Dasher Boards

A Comprehensive Look

At

Arena Dasher Board Systems

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Dasher Boards

It is said that the origin of the term “Dasher Boards” came from the Scandinavian word dash, which means to strike, abash, or come up against violently. And modern dasher boards definitely take a beating.

For the safety of the players and spectators as well as the long term reliability of your dasher boards, it is imperative that you select a set that is designed for your venue and the user groups that are planning to utilize your facility. There is no other piece of equipment in your facility that will absorb the abuse your dasher boards do, so don’t cut corners in this important area.

Over the years, dasher boards have been improvised and constructed out of a wide assortment of material that included snow banks, bales of hay, tree trunks bound together, and plywood clad frames. Some figure skating venues have used clear acrylic boards to enhance the viewing experience.

Some older venues still utilize the thinner plastic and plywood surfaced boards that were originally installed years ago, and claim a reduced noise level and a more natural bounce of the puck (which may be true when the wood is new). In most modern facilities, however, metal framed systems have replaced the older steel/wood and all-wood systems traditionally seen in the older community arenas.

Metal systems normally utilize ½” High Density Polyethylene “Puck Board” fastened directly to the metal frames. This improvement has eliminated the high maintenance associated with the wood in older dasher boards. In addition to ½” Puck Board, modern dashers utilize ½” or thicker Sill Cover and ½” Kick Strip, minimizing maintenance and providing a more durable, longer lasting system.

Selection of the right dasher board system requires detailed planning and evaluation of your potential facility activities. The type of hockey to be played, other ice sports, and even dry floor events should all be considered when selecting the proper board design for your arena. In addition, spectator seating, turn-around time, and maintenance requirements will affect the system quality, layout, portability, and shield height. The following are some of the items that should be considering when selecting and designing your dasher board system.
Ice Rink Dimensions and Layout: Although most North American facilities are installing NHL size ice surfaces, the size of your ice surface, whether Olympic, NHL, or something even smaller, may be determined by a number of factors. The rules governing your hockey association, the type of tournaments or events planned, facility size, and your budget should all be reviewed prior to finalizing your architectural requirements.

An NHL size ice rink will have dressed dimensions from the inside of the white puck board to the inside of the puck board on the opposite sides of 85’ x 200’. An Olympic size ice rink will be approximately 100’ x 200’ (actual rules are in metric & allow for some size variation). Both size ice surfaces normally will have corners with a 28’ radius however variations do exist in the field.

Standard Board Size: Dasher board heights and dimensions can vary depending on their use. Many figure skating venues have customized board sets that are much lower than traditional hockey boards. Finished dasher systems for hockey should be a minimum of 42” and a maximum of 48” in height above the ice floor, and provide a smooth, clean surface. All hardware should be designed and installed in a manner that minimizes protrusions while remaining highly functional and durable. There should be no protruding fasteners or sharp edges. The normal height of the kick strip is 8”. Custom board sets can be manufactured with a variable or stepped sill height to facilitate a better viewing area.
**Facility Layout:** Access to the ice surface from your dressing rooms and public areas should be a prime concern in your rink layout. Placing your players and officials’ boxes in a typical opposite side of the rink layout will require more building space and a longer span than placing all of the boxes on the same side of the rink. Placing all of the boxes on one side of the rink and backing onto a building wall may be more economical, but does have the disadvantage of forcing player gates into the offensive zones. Consider how your goal frames are to be removed for resurfacing and where they are to be stored during non-hockey events. Determine how customers will access the floor area for public skating and non-ice events, and be sure to have your architect consult with the local Fire Marshall in order to comply with all fire codes as fire regulations may dictate the minimum number and location of access gates required for your facility.

**Dasher Board Construction:** North American ice hockey boards are typically constructed with 5” or 6” thick frames, which facilitate heavy use. Some lighter European sets are constructed with 3” and 4” frames, and these thinner frames are often used for in-line hockey and in non-contact facilities. All metal frames should be factory fabricated with secure durable connections, steel sections should be hot dipped galvanized after manufacturing is completed, and anodizing should be considered for aluminum components. This will ensure the required high level of quality, and help your system to better withstand the ever changing and damp arena environment. Your dasher supplier should have independent engineering and structural load test reports to verify their design integrity.

