



CHOOSING THE RIGHT DASHER BOARD SYSTEM FOR YOUR ARENA
Some Of the Points To Consider Prior To Ordering

Selection of the right dasher board system requires detailed planning and evaluation of your facility activities. The type of hockey to be played, other types of sports and dry floor events, spectator seating, and maintenance requirements will dictate the system quality, layout, required portability, and shield and netting heights. The following are some of the items that should be considering when selecting and designing your dasher board system.

Although many facilities today are installing Olympic 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.

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. In addition, special options like aluminum frames, lift out concert gates, overhead gates, soccer goal sections, lift off access gates, removable thresholds, spectator side coverings, steel or plastic ice dam, board and glass carts, goal judge boxes, dasher board advertising, and portable boxes may be required. These options should all be considered prior to finalizing the dasher layout.

You should consider how your dressing rooms and public skating areas access the ice surface. Do you want your players and officials boxes on opposite sides of the arena (it may be more economical to have all of the boxes on one side backing onto an outside building wall)? Consider how your goal frames are to be removed for resurfacing and where will they are to be stored during non-hockey events (goal frames require larger gate openings), and determine how customers will access the floor area for non-ice events. And do not forget to consider your local fire code, as those regulations may also dictate the minimum number of access gates required for your facility.

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Steel and aluminum systems have virtually replaced the steel/wood, and all wood systems seen in many older community arenas. Metal systems utilize ½" Puck Board fastened directly to the metal frames, and eliminate the high maintenance associated with wood. In addition to ½" Puck Board, today's dashers utilize ½" kick strip and ½" or 1" sill cover, minimizing maintenance and providing a more durable, longer lasting system.

All metal frames should be factory fabricated, and all steel sections should be hot dipped galvanized after manufacture. This will ensure the required high level of quality, and help your system to better withstand the cold, damp, and constantly changing arena environment.

Steel dashers offer a solid and durable system that will provide years of maintenance free use. Modern steel systems are specially designed to be more "forgiving" and flex on player impact to absorb some of the force and reduce potential injuries. However, a steel system is heavy, and is most practical when minimum or no portability is required.

Aluminum systems, although usually more expensive than steel, are lightweight and much easier to handle. High use multi purpose facilities find the lightweight aluminum frames allow ease of handling, and quick removal and installation between events. The non-rusting finish maintains a life long high quality appearance that enhances the facility. Aluminum dashers are considered to be a very forgiving, and are much lighter to handle, making them a big consideration for multi-venue facilities with professional hockey. However, since aluminum framed dashers may not have as long of a life expectancy as the steel framed models, aluminum dashers may not be the best option for everyone.

Gates, concert lift outs, adjustable and lift off hinges, and removable thresholds can allow direct access to the rink floor from the seating and public areas of your facility. These features can add to the versatility of your facility by allowing staff to quickly convert from a rink configuration to an easily accessed open floor area usable for an unlimited number of different events.

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Man gate and box gates typically serve similar functions, with man gates designed at a 30" width to allow the movement of players between the boxes and ice, and the 30" box gates designed to allow movement between the boxes or between the boxes and change rooms. In some cases box gates are also used to allow maintenance staff to pass through the boxes when cleaning the facility. These gates are usually single wing construction, and when unshielded use a flat style piano hinge to minimize protrusions which impair player movement. Shielded gates require the use of a heavier, self lubricated hinge, and a push button opener which allow the gate to be opened from both sides.

Access gates can be either single or double wing, between 36" and 72" in width, and designed to allow access from public areas onto the ice floor. They may also be used to access building exits as part of the fire code, and typically require that at least one wing be operational from both the spectator and ice side. Typically these gates are shielded, and often utilize the heavy self lubricated lift off hinge, which allows removal of the gate wing when being used for non ice events. Double wing access gates are often designed so that they can be allowed to operate freely from the ice side, or secured with a small slide closure to prevent accidental opening during competitive hockey events.

The use of a lift out section or "concert gate" maintains the stability of a non gated section, but allows a portion of the dashers, usually 48" to 72", in width to be aligned with seating aisles and public areas. These sections can then be quickly lifted out to allow traffic flow from the seating or lobby areas to the ice floor during trade shows, concerts, or other non ice events.

