BEST PRACTICES

OMG OlyFlow® RETROFIT ROOF DRAINS

There are many reasons to use an OMG Hercules Drain. Perhaps it was specified. Maybe the application dictates that an insert drain is the only choice (i.e., you cannot disturb the building's occupants or the drain bowl is set in concrete). Or Hercules Drains might be your standard mode of operation for providing a consistent estimating cost and your lowest installed cost. No matter the reason, this Best Practice document will help ensure you get the most productive installation process.

ROOF CALCULATIONS & BASIC GUIDELINES

Good roofing practice includes a proper roof drainage calculation by a certified design professional to determine if there is sufficient drainage for the structure. If not, additional drainage may be required. However, you may also find that the original rooftop drain design was tremendously over-engineered.

SIZE	G.P.M.
2"	45
3"	75
4"	125
5"	210
6"	300

Flow rates illustrated were tested with Hercules drains and a 6" long leader. These drains were able to perform at peak rates with a head of water at 3¼" or less.

According to Factory Mutual, the guidelines for roof drains are as follows:*

- There should be a minimum of two drains per roof area.
- Add one roof drain per 10,000 ft.^{2} (930 m^2) of roof area.
- Maximum spacing between drains in any direction should be 75 ft. (23 m).
- Irregular roofs with obstructions will require additional drains.

It's very important to remember that no matter how small a roof is, it must always have a minimum of two drains. One of the drains *always* acts as a back-up for the other in case of blockage. There are no steadfast rules for irregularly shaped roofs as these roofs require very careful consideration and analysis in determining how water flows from one roof area to the other. *It is important in these conditions not to overload one drain tributary area and under utilize another.*

A more stringent requirement for drain placement is outlined in the FM 1-54 guideline.

BEST PRACTICES

MEASURING EXISTING DRAINS

It is important to properly measure existing drains so that a correctly sized insert roof drain is installed. The following technique should be used to measure existing drains. Take the following steps to ensure a correct fit of an OlyFlow drain:

STEP 1

Remove existing strainer dome to gain access to the existing drain leader. Check for any previous insert installations to ensure you are measuring the **original** plumbing system. Note that all previously installed inserts must be removed before the OlyFlow drain installation.

STEP 2

Check for obstructions inside the original drain, tail piece and elbow (i.e., gravel, rust, bitumen, vegetation, caulking, glass, construction debris, etc.) and remove.

STEP 3

Using a measuring tape, measure the clean **Inside Diameter** (I.D.) of the original drain pipe where the tail piece joins the existing drain bowl *(see Figure 1)*. It is recommended that at least three measurements of the inside diameter dimension are taken and recorded.

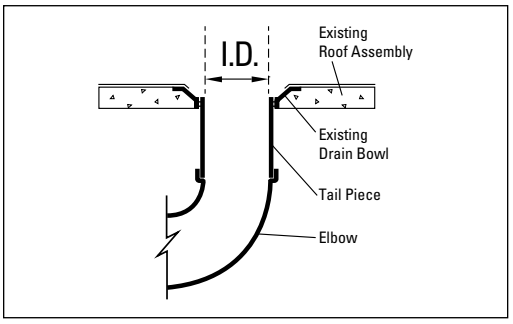


Figure 1

STEP 4

Measure the vertical distance "d" from the top surface of the **existing finished** roof membrane (this may be in the actual sumped drain area) down to the bottom of the tail piece *(see Figure 2)*. Do not go past the end of the tail piece. It is recommended that at least three measurements of the vertical distance "d" be taken and recorded.

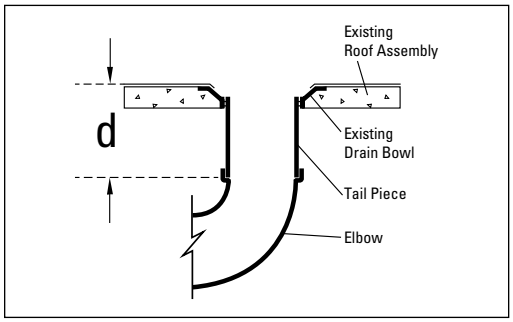


Figure 2

In some cases the Hercules Drain stem may need to be extended beyond 12-in. Please contact OMG to review. In some cases the 12-in. long stem may be too long. The Hercules stem can easily be shortened in the field *(see Installation section)*.