The frame thickness and support combined with the puck board and glass thickness can be selected to match the level of play expected in the facility, however “guidelines” for shielding heights have been published by a number of organizations, including the government affiliated Canadian Standards Association which set minimum requirements for many leagues and jurisdictions.

**Aluminum Frames:** Once a problem due to improper design and construction that resulted in metal fatigue, brittleness and breakage, aluminum framed dashers were the pervue of multi-use facilities. Advances in design and construction have eliminated these issues and aluminum framed dashers are rapidly becoming the system of choice for progressive minded community and outdoor rinks. Stronger than steel by volume, yet more forgiving on impact, aluminum dashers are considered to be more player friendly and safe as the flexibility of the dashers absorb more of the force than similar steel systems.

Aluminum dashers systems are lighter than steel in weight and much easier to handle. Operators find the lighter aluminum frames allow ease of handling for maintenance and
flexibility between events. A typical 8’ section of professional series quality will weigh about 160 pounds (about 40% less than a comparable steel frame) and can easily be handled by 2 people. The non-rusting finish maintains a life-long high quality appearance that enhances the facility. Anodizing the surface provides an even more attractive finish and increases the durability of the aluminum.

**Steel Frames:** Steel dashers, if properly constructed, have traditionally been considered to provide a strong board system. Even though the newer portable designs offer more flexibility than the older welded in place systems, they are heavy, provide limited flex, and are typically used where limited or no portability is required. All steel framed dasher systems should be hot dipped galvanized or powder coated to help protect the metal from rusting.

**Outdoor Dasher Systems:** Outdoor dasher systems have traditionally been constructed from wood frame, much in the same manner as a typical back yard fence, or with wood frame and plywood surfacing, which was sometimes painted white to resemble an actual indoor rink system.

Puck containment is usually chain link fence mounted on top of the wooden frames. Although easily and inexpensively built, wood dashers require a lot of maintenance, and repainting on a regular basis.

Over the years, formed fiberglass was sometimes used to replace wooden construction, however these were often lightweight and easily damaged by heavy use or vandalism.
Metal frame construction with HDPE or FRP laminate playing surfaces brought the advantages of the modern indoor systems to the outdoor community rink.

Surface expansion and contraction caused by wide variations in temperature and direct exposure to sunlight make frame construction, material sizing, and fastening critical to the durability of an outdoor system.

Aluminum frame construction completely eliminates rusting, provides a more forgiving surface on player impact, and maintains a “new” appearance for many years.

Specially formulated plastics with UV inhibitors, better resistance to temperature variation, and higher stress durability have recently been introduced to the market that provide a very durable low maintenance product that closely resembles the look of a modern indoor rink.

Specialty Board Systems: In addition to the traditional ice hockey arena, dasher board systems can also be found in back yards and facilities used for inline hockey, indoor soccer, lacrosse, arena football, figure skating, public skating, and training. The quality and style of dasher used in these venues should be determined by budget, and the amount of expected participant and dasher contact, visibility and height requirements of the dashers, as well as participant and spectator protection.

In facilities where figure and public skating is the primary activity, clear acrylic sheeting has occasionally been used in place of puck board. This allows full visibility at ice level,
but is not as durable as puck board. Maintaining a high level of clarity requires more regular cleaning, replacement, and general maintenance than experienced with conventional puck board systems.

Some facilities have used a typical metal frame railing system in lieu of dashers to act as a barrier and support rail for skaters, while other venues have installed low 6” – 24” dashers around the perimeter. This shorter dasher system acts as a visible barrier between the ice and dry floor areas and keeps the ice contained within the actual rink. When selecting an “unconventional” dasher design, consideration should be given to the cleaning and resurfacing requirements of your ice and rink floor.

There have also been cases where visibility has been a major concern. In this instance, some facilities have elected to use a shorter dasher in conjunction with shielding to allow for better visibility between surfaces. This design provides spectator protection and allows for some non-contact hockey at the younger beginner levels, while allowing the surface to be more user-friendly where demand requires curling and other ice sports to share a rink.

**Indoor Soccer:** Indoor soccer continues growing in popularity. These venues typically require a dasher board system that is specially designed to define the playing surface and keep the ball in play. The non-contact nature of the game allows for a different and lighter dasher design however the higher end zones do require some specialized construction.
While some facilities are still using the typical MDF or HDPE playing surfaces, the market is rapidly shifting to metal framed and seamless glass walled dashers that allow maximum viewing of the playing field. Retractable goals, multi sport flooring, and various types of removable turf allow for a number of different sports to use the surface, and the warm friendly environment of a climatically controlled indoor venue is definitely participant and user friendly. Extensive use of protective safety netting on the sides and ends as well the ceiling keeps the balls in the playing area.

