TABLE OF CONTENTS

• Pictorial Index
• Product Recommendations
• Floor Drain Selection Factors
  Load Rating
  Grate Free Area
  Material & Characteristics
  Pipe Connection
  Commonly Specified Options
• Typical Installations

Distributed by:
BEST MATERIALS LLC
Phoenix AZ
Ph: 800-474-7570, 602-272-8128
Fax: 602-272-8014
Email: sales@bestmaterials.com
www.bestmaterials.com
## FLOOR AND AREA DRAINS

### PICTORIAL INDEX

<table>
<thead>
<tr>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Image](54x74 to 177x186) | **FD-100-A**  
Round Strainer |
| ![Image](187x75 to 311x184) | **FD-100-EF**  
Round Funnel |
| ![Image](319x77 to 443x183) | **FD-100-FT6**  
Recessed Tile Flange |
| ![Image](54x239 to 178x337) | **FD-100-ER**  
Extended Rim Strainer |
| ![Image](187x233 to 310x343) | **FD-100-M**  
Square Strainer |
| ![Image](320x240 to 443x335) | **FD-100-L**  
HD Square Strainer |
| ![Image](453x232 to 576x344) | **FD-100-B**  
HD Round Strainer |
| ![Image](460x77 to 571x174) | **FD-100-AS**  
Angle Strainer |
| ![Image](54x560 to 178x661) | **FD-100-EG**  
Oval Funnel |
| ![Image](202x552 to 296x666) | **FD-100-K**  
Dome Strainer |
| ![Image](329x570 to 432x651) | **FD-100-VD**  
Side Outlet |
| ![Image](457x555 to 571x665) | **FD-100-A**  
Round Strainer |
| ![Image](54x525 to 178x627) | **FD-100-EF**  
Round Funnel |
| ![Image](225x535 to 297x666) | **FD-100-ER**  
Extended Rim Strainer |
| ![Image](341x535 to 442x651) | **FD-100-FT6**  
Recessed Tile Flange |
| ![Image](475x525 to 571x665) | **FD-100-L**  
HD Square Strainer |
| ![Image](492x525 to 571x665) | **FD-100-SO**  
Side Outlet |
| ![Image](57x24 to 490x55) | **FD-100-AS**  
Angle Strainer |
| ![Image](490x55 to 576x174) | **FD-100-EG**  
Oval Funnel |
| ![Image](576x174 to 69x392) | **FD-100-K**  
Dome Strainer |
| ![Image](69x392 to 163x508) | **FD-100-VD**  
Side Outlet |
| ![Image](163x508 to 329x394) | **FD-100-DD**  
Hub Funnel |
| ![Image](329x394 to 432x504) | **FD-100-FC**  
Surface Membrane Clamp |
| ![Image](432x504 to 457x391) | **FD-100-M**  
Square Strainer |
| ![Image](457x391 to 571x508) | **FD-100-VD**  
Solid Hinged Cover |
| ![Image](571x508 to 69x392) | **FD-100-AS**  
Angle Strainer |
| ![Image](69x392 to 163x508) | **FD-100-DD**  
Hub Funnel |
| ![Image](163x508 to 329x394) | **FD-100-FC**  
Surface Membrane Clamp |
| ![Image](329x394 to 432x504) | **FD-100-M**  
Square Strainer |
| ![Image](432x504 to 457x391) | **FD-100-DD**  
Hub Funnel |
| ![Image](457x391 to 571x508) | **FD-100-VD**  
Solid Hinged Cover |
### FLOOR AND AREA DRAINS