STEP 5

Repeat these steps for all the drains on the existing roof being retrofitted.

BEST PRACTICES

INSTALLATION

Job Preparation – Remove existing strainer dome and clamping ring. Remove other existing drain components as required to enable Hercules Drain flange to lie flush on roof membrane. Remove any debris or constricting materials in the existing drain pipe that interferes with proper installation.

STEP 1

Examine the existing water leader to make sure there are no elbows that prevent the drain stem from being fully inserted into the pipe. *(If an elbow is present, see How to Shorten an OlyFlow Metal RetroDrain, below.)* Insert U-Flow® Seal into end of drain stem and tighten screws enough to hold the seal in place during installation. Insert assembled drain into existing leader pipe *(see Figure 3)* until flange lies flush on roof membrane.

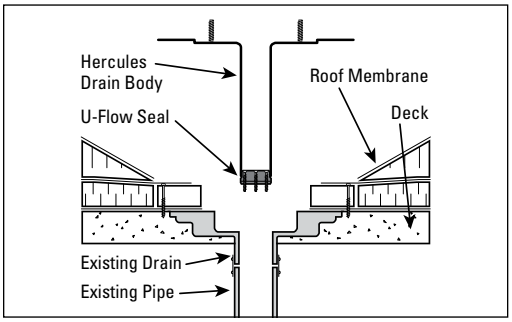


Figure 3

How to Shorten an OlyFlow Metal RetroDrain – Make sure there is at least 4-in. of clear vertical distance in the existing pipe to accommodate the drain. Cut drain stem to desired length and insert U-Flow Seal. Note: Leave at least 2.5-in. of the drain stem to accommodate the seal *(see Figure 4).* Insert the U-Flow Seal in the cut drain stem and tighten the seal screws. Once the drain and seal have been assembled, insert it into the existing water leader and complete the assembly following installation Steps 2 thru 5.

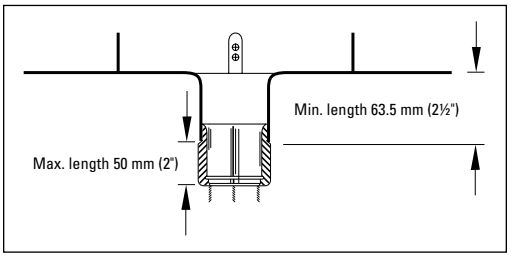


Figure 4

U-Flow Seal Installation Procedure – Simply insert the narrow end of the U-Flow Seal into the bottom of the drain stem. Using the U-Flow Screwdriver, tighten the seal's screws, accessible through the top of the drain, until seal expands and locks to the drain stem. Place the drain with attached seal inside the existing drain pipe.

STEP 2

Alternately tighten seal compression ring screws with U-Flow Screwdriver until hand tight *(see Figure 5).* Hercules Drain body is correctly installed when pressure placed on drain body results in no vertical movement. Do not overtighten the screws.

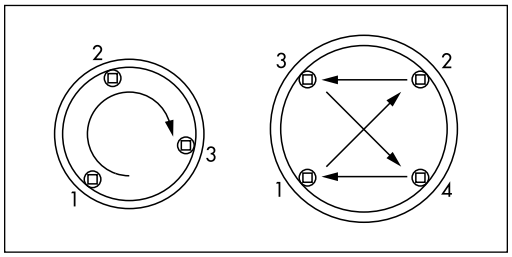


Figure 5

STEP 3

Secure the drain flange to the roof deck/nailer using a minimum of three pan-head fasteners, evenly spaced around the flange. The flashing membrane must cover and extend past the fastener head *(see Figure 6).* Flashing membrane must be installed per roof membrane manufacturer's detail.

