

FACILITY DESIGN GUIDELINES FOR RUN GATES

SHOR-LINE®

511 Osage Avenue
Kansas City, KS 66105
Phone: 800-444-1579 ~ 913-281-1500
Fax: 913-281-5339

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WARNING *This product can expose you to chemicals including chromium, which are known to the state of California to cause cancer. For more information go to: www.P65Warnings.ca.gov*

Design Guidelines

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Stainless Steel Gates between Full Height cmu Walls

1. Clear opening should be 1/2" larger than nominal gate size. (Standard gate widths are 30", 36", 42", 48".) This is to allow for normal out of plumb conditions.
2. If walls are constructed with 4" nominal cmu, the actual block size will be approximately 3-5/8". Use the 4" dimension in your space calculations; this will automatically add a clearance of 3/8". Example: center of wall to center of wall dimension for a 36" wide gate installed between 4" nominal cmu walls is 40" (36" + 4" = 40"). For 6" nominal cmu use a 6" dimension in your space calculation for similar clearance.
3. If the floor surface is to be coved up onto the wall, remember that the gate frame is square. The cove radius must be minimized at the gate location for the gate to fit.
4. Do not change wall spacing to make all runs equally sized. Keep maximum number of runs standard size (30", 36", 42", 48"). This will maintain price and lead time. One gate can be made to fit remaining space at the end of each row.
5. Gates are installed between the walls for strength as screws are less likely to be pushed out due to jumping or pushing on the gate. Also, this allows the gate to be recessed into the run for varying wall lengths or for inset due to bull nose cmu end blocks.
6. The gates are attached to the wall via "gate to wall" mounting angles. The angles are sized to allow for up to 1/2" space per side between the gate frame and the wall for up to 1" total difference between the gate size and the clear opening.

Stainless Steel Gates between 48" Height cmu Walls

1. Clear opening should be approximately 1/2" larger than nominal gate size. (Standard gate widths are 30", 36", 42", 48".) This is to allow for normal out of plumb conditions.
2. If walls are constructed with 4" nominal cmu, the actual block size will be approximately 3-5/8". Use the 4" dimension in your space calculations; this will automatically add a clearance of 3/8". Example: center of wall to center of wall dimension for a 36" wide gate installed between 4" nominal cmu walls is 40" (36" + 4" = 40"). For 6" nominal cmu use a 6" dimension in your space calculation for similar clearance.
3. If the floor surface is to be coved up onto the wall, remember that the gate frame is square. The cove radius must be minimized at the gate location for the gate to fit.
4. The walls should be 48" tall at the front of the run where the gate is to be installed.
5. The wall should be level.
6. Do not change wall spacing to make all runs equally sized. Keep maximum number of runs standard size (30", 36", 42", 48"). This will maintain price and lead time. One gate can be made to fit remaining space at the end of each row.
7. Gates are installed between the walls for strength as screws are less likely to be pushed out due to jumping or pushing on the gate. Also, this allows the gate to be recessed into the run for varying wall lengths or for inset due to bull nose cmu end blocks.
8. The gates are attached to the wall via "gate to wall" mounting angles. The angles are sized to allow for up to 1/2" space per side between the gate frame and the wall for up to 1" total difference between the gate size and the clear opening.
9. Grill panels are installed between the gates along the top of the 48" high cmu wall. These are attached to the rear wall via "gate to wall" angles, attached along the length of the wall via "z-brackets" and attached to the gates at the front via attachment plates for cmu wall spacing.

Stainless Steel Side Panels with Raised Floors

1. Runs will be 85" tall (minimum). Make sure there is clearance. Look for pipes, beams, HVAC ducts, surface mounted lights, etc.
2. A trench drain will make cleaning the run easier. The panels have a rear leg that is inset 12". The front of the trench should be no more than 11" from the rear wall.
3. When calculating the space requirement for your runs add 1-1/2" per side panel to the width of the runs. The nominal gate size is the interior width of the run.
4. For proper operation, the gates must be installed plumb and level. There are two screw-type leveling feet on each side panel. The rear leg also includes a telescoping assembly for increased adjustability. The side panels should be installed level front to rear as well as level with each other in a row.
5. A wall mounted floor support is included for installations where the building walls will be used at either end of the row. This is to be attached securely to the wall, level and at the same height as the floor supports included on the stainless steel side panels. The wall mounted floor support includes adjustable legs for added support.