**Puck Board:** Modern dasher boards are typically clad with high-density polyethylene (HDPE). The normal thickness ranges from 3/8” to ½”, with ½” being the most common for moderate to heavy use applications. The puck board must be able to expand and contract and move freely without cracking or breaking through a wide range of temperature conditions. Outdoor systems require specialized materials, sizing, and construction to withstand the extreme temperature variations and direct exposure to sunlight. To provide a cleaner look, many facilities are closing in the backs of the dasher boards. Although spectator side paneling is typically white and 3/8” thick, some facilities use different colors and ¼” or ½” thicknesses for their “spectator side paneling”.

Puck board is almost always white however the kick strip and top sill can vary in color. Most facilities now select a yellow kick strip (NHL and CHA requirements), while the color of the sill varies with individual preferences. The use of virgin grade HDPE on your playing surfaces will provide a better appearance and longer lasting surface than more economical materials containing “regrind”.

Innovations in sill construction with such features as a soft collapsible and flush mount glass have popped up in an effort to reduce player injuries. The soft sill cap design collapses to absorb the blow on player impact and is rapidly becoming the sill of choice in many professional and community facilities. Flush glass, although in use in a very limited number of venues, has failed to gain popular acceptance for a number of reasons related to playability and safety.

**Hardware:** All latches, hinges, and fasteners should be fully functional, easily operated by children of all ages, and be made from stainless or zinc plated steel. Stainless steel hardware is typically more durable and attractive. Screws that are used to fasten the plastic should be of proper length and have the head color matched to the plastic. All fasteners, nuts and bolts, and anchors should be heavy enough to withstand the constant stress associated with their use. Push button ice side openers should be utilized on shielded gates to allow access from the ice surface, and installing lift off hinges on some gates will make the facility more flexible for use with non hockey events.
Glass Shielding: Most community facilities are now using tempered glass safety shields as it provides a high clarity of vision, and requires less maintenance than Acrylic or Lexan shielding. However, tempered glass can be more expensive, and the heavier weights and fragility may make it more difficult to handle.

All tempered glass shields should bear the ANSI and/or CSA certification stamps verifying that it meets national safety standards.

A typical 4’ x 6’ x ½” piece of tempered glass will weigh 180 pounds where an equal size piece of ½” acrylic weigh 72 pounds. The heavier weight of tempered glass can necessitate the use of mechanical lifting devices for safe removal. Tempered glass does not scratch, mar or cloud like the acrylic counter part, and therefore typically has longer overall life expectancy.

Acrylic shielding is still used in many facilities. It is more easily handled, can be cut to any custom size, and has some capacity for limited cleaning. It is now being provided in different thicknesses, and what is often referred to as standard half inch thick can now be something considerably less. Thicker acrylic shielding is much more durable, but more expensive. Check your supplier’s actual thickness before deciding which option provides the best value for your facility.

Most high use multi-purpose facilities are now choosing to use “Abrasion Resistant” or coated acrylic shields. Although considerably more expensive than regular acrylic or tempered glass, it offers the light weight and ease of handling features of regular acrylic while providing better visibility for an extended period of time. Acrylic shielding is more flexible than glass, providing less resistance on player impact.

Since all three types of shields offer their own particular benefits, the selection of shield material is usually based on budget, spectator viewing, player safety, and handling requirements.

Laminated tempered glass is also finding a way into some professional venues. This glass improves spectator safety by staying together, much like a car windshield when broken. However it is very expensive when compared to other shielding options and the cost will likely limit use to very high end professional sport venues.

The height of the spectator shielding has previously been an area that was poorly addressed by most associations, even though many of them will spell out numerous other requirements for your arena and dasher system. The concern over liabilities has been a major reason that there was so little direction, and why some facilities are using heights.
of 8’ on the ends and 6’ or even 8’ on the sides, regardless of how many spectators there will be in the rink.