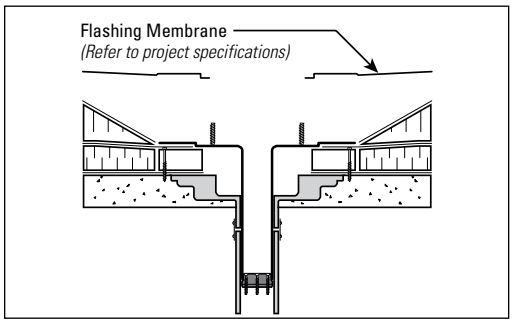


Figure 6

BEST PRACTICES

STEP 4

Place clamping ring over metal studs. Install stainless steel nut and lock washers, tightening the clamping ring against membrane flashing until secure *(see Figure 7)*.

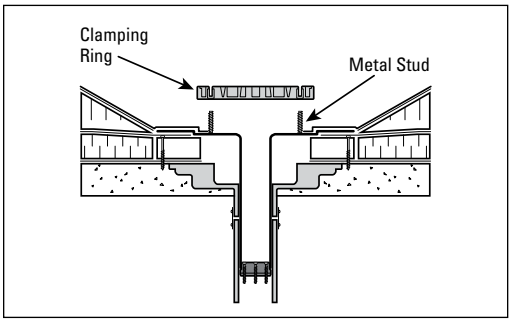


Figure 7

STEP 5

Install strainer dome by aligning screw holes with the holes in the clamping ring. Secure with screws provided *(see Figure 8)*.

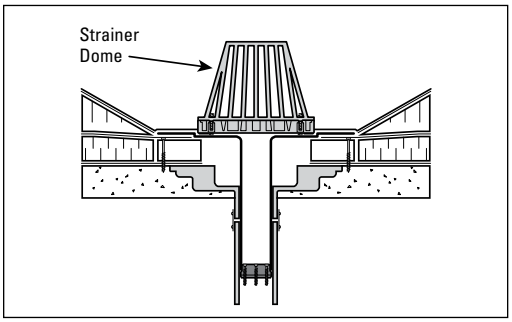


Figure 8

ROOFTOP MAINTENANCE

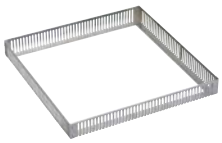
Good roofing practice dictates that a regular roof inspection and maintenance program be developed to extend the life of the roof system. It's a good idea to inspect your roof at least four times a year (i.e., between seasons, and after any major storm or weather event). At the top of the roof maintenance checklist is inspection of the roof drains in order to keep them clear and functional.

SPECIAL REQUIREMENTS

Custom Drains – Though most new and retrofit roof drain installations conform to standard industry practices, there are the occasions when an unusual condition occurs at a drain location. In such instances, the standard drain may need to be modified or custom designed to fit the particular site conditions. OMG Roofing Products recognizes this need and can accommodate most custom requests. Please contact OMG at 800·633·3800 to review the application.

OverFlow – A growing practice in the industry is the requirement of emergency overflow drains in case the primary lines get blocked. A simple overflow attachment is available for the Hercules available in either 4-in. or 2-in. heights.

FlowControl – In many municipalities the need to control the amount of water run-off to storm sewers is becoming greater. A simple flow control attachment is available for the Hercules. However, it is best to review the flow capacity of the Hercules Drain as the U-Flow Seal acts as a "built-in" flow control.



DrainGuard – An all too common sight around a roof drain is the accumulation of leaves, pine needles and other debris that can restrict water flow, potentially causing a dangerous situation. A simple solution is to install a 4-in. high by 4-ft. x 4-ft. square (or 3-ft. x 3-ft.) perforated DrainGuard around the drain holding back debris but allowing water to pass to the drain.

For a complete list of drain products, visit our website at olyfast.com/roof-drains-and-vents.html.

*Guidelines for roof drains were taken from FM Global Property Loss Prevention Data Sheets 1-54

OMG ROOFING PRODUCTS
153 BOWLES ROAD, AGAWAM, MA 01001 USA
800·633·3800 413·789·0252 OLYFAST.COM

Superior Productivity.
Superior Performance.

RP13020 Rev. 0213