#### PICTORIAL INDEX

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FD-100-WD</td>
<td>Domed Standpipe</td>
</tr>
<tr>
<td>FD-200-DD</td>
<td>Hub Funnel</td>
</tr>
<tr>
<td>FD-200-FC</td>
<td>Surface Membrane Clamp</td>
</tr>
<tr>
<td>FD-200-M</td>
<td>Square Strainer</td>
</tr>
<tr>
<td>FD-200-A</td>
<td>Round Strainer</td>
</tr>
<tr>
<td>FD-200-EF</td>
<td>Round Funnel</td>
</tr>
<tr>
<td>FD-200-FT6</td>
<td>Recessed Tile Flange</td>
</tr>
<tr>
<td>FD-200-RS</td>
<td>Rectangular Strainer</td>
</tr>
<tr>
<td>FD-200-AS</td>
<td>Angle Strainer</td>
</tr>
<tr>
<td>FD-200-EG</td>
<td>Oval Funnel</td>
</tr>
<tr>
<td>FD-200-K</td>
<td>Dome Strainer</td>
</tr>
<tr>
<td>FD-200-VD</td>
<td>Solid Hinged Cover</td>
</tr>
<tr>
<td>FD-200-B</td>
<td>HD Round Strainer</td>
</tr>
<tr>
<td>FD-200-ER</td>
<td>Extended Rim Strainer</td>
</tr>
<tr>
<td>FD-200-L</td>
<td>HD Square Strainer</td>
</tr>
<tr>
<td>FD-200-VS</td>
<td>Square Hinged Solid Cover</td>
</tr>
</tbody>
</table>

S-WD-FD-3 0812
## FLOOR AND AREA DRAINS

### PICTORIAL INDEX

<table>
<thead>
<tr>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Image](image1.png) | FD-200-WD  
Domed Standpipe |
| ![Image](image2.png) | FD-310  
6-1/2" Fixed Top |
| ![Image](image3.png) | FD-320-Y-SET  
8" Fixed Top |
| ![Image](image4.png) | FD-340-SET  
12" Adj. Top |
| ![Image](image5.png) | FD-230-A  
Combination |
| ![Image](image6.png) | FD-320  
8" Adj. Top |
| ![Image](image7.png) | FD-330  
8x8" Adj. Top |
| ![Image](image8.png) | FD-340-Y  
12" Fixed Top |
| ![Image](image9.png) | FD-240  
Prison Cell |
| ![Image](image10.png) | FD-320-SET  
8" Adj. Top |
| ![Image](image11.png) | FD-330-Y  
8x8" Fixed Top |
| ![Image](image12.png) | FD-340-Y-SET  
12" Fixed Top |
| ![Image](image13.png) | FD-300  
6-1/2" Adj. Top |
| ![Image](image14.png) | FD-320-Y  
8" Fixed Top |
| ![Image](image15.png) | FD-340  
12" Adj. Top |
| ![Image](image16.png) | FD-360  
15" Adj. Top |
# Pictorial Index