In considering adequate protection for the spectators, The Canadian Standards Association (CSA) has recommended setting the minimum shielding standards of 4’ high on the sides and 6’ high on the ends. This is the full height measured above the board sill. To add a further level of protection, safety netting can and should be used above the shielding to minimize the hazard from flying pucks and balls, and is part of the CSA guideline. For a copy of the complete recommendations, please contact your state or provincial facilities association and ask for a copy of the “Guidelines For Spectator Safety In Indoor Arenas”.

In addition to the CSA Guidelines which deal with the safety of non participants in the arena, various sport bodies such as Hockey Canada are now weighing in with guidelines aimed at standardizing the rinks for uniform playability and protection of the players.

As a point of interest, a higher level of glass creates a colder well of air above the ice surface and reduces the refrigeration load. Making sure your boards and glass are in place prior to starting the refrigeration system will help with ice making.

Although improving refrigeration, higher glass heights can aggravate indoor air quality problems at the skaters’ level as a result of contaminants being built up during resurfacing. A number of options can be utilized to eliminate this problem, including better ventilation, computer monitoring, higher exhaust stacks on the resurfacer, catalytic converters on internal combustion engines, and the use of electric ice resurfacers. To ensure your facility is within the suggested safe air limits, consult an indoor arena air quality expert.

Aluminum shield supports are available in a number of styles and qualities, however they should all allow for ice side mounting of the shields. This allows the structural portion of the support to extend into the dasher frame to withstand the force of player impact, and it is easier to move and install shields on the open ice surface than in the spectator seating area. One piece supports were common on older systems with shorter glass, and although two piece supports with mechanical fasteners gained popularity “Quick Release” supports which allow the front member to be secured to the back post without the use of screws or bolts are becoming the industry standard, even when shielding is only removed and reinstalled for maintenance purposes.

Shield supports should be properly designed to ensure that the front face plate remains securely attached to the back member to prevent the glass from falling out of the support.
Shield supports should extend to within 12” and no more than 18” from the top of the shield. Always use properly sized PVC, rubber, or plastic gaskets with metal supports and tempered glass shields.

**Seamless Glass:** Seamless Glass was once the rage, and may still be a consideration when reviewing spectator requirements. With the absence of aluminum supports holding the glass, lexan or plastic glass clips are used at the top of the shielding to compliment the dasher sill support and provide uninterrupted viewing.

Although more expensive than mullioned systems, the aesthetics provided by the seamless glass dasher system does provide much greater spectator appeal. In some smaller community arenas, the seamless glass is only provided along one side adjacent the bleachers. If you are considering seamless glass it is important to select a high quality board system, as the specialized construction of the frame is essential in handling the greater load that is transmitted to the upper sill superstructure.

![Seamless Glass System](photo_courtesy_of_Cascadia_Sport_Systems_Inc.jpg)

The heavier frame and mounting requirement in the seamless glass systems has resulted in a stiffer board and glass system. This has resulted in a number of player complaints over the last few years. To accommodate the impact problem, board manufacturers have developed various designs that have allowed the boards and glass to flex and absorb the impact while reducing the shock to the human body.

The recent development of Seamless Acrylic Shielding Systems and Flexible Acrylic Shielding Systems has brought an increased level of player safety to the rink.
Specialized sill components, supports, and shield clips are a required to allow the shields to flex on player impact and return to their normal position. This system is rapidly becoming the standard in most major arena venues.

**Protective Netting:** Protective safety netting has been used in arenas for several years as a means of keeping the puck inside the playing surface and protecting the building and equipment from damage. During the past few years, protecting spectators and other non-participants has become a key issue, resulting in many facilities extending netting around the full dasher system.

Clear monofilament and black or white nylon are most common, however newer materials such as kevlar and colors like blue and gray are beginning to show up in the market. Specifications vary, but generally you should look for netting with a twine thickness of 1mm to 2.2mm, a mesh size of 1 ½” diamond or square and minimum break strength between 95 and 160 pounds. Netting that does not meet or exceed these tolerances should not be considered for use in a hockey or lacrosse arena (specifications may vary for other facility uses such as indoor soccer). In addition, netting can be UV stabilized and treated with a non reflective coating and/or additional fire retardants.

Some leagues and insurers may have specific minimum requirements for protective netting, and in Canada the CSA has established guidelines which include the use of protective safety netting in indoor arenas.

**Gates:** A typical NHL size arena will have 8 or more gates. Two 30” gates are normally provided in each player’s box, one in each penalty box, one in the scorekeeper’s box, and 2 or more larger access gates distributed around the rink in various locations. The gates should swing away from the ice surface.

