

MasterFlow[®] 648

High strength high flow epoxy grout

DESCRIPTION

MasterFlow 648 is an epoxy resin-based precision grout used to secure critical equipment for proper alignment and transmission of static and dynamic loads. With carefully balanced physical properties and excellent resistance to chemical attack, vibration and torque, **MasterFlow 648** is formulated for easy installation, with good flow characteristics suitable for pouring or pumping, low dust generation and soap and water cleanup.

MasterFlow 648 is available in all regions of the world, supported by trained Master Builders Solutions Construction Chemicals sales and technical personnel with experience in the specification and installation of epoxy grouts on every continent.

TYPICAL APPLICATIONS

- Precision alignment of compressors, generators, pumps, fans and electric motors
- Soleplates
- Crane rail grouting
- Grouting of rolling, stamping, grinding, crushing, drawing and finishing mills, forging hammers and other equipment subject to high torque, impact and vibration

MasterFlow 648 may be applied in the following industries

NB This gives examples only and does not constitute a full and comprehensive list. For further information on application possibilities contact Master Builders Solutions.

- Chemical processing
- Oil and Gas extraction, refining, processing and distribution
- Power generation
- LNG production, storage and transmission
- Pulp and paper production
- Steel and aluminium manufacturing
- Mining
- Other heavy industry

ADVANTAGES

- High early and ultimate strengths for rapid turnaround
- Low exothermic – can be used for grouting at high ambient and surface temperatures up to 45°C
- Low creep maintains equipment alignment
- Low-dusting for added worker comfort and safety
- Excellent flowability with high bearing area for even load distribution
- Excellent adhesion to steel and concrete for optimum load transfer and vibration dampening
- Chemical resistance for use in challenging environments
- Resistance to water and chloride intrusion in wet and aggressive environments
- Resistance to impact and dampens torque to protect equipment and extend service life
- Pumpable for maximum productivity on large grout installations
- Durable bond to concrete and steel optimizes load transfer
- Globally available for consistent project results

PACKAGING

MasterFlow 648	Part A	Part B	Part C
Flowable	5.136kg	1.614kg	22.7kg x 2
Flowable (bulk)	15.408kg	4.842kg	22.7kg x 6
Fluid	5.136kg	1.614kg	16.875kg x 2

Total pack size:

Flowable 52.15kg & 156.45kg (bulk)

Fluid 40.5kg

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TYPICAL PROPERTIES*

	Flowable	Fluid
Compressive strength** @25°C - ASTM C579 Curing time - 1 day Curing time - 7 days	75 N/mm ² 100 N/mm ²	70 N/mm ² 95 N/mm ²
Compressive strength** @40°C - ASTM C579 Curing time - 1 day Curing time - 7 days	100 N/mm ² 110 N/mm ²	95 N/mm ² 105 N/mm ²
Effective Bearing Area - ASTM C1339	>85%	
Flexural strength @25°C - ASTM C580 – 7 days	25 N/mm ²	
Tensile strength @25°C - ASTM C307 – 7 days	13 N/mm ²	
Co-efficient of thermal expansion @25°C - ASTM C531	2.9 x 10 ⁻⁵ (mm/mm°C)	3.52 x 10 ⁻⁵ (mm/mm°C)
Creep - ASTM C1181 – 12 months at 60°C (600psi)	4.5 x 10 ⁻³ (mm/mm)	5.6 x 10 ⁻³ (mm/mm)
Density ASTM C905	2000 kg/m ³	1900 kg/m ³
Modulus of elasticity - ASTM C580 @ 23°C	16 GPa	15 GPa
Shrinkage, Unrestrained; Linear % - ASTM C531	0.017	0.034
Working time 25°C 40°C	60 min 30 min	45 min 20 min

* Properties listed are based on laboratory controlled tests.

**Compressive strengths were determined at control laboratory condition, expect reasonable variation (i.e. ±5 N/mm²)

CLEANING

Clean tools and mixer with soap and water.

COVERAGE / YIELD

Flowable: Approx. 26 L & 78 L (bulk)
Fluid: Approx. 21.3 L

WATCHPOINTS

- Full installation guidelines are provided in the **MasterFlow Epoxy Grout** handbook and this should be read before the start of any installation
- Do not add solvent, water, or any other material to the grout
- Do not alter the mix proportions
- Contact your local representative for a pre-job conference to plan the installation
- Always use a head box
- Substrate temperature must be greater than 15°C
- Ensure material is conditioned by storing at ambient temperatures up to 25°C for a minimum of 48 hours before use. Failure to do so will result in significant reduction in pot life at elevated temperatures
- Cold material will exhibit decreased flowability and reduced strength development
- Recommended placement thickness range:
Fluid - 50-150mm
Flowable - 100-300mm
- Fluid & Flowable grout versions can be placed to a minimum thickness of 25mm (Depends upon the base plate dimensions and the method of application)
Consult Master Builders Solutions Technical Services representative before placing lifts above the specified range & thicknesses below 50mm.
- Chamfering the concrete edge helps reduce thermal cracking. Following proper installation procedures also reduces the potential for cracking
- Proper application is the responsibility of the installer

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STORAGE AND SHELF LIFE

Store under cover, in dry conditions, out of direct sunlight, and protect from extremes of temperature preferably below 30°C.

Shelf life is 12 months when stored as above in original sealed bags.

HEALTH AND SAFETY

MasterFlow 648 is a three-component epoxy grout formulated for industrial and professional use only and must be kept out of the reach of children. These products contain chemicals which may be COMBUSTIBLE and potentially HARMFUL to your health if not stored and used properly. Hazards can be significantly reduced by observing all precautions which are found on material safety data sheets, and product labels. Please read this literature carefully before using product.

QUALITY AND CARE

All products originating from Master Builders Solutions Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001 and ISO 14001.

® = Registered trademark of the MBCC Group in many countries.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by Master Builders Solutions either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions, are responsible for carrying out procedures appropriate to a specific application.

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