Stainless Steel Side Panels with Wedge

1. Floor must slope at a consistent rate from the gate to the trench, typically 1/4" per foot. Wedge tubes are stocked in 5 and 6 foot lengths at a slope of 1/4" per foot. Other sizes and slopes may be special ordered.
2. At the back side of the trench the floor should return to the same elevation as at the gate.
3. The trench may be covered with a stainless steel drain cover supplied to match the gate size. If using a pre-cast trench the manufacturers drain grate may be used, this should be cut so as to be removable for drain access.
4. For proper operation the gates should be installed plumb and level.
5. The wedge tube is the foundation for the run system. The stainless steel panels are installed on top of the wedges and should be level front to rear and with each other. The panels are leveled by placing shims on top of the wedge prior to installing the panel. This is most easily accomplished by laying the wedges in place, then, using a laser level, add shims as necessary on top of the wedges at the front and back until the wedges are all at the same elevation (level). This is required only at the front and back of the wedges, not over the entire length. 3/8" is the maximum, recommended total shim thickness. Shims should be taped in place with excess tape being trimmed after panel installation is complete.

Stainless Steel Side Panels on a Level Curb

1. Curbs can be at the same elevation as the walkway or raised for containment of all fluids inside the run.
2. Curbs should be level.
3. The edges of the curbs should be slightly radiused or beveled.
4. The curb should be a minimum of 1-1/2" wide. A wider curb (3"-4") will give more adjustment and flexibility affording greater opportunity for a successful installation.
5. Panels and gates are set in place and fastened together with no leveling adjustment required.
6. Panels may be caulked if desired at the top of the curb.

Designing a Trench Drain System

There are several manufacturers of pre-cast trench systems. The use of a pre-cast trench simplifies the process and provides a smooth and consistently sloped trench.

Trenches are usually 4"-6" wide for a single row of runs. The trench should run the full length of the run system. The floor sloping to the trench should slope at a rate of 1/4" per foot from the front of the run to the trench. At the back of the trench the floor should return to the wall at a sharp angle to the same elevation as at the front gate location. Trenches are typically set 3"-4" from the wall but this is not required.

Drain troughs typically flow to single drain at one end of each row of runs. Depending on the number of runs and overall length of the row it may be necessary to centrally locate the drain or have multiple drains.

Adding a water line at the high end of the trench with a valve located outside the front of the runs can aid in cleaning. Flushing drain systems are a popular addition to the trench system. Catch basins and buckets are also available for pre-cast systems.

Below are websites for pre-cast drain systems:

www.acousa.com

www.abtdrains.com

Wood or Metal Frame Walls

While not the preferred material choice for run systems, it is sometimes necessary to install the runs in a room of stud frame construction. Wood or metal stud frames are generally covered with gypsum or concrete wall board. Both wood framing and gypsum wall board are highly susceptible to moisture absorption leading to bacteria, odor and rotting problems. Steel studs will rust and corrode if left exposed to moisture. The wall board should be covered with a sturdy, water proof material. Typical wall covering materials include ceramic tile and plastic sheeting. The joint where the wall and floor meet should be sealed.

Ideally, when designing runs for a stud framed room, the runs would be an island system with two to three feet of clearance between the run panels and the walls. This will allow for reduced moisture contact and good air flow for drying. This type of installation is often not practical due to the space limitations.

Any of the run system types previously discussed can be constructed as long as consideration is given to protecting the walls from damage. The floor condition also required special consideration. It is important that water is not allowed to accumulate next to the wall. Moisture in this area will be slow to evaporate, providing favorable conditions for bacteria growth.

When attaching gates or panels to a stud framed wall it is important that the attachments be made to the structure not just in a hollow part of the wall. This is most easily accomplished by adding "blocking" to the wall prior to the installation of the wallboard. The blocking is typically 2x6 framing material located horizontally at the three elevations to match the attachment heights of the gates or panels. These heights will vary depending on the type of run system being installed. When making the attachment to the wall, a sealant should be applied as the fasteners are installed; this is to reduce the possibility of water penetration at the attachment point. If gates or panels are attached in a hollow space in the wall, the gate or panel will eventually become loose due to enlargement of the fastener hole. This will lead to rapid degradation as more moisture is allowed to penetrate the wall surface.