTDOOR CAPRAIL**

Red or dark blue U.V. Stabilized high-density polyethylene caprail 3/4" thick shall be fastened to the top horizontal-framing members. The front edge of the caprail shall be attached to the top angle using 1/4" x 1-1/4" Phillips flat head machine screws, flat washers and 1/4" nylon insert lock nuts. The back edge of caprail will be attached to the 1" x 1" steel tube using 1/4" x 1-1/4" type F thread cutting screws. Heads of screws to be painted to color match caprail. The use of nylon rivets or sheet metal screws is unacceptable. The front and back edges of the caprail shall have smooth and radius edges.

Caprail is to overhang backside of steel frame to match with the backer sheet to be installed after erection of the dasher system.

### **OUTDOOR KICKPLATE**

Kickplate shall be constructed of 1/4" thick yellow or light blue UV resistant fiberglass 6" high. The kickplate shall be fastened to the bottom of the dasher panel using 1/4" x 1-1/2" Phillips flat head machine screws, flat washers and nylon insert locking nuts. The heads of the screws are to be painted to color match the kickplate. The use of nylon rivets or sheet metal screws is not acceptable.