Machine gates are a special consideration. The large sized wings are heavy, requiring the use of a heavy duty hinge that is adjustable enough to pick up any sag and heavy enough to support several hundred pounds. This weight also requires the use of a supporting castor on each wing, and although there are several types of castors on the market, the most durable and versatile castors are the adjustable air filled designs. The gates are closed by the use of double self contained sliding closures bars

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that secure the gate and eliminate the need of the old style, often nonfunctional cane bolt closure. The threshold should be a minimum of 1.5" in height, steel framed and topped with a HDPE material to protect the resurfacer blades, and fully removable to allow water to be pushed and drained to the header trench or floor drains. Normally 10' in width, we do suggest that they be increased to 12' in width when placed on a corner so that your operator has ample room to clear the dashers on the way to the resurfacer room and snow pit.

Most facilities now use tempered glass safety shields, as they provide a high clarity of vision, and require less maintenance than acrylic or lexan shielding. However, tempered glass can be more expensive, and heavier than acrylic shielding, making it more difficult to handle. In an effort to capture the best of both shields, some professional facilities are now moving to the very expensive mar resistant acrylic. The selection of shield material is usually based on spectator viewing, handling requirements and budget considerations, with both types offering some particular benefits.

The height of the spectator shielding has been poorly addressed by most associations, even though most 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 has been 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.

Canadian Recreation Facilities Council (CRFC) recommendations setting minimum shielding standards of 4' high x ½" thick on the sides and 6' high x 5/8" thick on the ends may help clarify the issue, however it is imperative that you consider adequate protection for your spectators prior to finalizing your shielding height requirements.

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The CRFC is currently recommending the use of protective safety netting above the shielding to provide even more protection from flying pucks and balls. You should consider netting requirements for both the ends and sides of your rink, as this is becoming a high profile issue in the arena industry. There are numerous types of netting available in clear, white, and black, with selection usually based on quality, height, and viewing requirements. The NHL currently has specific netting "standards" for their facilities,

Aluminum shield supports should allow for ice side mounting of the shield. This allows the structural portion of the support to extend into the system, and withstand the force of player impact. It is easier to move and install shields on the open ice surface than in the spectator seating area. Two-piece supports are recommended, and supports with mechanical fasteners should use steel bolts that pass through the support into a steel retainer. Where shielding will be removed for shows, concerts, and other non hockey events you should consider the use of a Quick Release support (no mechanical fasteners), which will make the change over an easier and faster process.

Seamless Glass is becoming more popular, and despite the opinions of some people in the broadcasting industry, may be a consideration when reviewing spectator requirements for your facility. Although more expensive than mullioned systems, a Seamless Glass dasher system also provides for better aesthetics and customer appeal.

All latches, hinges, and fasteners should be fully functional, and have a galvanized or zinc plated finish. Hinges should be designed to operate without the use of grease, to prevent potential damage to expensive jerseys and clothing. Screws that are used to fasten the plastic should be of proper length and have a colored finish to match the plastic. In addition, all fasteners and anchors should be heavy enough to withstand the constant stress associated with their use.

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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 desired size, and makes it easier to reinstall the dashers for the next hockey event. The ice dam is also used as an insulating barrier (particularly in warmer climates and buildings) to prevent the transfer of heat from the metal dasher frame to the ice. Heat transfer, which is more common on aluminum framed systems can create poor ice conditions at the dasher face, and should be discussed with your refrigeration contractor prior to finalizing your floor layout. Both plastic and steel ice dams are in use, with the 2" steel ice dam systems gaining popularity in the professional style venues.

Advertising panels are commonly being used as a major revenue source for new arenas. They can be overlaid around long sections or on the complete dasher system, or inserted with a flush mounting system for intermittent ad panels. Innovation in the design of the panels now makes for easy conversion of the ads, even while the ice is in place. We know of many facilities that had difficulty in selling board advertising on their old dashers that have found it much easier to sell on a new system. Some facilities have been successful enough in getting businesses to support the new boards, that they have covered the complete cost of the boards over a three year period.

Spectator side paneling will enhance the appearance of the dashers and prevent the build up of waste in the dasher frame. This will reduce the time and effort required by your maintenance staff to keep the building clean, and is also being used in some facilities as a revenue source by allowing for the installation of "spectator side advertising".

Placement of your dasher boards on the refrigerated concrete floor rather than perimeter floor is our preferred method of installation. Although this requires the anchors to be set with the pouring of the 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.

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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.

Finished dasher systems should be a minimum of 42" (NHL standard) in height, and provide a smooth, clean surface. Hardware should be designed and installed in a manner that minimizes protrusions while remaining highly functional. Protruding fasteners should be removed or capped and all sharp edges ground flat.