You may also want to include gates allowing access to or through the boxes from the spectator side of the rink. This will allow players and officials access to the boxes without entering the ice surface and make it easier for your maintenance staff to clean the facility. It may also eliminate a liability issue by allowing access to the box areas without having to cross the slippery ice surface.

A vertical lift gate or swing gate is required for the ice resurfacer and is normally located at the end or in the corner of the rink. Many lift gates are electrically opened and some have a remote control for the convenience of the Ice Technician. On occasion another lift or swing gate is provided at the opposite end to facilitate trade shows. The lift or swing gates should be a minimum of 120” in width.
Corner gates allow easier access if 144” wide. And all lift gates should include safety features which prevent accidental dropping of the frame or closing on something other than the gate threshold.

Threshold heights for box gates are commonly set at 2 ½” above the ice floor, 8” above the ice floor when raised box floors are used. Access gates and machine gate thresholds can be set at different levels to allow easy access from the lobby and spectator areas, but do need to be high enough to keep the ice from creeping into the gate openings.

Removable thresholds may be required for gates that are used for dry floor events, eliminating potential trip hazards for your patrons.

**Rink Dividers:** Some facilities are utilizing rink divider systems to divide the ice and allow more than one user group on the rink surface. The dividers come in different styles. Lightweight nylon covered foam dividers are used to designate distinct separate ice areas for skaters and light activities. Full size dasher dividers are also available that can include corners with a radius and puck containment can actually allow the rink to be converted into two or three mini rinks. Rink dividers can offer an excellent opportunity to maximize the use of your ice and increase revenues.

**Demountable Systems:** Facilities that will be used for indoor soccer, arena football, concerts, and trade shows, as well as the hockey program, should consider the flexibility of a demountable dasher system. These specially designed boards facilitate easy removal to open up the venue to a variety of uses.
In addition, special options like lift out concert gates, soccer goal sections, lift off access gates, removable threshold, spectator side coverings, ice dam, board and glass carts, camera holes, and portable boxes may be required. These options should all be considered prior to finalizing the dasher layout.

If you decide that removing the boards is important to your programming, remember to account for storage. A typical NHL board set on rollaway carts will require a room that is 16’ x 10’ x 10’ for proper storage.

An experienced crew of 6 workers with 2 forklifts and power glass lifters can totally remove the glass in about 6 hours, and a crew of 4 workers can completely remove the boards in 6 to 7 hours. Set up will usually take the same number of workers about 7 hours for the glass and 8 hours for the boards. Larger and more experienced crews will develop their own unique systems for removal and replacement of the dashers and glass, and times required will vary accordingly. Initial removals and setups require more time, and in order to avoid problems for scheduled events it is suggested that you allow 24 hours for your first removal of the system, and another 24 hours for your first set up.

Glass should be moved and stored on specially designed A frame carts that allow the glass to be set on end and protects the edges from damage. Never store glass by laying or stacking it flat.

**Players’, Penalty, & Timekeeper’s Boxes:** Penalty and players boxes can be on the same or opposite sides of the rink. The suggested size for the players’ boxes is 30’ x 78” for professional facilities, and 30’ x 68” for community arenas. The penalty boxes should be 8’ x 68” in size and the timekeepers’ box should be 8’ x 68” in size. Glass should be placed behind the penalty and players boxes, to prevent harassment by the audience and separate opposing teams. IIHF rules do require some different layouts than seen in typical North American arenas.

Some facilities will install elevated floors and raised coach’s walkways in the box areas. This allows better vision from the box area, and easier access to the ice. The floor frames can be constructed of either wood or metal, and usually are topped with rubber covered ¾” plywood. The finished height is typically between 7” and 7 ½”. Box areas can also include water bottle shelves, stick and towel racks, and a scorers’ table.

**Camera Boxes:** Camera boxes are often located between the players’ boxes and on each end of the penalty boxes. Built to the same depth as the adjoining boxes, widths can range from 4’ to 8’ as required to hold photographers and TV cameras.
These boxes usually are completely surrounded by shielding to separate the working professionals from spectators and participants, and include non ice side access to allow easy movement of camera equipment and personnel. The ice side shielding usually includes specially sized camera holes to allow direct filming of the event without shooting through the glass.