<table>
<thead>
<tr>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="FD-1100-M.png" alt="Image" /></td>
<td><strong>FD-1100-M</strong> Square SS Strainer</td>
</tr>
<tr>
<td><img src="FD-1200-L.png" alt="Image" /></td>
<td><strong>FD-1200-L</strong> HD Square SS Strainer</td>
</tr>
<tr>
<td><img src="FD-1160.png" alt="Image" /></td>
<td><strong>FD-1160</strong> Chemical Resistant</td>
</tr>
<tr>
<td><img src="FD-1200-M.png" alt="Image" /></td>
<td><strong>FD-1200-M</strong> Square SS Strainer</td>
</tr>
<tr>
<td><img src="FD-1200-A.png" alt="Image" /></td>
<td><strong>FD-1200-A</strong> Round SS Strainer</td>
</tr>
<tr>
<td><img src="FD-1200-B.png" alt="Image" /></td>
<td><strong>FD-1200-B</strong> HD Round SS Strainer</td>
</tr>
<tr>
<td>Application</td>
<td>Product</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Basement Areas</td>
<td>FD-300, FD-310-Y, FD-320(-Y), FD-320(-Y)-SET</td>
</tr>
<tr>
<td>Carwash &amp; Sediment Collection Areas</td>
<td>FD-410</td>
</tr>
<tr>
<td>Clinical &amp; Surgical Areas</td>
<td>FD-820</td>
</tr>
<tr>
<td>Condensate &amp; Drip Lines (Indirect Waste)</td>
<td>FD-100-DD, FD-200-DD, FD-100-EF, FD-100-EG, FD-200-EF, FD-200-EG</td>
</tr>
<tr>
<td>Elastomeric &amp; Rubberized Floors</td>
<td>FD-100-FC, FD-100-FT6</td>
</tr>
<tr>
<td>Floating Slabs</td>
<td>FD-600, FD-620</td>
</tr>
<tr>
<td>Food Preparation Areas</td>
<td>FD-1100 Series, also see Sanitary Floor Sinks</td>
</tr>
<tr>
<td>Garage &amp; Service Bays</td>
<td>FD-430, FD-450(-F), FD-460(-F), also see Trench Drains</td>
</tr>
<tr>
<td>Industrial &amp; Warehouse Areas</td>
<td>FD-320(-Y), FD-330(-Y), FD-340(-Y), FD-460(-F)</td>
</tr>
<tr>
<td>Interior Finished Areas</td>
<td>FD-100 Series, FD-200 Series</td>
</tr>
<tr>
<td>Maintenance &amp; Boiler Rooms</td>
<td>FD-320(-Y), FD-340(-Y), FD-360(-Y)</td>
</tr>
<tr>
<td>Outdoor Parking Areas</td>
<td>FD-520, FD-530, FD-540, see also Trench Drains</td>
</tr>
<tr>
<td>Outdoor Walkways</td>
<td>FD-340-1, FD-360-1, FD-450-1, FD-460-1</td>
</tr>
<tr>
<td>Planting Areas</td>
<td>FD-860, FD-870, FD-880</td>
</tr>
<tr>
<td>Poured Parking Decks</td>
<td>FD-490-F-4, FD-490-F-80</td>
</tr>
<tr>
<td>Precast Parking Decks</td>
<td>FD-900, FD-910, FD-920</td>
</tr>
<tr>
<td>Prison Cells</td>
<td>FD-240</td>
</tr>
<tr>
<td>Sanitary Manufacturing Areas</td>
<td>FD-1100 Series, FD-1200 Series</td>
</tr>
<tr>
<td>Shower Areas</td>
<td>FD-100 Series, FD-1100 Series</td>
</tr>
<tr>
<td>Stairwells</td>
<td>FD-100 Series, FD-200 Series</td>
</tr>
<tr>
<td>Wood Floors</td>
<td>FD-380, FD-390</td>
</tr>
</tbody>
</table>

Distributed by:
BEST MATERIALS LLC
Phoenix AZ
Ph: 800-474-7570,  602-272-8128
Fax: 602-272-8014
Email: sales@bestmaterials.com
www.bestmaterials.com
FLOOR AND AREA DRAINS

FLOOR DRAIN SELECTION FACTORS

Load Rating

Load ratings are based upon maximum anticipated traffic, in accordance with American National Standards ASME A112.21.1M. See specification pages for specific load rating data.


**Medium Duty (MD)** - Safe Live Load 2000-4999 lbs.

**Heavy Duty (HD)** - Safe Live Load 5000-7499 lbs.

**Extra Heavy Duty (XHD)** - Safe Live Load Between 7500 and 10,000 lbs.

**Special Duty (SD)** - Safe Live Load Over 10,000 lbs.

Grate Free Area

Drains should be specified with sufficient grate free area and outlet size to pass anticipated flow. For most indoor applications, the grate free area should equal 1-1/2 times the transverse area of the connecting pipe. In exterior areas, the grate free area should be twice the transverse area of the connecting pipe.

**Recommended Free Areas**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2&quot;</td>
<td>3.14</td>
<td>4.71</td>
<td>6.28</td>
</tr>
<tr>
<td>3&quot;</td>
<td>7.06</td>
<td>10.59</td>
<td>14.12</td>
</tr>
<tr>
<td>4&quot;</td>
<td>12.50</td>
<td>18.75</td>
<td>25.00</td>
</tr>
<tr>
<td>5&quot;</td>
<td>19.60</td>
<td>29.40</td>
<td>39.20</td>
</tr>
<tr>
<td>6&quot;</td>
<td>28.30</td>
<td>42.45</td>
<td>56.60</td>
</tr>
<tr>
<td>8&quot;</td>
<td>50.25</td>
<td>75.38</td>
<td>100.50</td>
</tr>
</tbody>
</table>

Material & Characteristics

**Bodies** - Industrial grade cast iron, finished with Watts standard gray acid resistant epoxy coating. Most Watts floor and area drains can be specified with PVC (-60) or ABS (-61) bodies, for direct solvent weld connection.