Facilities contemplating the purchase of a new dasher system should discuss their requirements with architects and consultants, other facilities and 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. We would be happy to provide printed or computer file copies of our details and specifications to assist you in detailing your needs.

The dasher board system a major part of the arena project. Aside from the ice, it is perhaps the most visible and important to your paying customer. Therefore care should be taken to ensure that your dashers are designed and built to provide many years of service with limited maintenance. And it is important in comparing prices that a detailed comparison of the systems be made to establish value. Design, materials, quality of workmanship, and the experience and reputation of the supplier are key factors in determining whether a lower price is actually the best price.

Once your new dasher system is place, it is imperative that you establish a program for regular inspection of the dashers, shielding and netting. Any minor problems should be documented and corrected as quickly as possible. Maintain a log of your inspections, detailing any problems and what action was taken to correct them.

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Documented regular inspections will ensure your new dashers are kept in optimal condition, and provide a record of your diligence should the need arise.

At *Maple Leaf Gold Inc.*, we believe that your dasher system should be designed for your facility, and that every system should act as a reference for our next project.

We would be happy to discuss our different systems and numerous options in detail, and invite you to contact us for pricing or any assistance you require.

Please Cal Us,
Maple Leaf Gold Inc., The Arena Dasher Board Specialists,
Toll Free
At
1-866-MLG-RINK.

NOTE: As of this printing, the Canadian Standards Association (CSA) is currently reviewing the shielding and netting issue with the intent of developing a national minimum standard. This makes it even more important that you consider the options carefully before finalizing shielding and netting requirements. We cannot put enough emphasis the importance of your shielding and netting decisions. In additions to leagues and associations making their recommendations, and the potential of national minimum standards, spectator protection is becoming a huge liability issue. We are already hearing that some municipalities and facilities have been advised by their insurance companies that they must upgrade their shielding and netting or face non renewal of policies.

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OUTDOOR DASHER SYSTEMS

Although an outdoor dasher system involves many of the principals of the indoor models, they provide some unique design challenges that require specific attention.

As with indoor systems, more communities are choosing to install factory built steel framed dashers with a plastic playing surfaces, instead of the old style wood post and plywood "boards" historically seen at outdoor rinks. The new factory built systems are quick to install, much more durable, more vandal resistant, and require less maintenance (no need to repaint that plywood surface every year).

Although outdoor rinks are now being used for many different non ice summer activities, they can be removed to allow the surface to be utilized in other ways during the summer months. In the event of damage, pieces or complete sections can be easily replaced, with the new portions blending right in.

An outdoor system must be properly anchored to a solid surface such as a concrete slab, a grade beam, or concrete pilings. This is critical to maintaining the proper placement of the dashers, and preventing them from being moved or damaged by player or equipment impact. It is also vital to keeping your dashers properly aligned, for correct operation of the gates, and for structural support when installing a puck containment system above the dashers.

Direct exposure to sunlight will allow many materials such as conventional puck board to expand in the heat, causing the material to buckle and crack. Cold temperatures cause materials to become brittle and contract, making materials more fragile, opening up large gaps between the pieces, and potentially breaking the material. Most materials deteriorate when directly exposed the ultra violet rays in the sunlight, so U.V. resistant or treated materials must be used on the playing surface.

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At *Maple Leaf Gold* we use an HDPE material known as "Duraboard". Duraboard has been specially formulated for use in extreme outdoor conditions. It is U.V. resistant, and in comparison to conventional plastics allows for less expansion and contraction, does not become as brittle during extreme cold, and is ten times more resistant to cracking.

Dasher frames need to be designed to take the extra abuse that being outdoors provides. The frames should be hot dip galvanized to prevent rusting, and be specially built to allow the Duraboard to "move" on the structure. The Duraboard material should be cut, sized, and mounted to the frames in a way that takes the outdoor conditions into consideration, which is very different from the design and construction of an indoor dasher system.

Outdoor dashers typically have fewer gates than on an indoor system, however at minimum you should consider 2 access gates and a 10' machine gates. You may want to include full boxes for the players, and in some cases roofed and enclosed box shelters may be an option.

Puck containment systems are typically a chain link fencing material set on the dasher sill with the chain link post supports mounted through the sill and to the lower dasher frame. Heights can vary between 4' and 12', and can be installed on the ends only or around the complete dasher system. Enclosing the complete system will allow the gates to be locked, restricting unauthorized access to the ice surface.

Outdoor dasher systems are often built in conjunction with community concessions, change room and fire pits. With some preplanning, they can become a long lasting and valuable all seasons' addition to your community's recreation and wellness.

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