**Goal Judge Boxes:** Arenas where competitive hockey is played often require goal judges. These officials are placed directly behind the goal at each end of the rink and often need to be separated from the spectators by a clear enclosure called a goal judge box. These structures are metal framed boxes approximately 36” x 36” with a covered lower box built to dasher height and enclosed with acrylic on three sides and the top.

A door allows for easy access by officials while restricting spectator access and the open face of the box is placed towards and against the dasher system. The boxes are often on locking wheels to allow for easy removal and storage when not in use.

**Ice Dam:** Ice dam is commonly used in arenas that need to remove their dasher boards while leaving the ice in place. This prevents the ice from creeping beyond the arena floor profile, forms an excellent retainer for holding ice cover in place, and allows easier reinstallation of the dashers for the next hockey event.

1” solid pebble finished HDPE was formerly used for ice dam and placed under the dasher frames however other more durable ice dam systems such as insulated steel or steel and HDPE combinations are becoming much more popular. Some facilities will use 1 ½” or 2” ice dam. Separate anchor systems may also be required for the ice dam system.

The 2” steel ice dam is becoming the norm in facilities where rapid conversions are required. The steel ice dam matches the width of the dashers frames with puck board and kick strip finishes allowing it to blend with the dasher facing. This ice dam is anchored direct to the ice floor allowing it to stay in place, securely anchored while the dashers are in or out. The dashers are anchored to the ice dam, providing a number of performance and maintenance features that cannot be duplicated with a plastic system. The use of ice dam under the dashers typically gives the dashers more flex.

Ice dam is also used as an insulating barrier (particularly in warmer climates and buildings) and is often insulated to prevent the transfer of heat from the metal dasher frame to the ice. Heat transfer can create poor ice conditions at the dasher face, and should be discussed with your refrigeration contractor prior to finalizing your floor layout.
**Ice Cover:** Arenas of all sizes often have a need to cover the ice for limited engagement events such as concerts and trade shows. Different materials have been used, ranging from rubber matting and carpet placed directly on the ice, to plywood and the popular Homasote material.

Most venues today are changing to one of the many new composite materials. Actual material composition and design varies between suppliers, but these products are lightweight, rigid, strong, and do not absorb water or moisture. They can usually be cut to size, and are easily handled and stored. Although more expensive than other materials, their extended life expectancy can make them a more economical purchase than older and cheaper materials.

![Ice Cover In Multi-Purpose Arena](image)

**Mounting Systems:** Generally speaking, the dasher boards are either mounted on the perimeter warm deck surrounding the ice rink or directly on the refrigerated floor. Placement of your dasher boards on the refrigerated concrete floor is the preferred method of installation. Although this requires the anchors to be set with the pouring of the refrigerated concrete floor, it ensures that the dashers expand and contract with the ice surface, and makes for better ice at the dasher face by allowing refrigeration lines to be placed directly under the dasher frames. When utilizing sand floors, special consideration should be given to the placement of the dashers and refrigeration lines so that proper ice can be maintained at the dasher face. Insulation can be placed in the bottom of the dasher frames to help minimize ice creep due to conduction.
Anchor Systems: Dasher systems are bolted to anchors in the perimeter or refrigerated slab. When mounting on the refrigerated floor precise placement is required. Anchors may be steel or stainless steel construction and require that a female anchor assembly be set into the floor during the concrete pour with the top being 1/8” below the surface. A male anchor bolt can then be passed through a metal hold down plate in the board sections and fastened into the female anchor to secure the dashers. The anchor can be protected and covered with a flush insert cap when the dashers are not in place. Coordination with your refrigeration contractor is critical to ensure that refrigeration lines, rebar, and mesh are placed to reduce conflict with the designated anchor locations. Some systems provide an anchor that will allow replacement of stripped threads in the anchor.

Where steel ice dam is used, the ice dam is usually bolted to the anchors preset in the floor, and the dashers bolted into the ice dam. The advantage to this system is that the wear is to the ice dam anchors which can be rethreaded, rather than anchors inset in the concrete floor.

Perimeter curb anchors can be drilled and placed after the floor is poured. The anchors can be either a threaded female section inserted flush into the floor surface, or male bolts left exposed above the floor. Although both expansion and epoxy set systems are used, it is recommended that the epoxy set anchors be used when placing anchors within 6” of the curb edge to eliminate potential cracking of the concrete.

