MasterFlow 648 Provides a Stable, Secure Base, Ensuring Alignment and Long Term Service

BASF has applied advanced chemistry to carefully balance the important physical properties and application behavior of MasterFlow 648 to ensure uncompromised, durable support.

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meets the requirements of API 686, ASTM C579 and many more international and local standards</td>
<td>Superior performance backed by complete test data. Can be confidently referenced in global specifications.</td>
</tr>
<tr>
<td>High Early and Ultimate Compressive Strengths</td>
<td>Allow early load transfer and rapid commissioning of equipment, fast return to service</td>
</tr>
<tr>
<td>Excellent Bearing Area</td>
<td>For even load distribution</td>
</tr>
<tr>
<td>Low Creep</td>
<td>Maintains machinery alignment over long time periods</td>
</tr>
<tr>
<td>Very Low Shrinkage</td>
<td>Ensures full baseplate contact and load transfer</td>
</tr>
<tr>
<td>Good Chemical Resistance</td>
<td>Durable even when exposed to many industrial chemicals</td>
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<tr>
<td>Elevated Temperature Performance</td>
<td>Retains physical properties and maintains equipment alignment even when operating and baseplate temperatures are increased</td>
</tr>
<tr>
<td>High Tensile and Flexural Strengths</td>
<td>Absorbs dynamic operational loads</td>
</tr>
<tr>
<td>Good adhesion to both steel and concrete</td>
<td>Optimizes load transfer and enables vibration dampening</td>
</tr>
<tr>
<td>Resists impact and dampens torque</td>
<td>Protects equipment, ensures long service life</td>
</tr>
<tr>
<td>Excellent Freeze/Thaw Resistance</td>
<td>For outdoor equipment that can experience very low service temperatures</td>
</tr>
<tr>
<td>Impermeable to water and chlorides</td>
<td>Stands up in wet and aggressive environments</td>
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</tbody>
</table>

MasterFlow 648 achieves its advanced performance properties by the combination of several distinct product features.

With carefully balanced physical properties MasterFlow 648 is formulated for easy installation, with good flow characteristics suitable for pouring or pumping, low dust generation and soap and water cleanup.
Formulated for Easy Installation, Enhanced Safety and Jobsite Cleanliness

MasterFlow 648 grout provides application and safety benefits to contractors and site owners not available with any other epoxy grout on the market.

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<td>Low odor, low dust and soap &amp; water cleanup</td>
<td>Enhanced safety for workers</td>
</tr>
<tr>
<td>Excellent Flow Characteristics</td>
<td>Effective grouting of even narrow gaps and large baseplates</td>
</tr>
<tr>
<td>Pumpable</td>
<td>For maximum productivity on large installations</td>
</tr>
<tr>
<td>Application Thickness/Depth</td>
<td>10 to 150 mm (0.5 to 6 inches)</td>
</tr>
<tr>
<td>Variable Fill Rates</td>
<td>Viscosity and flow characteristics can be adjusted to meet project requirements</td>
</tr>
</tbody>
</table>

Meeting the most challenging installation demands

MasterFlow 648 grout features superior flow characteristics, low dust generation and soap and water cleanup. It is formulated to be poured or pumped, and a high flow mix option offers placement flexibility.
Global Product Availability, Easy Access and Support

Global availability
MasterFlow epoxy grout is used to support critical equipment on every continent, in every corner of the world. Equipment manufacturers, owners, engineers, EPCs and specialty contractors can specify and install MasterFlow 648 grout with confidence, because it is a single formulation, available everywhere in the world. No need to wonder or worry about product availability and supply.

Training and support
On every continent, you will find BASF professionals who can provide product selection and specification assistance, technical guidance, documentation on proper placement, understanding of the relevant testing methods, as well as on site training of contractors to ensure proper mixing, application, placement and testing protocols are understood.

Detailed documentation
Online or in person, BASF provides detailed documentation to enable quality installation of MasterFlow 648 grout. Technical data guides, installation bulletins, and specification documents clearly outline the relevant engineering and contracting details.