**Unfinished Areas** - Watts standard epoxy coated ductile iron grates provide superior chemical and shock resistance compared to competitive enameled cast iron grates.

**Finished Areas** - Nickel bronze (-1) has a silvery appearance which compliments most interior finishes. Watts nickel bronze alloy is homogenous, highly resistant to wear, and will not be discolored by weather or traffic.

**Adjustable Tops** - Commonly specified, provide vertical adjustment of strainer head or top assembly to the level of the finished floor.

**Fixed Tops** - Generally suitable for unfinished areas, or where floor is pitched to drain.

**Membrane Clamps** - Most Watts floor and area drains have built-in clamping collars, used to attach and secure waterproofing membranes or liners, generally in above grade applications.

**Weep Holes / Double Drainage** - Standard on all floor and area drains, weep holes direct water seeping around the drain top back into the sump. The 'Double Drainage' feature protects against deterioration of the area immediately surrounding the drain.

**Grate Openings** - Floor and area drains supplied standard with 5/16" maximum openings. Grates are ADA compliant, and meet standard specifications for "heel proof". Consult product specifications for parking area applications.
### Pipe Connection

- **No Hub (Standard)** - Butt connection using no hub or neoprene coupling, suitable for cast iron, plastic, and most other piping applications.
- **Push-On (P)** - Gasket connection ASTM C-564, with pipe stop. Suitable for no hub or service weight cast iron, Sch. 40 plastic, and steel pipe. Recommended for below grade only.
- **Threaded (T)** - Female IPS thread in drain outlet.
- **Inside Caulk (X)** - Caulk ring on drain outlet, pipe is inserted, and joint sealed with lead & oakum.
- **PVC Socket (-60)** - Sch. 40 PVC solvent weld female socket.
- **ABS Socket (-61)** - Sch. 40 ABS solvent weld female socket.
- **Side Outlet (-SO)** - No Hub (see above) side outlet.

### Commonly Specified Options

- **Sediment Bucket (-5)** - Catches debris, and prevents it from collecting in or blocking the drain trap.
- **Vandal Proof (-6)** - Allen head screws regularly furnished, torx & pin may be specified for high security applications.
- **Trap Primer Tapping (-7)** - 1/2" tapping on drain body, connects to trap primer valve (see Watts #A-200).
- **Backwater Valve (-8)** - For 2,3,4" drains only, neoprene float seal prevents back-up damage to finished areas. Serviceable through top of drain. Not for pressure applications.
- **Hinged Grate (-9)** - Available with select square tops, provides convenient access to drain buckets, or lines requiring regular maintenance.
- **Galvanized (-13)** - Cold zinc galvanizing, commonly specified in highly corrosive environments, such as coastal or industrial areas. Watts standard acid resistant epoxy coating eliminates the need for galvanizing in many applications.
- **Strainer Extension (-15)** - For FD-100 & FD-200 Series floor drains, extends strainer to accommodate thick fills or special applications.
- **Secondary Strainer (-21)** - Fits in base of drain sump, secondary protection against debris that bypasses sediment bucket.
- **Closure Plug (-34)** - Seals drain line, generally specified in areas where spillage of substances unsuitable for drainage may occur.
- **Membrane Clamp (-C)** - Specified in floors with a waterproofing membrane. Membrane clamps or clamping mechanisms are built in to most Watts floor drains.
- **Round Funnel** - 4" round cast iron (-F4-50) or nickel bronze (-F4-1) accepts single condensate lines. Specify 6" round nickel bronze (-F6-1) for large condensate lines. Bolt attaches funnel through underside of grate.
- **Oval Funnel** - 4x9" oval cast iron (-G-50) or nickel bronze (-G-1) accepts multiple condensate lines. Bolt attaches funnel through underside of grate.
- **Elastomeric Flange (-Z)** - Generally specified with poured or troweled elastomeric or rubberized floors. See FD-100-FC or FD-200-FC for elastomeric or rubberized sheet flooring.
TYPICAL INSTALLATIONS

FD-100-A

FD-200-A-7

FD-200-EF