When the boards are mounted on the warm perimeter deck, the anchors can usually be drilled and placed after the cement is poured, as there is little chance of puncturing a refrigeration line. This method will eliminate the need for an extra trip by the dasher board contractor that is often required with in floor placement. Special care and attention must be paid in the method of interfacing the boards with the ice surface or soft spots can develop around the edges.

Some manufacturers or specific styles of dashers may require the use of gussets to support and secure the dasher systems. The gusset design should ensure that they do not present a potential trip hazard for your patrons.

Dasher Ad Boards: There are not many pieces of equipment in your facility that have the ability to generate revenue. Dasher Boards are an exception. Advertising on the boards has always been popular in recreation facilities. The Ad Boards are visible to thousands of people attending the facility as well as countless people who may view the incidental exposure provided by TV cameras and newspaper pictures.
The Ad Boards are prime advertising space and should be treated accordingly. Ad Boards provide a feeling of facility ownership for the sponsors. To protect the printed ad it is a good idea to install Lexan covers. Some facilities are now putting small Ad Boards on the spectator side at reduced rates. A few facilities are installing electronic add boards which have a higher visibility and rotate multiple advertisers on the same square footage of board space.

The standard type of Ad Board is available in two versions. The inlaid system which is used for spot or a limited number of ads and sits flush with adjoining puck board panels, or the overlaid system which is used where continuous or large numbers of ads are placed on the dashers. Consult with your dasher board manufacturer to determine which style is most practical and cost effective for your facility.

Look for unique situations that may relate to your advertisers product (one facility sold the advertising space on the penalty box gates to a bail bond company), and if you do not think the advertising will be effective or reach the right audience for a particular customer let them know. Even if you lose a sale, your honesty and commitment for advertising value will be well rewarded by referrals.

Be sure that the client proofs the advertising and signs off on the artwork before it is printed. Take pictures of all advertising for a facility scrapbook. This will create ideas for future advertisers and is another way of acknowledging present advertisers.
Keep your eye on the newspapers and save any pictures that have been taken with the dasher board ads showing. Your client might not be aware of the incidental advertising they are getting.

**Sledge Hockey:** An exciting variation of hockey, prompted by the success of the Paralympics, is beginning to emerge in many communities. Accommodating the disabled athletes and sledges requires a modification of the dashers which is typically done by inserting specialized clear panels.

These panels, which allow the players to see through the dasher face, along with changes to gates and box floors enable the players and sledges to move freely from the boxes to the ice surface. Variations of the “box set up” allow each facility to make the best use of their space and resources, and different layout designs can be reviewed prior to dasher installation.

![Sledge Hockey Boxes](photo courtesy of Becker Arena Products Inc.)

**Dasher Board Maintenance:** Because your dasher boards are subjected to such an intense level of use, they require ongoing maintenance to keep them in good shape. It is suggested that you do a daily walk around and fill out an inspection report in order to prove due diligence in the event of an injury. If hit head on, a broken piece of puck board or protruding screw head can do significant damage to a skater’s eyes and face, which could easily end in litigation. On your daily walk around, watch carefully for the following potential problems.
Watch for these important items on your daily inspection:

- Missing or protruding screw heads.
- Loose pieces of kick plate, puck board, sill, or glass.
- Broken or jagged pieces of kickboard or puck board.
- Loose or malfunctioning hardware.
- Check gates to ensure that they open properly and close securely.
- Gaps in the glass or puck board.
- Broken anchor bolts.
- Leaning, loose, chipped or cracked glass.
- Soft ice around the perimeter.

You should carry out a very detailed inspection and a complete maintenance of the entire dasher system, both ice and spectator side, every year as part of your annual maintenance shut down. This will ensure that you find any minor problems, and correct them before the start of your new season.

Most dasher manufacturers provide information on inspecting and maintaining your dasher board system, and some companies offer specialized dasher inspections to assist with your maintenance requirements. Contact your dasher manufacturer for a detailed set of maintenance instructions.

Sealing the Boards: Prior to making a new sheet of ice, ensure that the boards are sealed to the floor to prevent water from flowing under the dashers. This can be done with tape, weather strip and a wet mop to freeze in the boards, or the liberal application of a flexible latex caulking to seal the joint between the dashers and concrete floor.