No matter where
With MasterFlow 648 there is more material in contact with and supporting the precision equipment, and there are more dedicated people in all corners of the world ready to help on projects than with any other competitor in the market today.

Looking for data to support your next project, visit www.masterflow-648.basf.com
Supporting Critical Equipment in Industries Across the Globe

What’s underneath the machine matters: Grout. It seems like a simple element of the equipment installation. But it is not.

This thin layer of material has a critically important function:
- To secure and protect the machinery
- To transfer the loads from the machine to the baseplate
- To ensure that the operational movement and vibration does not compromise the alignment

For more than three decades, MasterFlow 648 has been used to secure critical equipment for proper alignment and transmission of static and dynamic loads, vibration and rotational torque in industries such as:
- Chemical Processing
- Oil & Gas Distribution
- Pulp & Paper Production
- Mining
- Gas Refining & Processing
- Power Generation
- Steel & Aluminum Manufacturing
- LNG Production, Storage and Transmission

MasterFlow 648 precision epoxy grout is used as the vital link between critical equipment and the foundation.

Epoxy grout is used to secure:
- Compressors, generators, turbines, engines, pumps, fans, blowers and motors
- Rolling, stamping, grinding, crushing, boring, drawing, extruding and finishing mills and presses
- Crane rails, conveyors, gear and flued drives, sole plates
- Mixers, shredders, clarifiers, evaporators
Master Builders Solutions from BASF

The Master Builders Solutions brand brings all of BASF’s expertise together to create chemical solutions for new construction, maintenance, repair and renovation of structures. Master Builders Solutions is built on the experience gained from more than a century in the construction industry. The know-how and experience of a global community of BASF construction experts form the core of Master Builders Solutions. We combine the right elements from our portfolio to solve your specific construction challenges. We collaborate across areas of expertise and regions and draw on the experience gained from countless construction projects worldwide. We leverage global BASF technologies, as well as our in-depth knowledge of local building needs, to develop innovations that help make you more successful and drive sustainable construction. The comprehensive portfolio under the Master Builders Solutions brand encompasses concrete admixtures, cement additives, chemical solutions for underground construction, waterproofing solutions, sealants, concrete repair and protection solutions, performance grouts and performance flooring solutions.

Master Builders Solutions products from BASF for the Construction Industry:

- **MasterAir®**
  Solutions for air-entrained concrete

- **MasterBrace®**
  Solutions for concrete strengthening

- **MasterCast®**
  Solutions for manufactured concrete product industry

- **MasterCem®**
  Solutions for cement manufacture

- **MasterEmaco®**
  Solutions for concrete repair

- **MasterFinish®**
  Solutions for formwork treatment

- **MasterFlow®**
  Solutions for precision grouting

- **MasterFiber®**
  Comprehensive solutions for fiber reinforced concrete

- **MasterGlenium®**
  Solutions for high-performance concrete

- **MasterInject®**
  Solutions for concrete injection

- **MasterKure®**
  Solutions for concrete curing

- **MasterLife®**
  Solutions for enhanced durability

- **MasterMatrix®**
  Advanced rheology control solutions for self-consolidating concrete

- **MasterPel®**
  Solutions for water tight concrete

- **MasterPolyheed®**
  Solutions for high-performance concrete

- **MasterPozzolith®**
  Solutions for water-reduced concrete

- **MasterProtect®**
  Solutions for concrete protection

- **MasterRheobuild®**
  Solutions for super-plasticized concrete

- **MasterRoc®**
  Solutions for underground construction

- **MasterSeal®**
  Solutions for waterproofing and sealing

- **MasterSet®**
  Solutions for retardation control

- **MasterSure®**
  Solutions for workability control

- **MasterSuna**
  Solutions for Sand and Gravel in Concrete

- **MasterTop®**
  Solutions for industrial and commercial floors

- **Ucrete®**
  Flooring solutions for harsh environments

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