Gate Maintenance: Check the gates to see if they close and latch properly. Check latches for wear and alignment and replace any worn components as necessary. Make sure that they close flush with the rest of the board set. Check the hinges for wear and lubricate (if required).

Glass Cleaning: Tempered glass is much easier to keep clean than acrylic. In order to get puck and tape marks off the glass you can use Windex or any number of commercially available ammonia based cleaners. Some facilities use razor blades or Rink Erasers to remove the heavier tape marks. Razor blades or abrasives should be used with extreme caution as they can permanently scratch the glass. Any abrasive cleaners that mark the glass surface will aggravate vision and cleaning problems. Some facilities are promoting the use of white stick tape as it leaves considerably fewer marks on the boards and glass.
Recent advances in glass cleaning have seen specialized kits containing high speed polishers and specialized cleaning materials introduced to the market. These kits can make much easier work of cleaning your glass arena shields.

**Puck Board Cleaning:** Puck board can be cleaned by using Novus formulas or citrus-based cleaners. Some facilities will bring in professional board buffers to mechanically clean the dashers after each season. Although very effective in removing the marks, these machines may remove a very thin outer layer of the puck board, making it necessary to clean and finish your dashers on a regular or annual basis. Most facilities that utilize the mechanical cleaning systems are extremely pleased with the result, and many include it as part of their annual maintenance schedule.

**Board Cleaning**

![Board Cleaning Image]

*photo courtesy of Hi-Pro Sporting Goods*

**Maintenance Materials:** Most facilities will keep a small inventory of spare parts and hardware to ensure that they are able to immediately replace or repair any damages.

Two pieces of each standard sized shield, some acrylic that can be cut to replace special sized glass, 100 pieces of each type and color of screw, some spare mullion bolts, extra shield gaskets, glass clips, and a couple of extra pieces of kick strip, puck board and sill cover should ensure that you are able to handle most repair needs. You may also want to have a few additional anchor bolts on hand to replace any that may be misplaced during dismantling and reinstallation of your system.
Selecting A Dasher Board System: The dasher board system is a major part of any arena project. Aside from the ice, it is possibly the part of your venue that is most visible and important to your paying customers. Therefore care should be taken to ensure that your dashers are designed and built to provide many years of service with limited maintenance.

Facilities contemplating the purchase of a new dasher board system should discuss their requirements with architects and consultants, other facilities, user groups, and dasher manufacturers. It is important that the facility determines their needs, and spell out every requirement when seeking prices. Specifying everything from material thickness and colors, to types of hardware, and the size and finish of the screws ensures that all prices are based on the same standards, and that the finished product meets expectations.

It is important when comparing prices that a detailed comparison of the systems be made to establish value. “Cheaper” prices are often made possible by reducing quality, and although a “cheap” system may look good when it is new, it will usually break down and eventually require replacement much more quickly than a quality product. Design, materials, quality of workmanship, and the manufacturer’s record and experience are key factors when determining whether a lower price is actually the best price. “Best Value” should always be more important than lowest price.

And do not forget to include new and important safety features in your review. Items such as bumper pads, curved acrylic, soft safety caprail, flexible dashers, flexible glass, and low profile mullions should be considered before finalizing your budgets.

Inspecting Your New Dasher Board System: Most reputable dasher suppliers will do a good job of installing your new system, however even the most experienced companies do make mistakes. During the busy season, an installation crew may place a higher emphasis on completing on schedule than the quality of the installation of your dashers. In order to ensure that you have received the best installation possible, it is a good idea to have your new system inspected for workmanship and compliance to specification. This inspection can be done either just after substantial completion, or after final completion of the installation, but should be done before your final payment is made.

The inspection may be done by a dasher industry professional, or a company that specializes in this type of inspection. The inspection should look at all aspects of the dashers, with exception of product design, and include a detailed written report on every aspect of your system.
Some of the many items covered would include placement and number of anchors, construction and assembly of the frame, proper fastening and spacing of the plastic surfaces, installation of glass and netting, as well as gate and hardware operation. The report should cover every detail from the concrete to the top of the netting, and the face of the playing surface to the back of the dashers and boxes. Any deficiencies should be noted and supported with pictures in report.

This inspection and documentation will allow you to contact your dasher company and have any issues corrected prior to final acceptance of the product. A similar inspection can also be done prior to expiration of your warranty, and at season’s end so that you can provide your supplier with a detailed list of any items requiring warranty or maintenance service.

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