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# MasterFlow<sup>®</sup> 648

Low creep, high strength, high flow, high temperature epoxy grout

## DESCRIPTION

**Masterflow 648** is a precision epoxy resin grout, consisting of 3 components – resin, hardener and specially blended inert aggregates. On mixing, the components yield a high flow, high strength grout.

The grout is designed for use even in narrow gaps under baseplates and to effectively transfer all static and dynamic loads to the equipment foundation even at elevated service temperatures.

## RECOMMENDED USES

**MASTERFLOW** is recommended for grouting heavy-duty machines exerting high dynamic loads on foundations. It is suitable for a minimum 15mm gap below the baseplate. The product is ideal for situations where:

- Gaps below baseplates are narrow and / or where the baseplates are large.
- Machine baseplates can attain high temperatures in service. E.g. heavy duty compressors in petrochemical industries.
- Machines exert high vibratory / tensile loads on foundations. E.g. ball mills in the steel industry.
- The grout bed is likely to be exposed to spillage of aggressive chemicals. E.g. grout beds below machines in chemical industries.
- Machines have to be commissioned quickly. E.g. production machines taken out for maintenance

## FEATURES AND BENEFITS

- **High flow**–Effective grouting of even narrow gaps and large baseplates.
- **High tensile and flexural strengths**–Efficient transfer of operational loads to foundation including high dynamic loads.
- **High strengths even at elevated temperatures**–Maintains alignment and level even with elevated baseplate temperatures.
- **High bond strength**–Protects machine from vibrations by effective dampening.
- **High resistance to creep**–Maintains alignment and level over long time.
- **Good chemical resistance**–Durable even when exposed to many industrial chemicals.

- **High early strengths**–Allows early load transfer and rapid commissioning of machines.
- **Variable fill ratio**–Flow ability can be optimised for ease of application and to maximise the cost of effectiveness.

## PROPERTIES

Compressive Strength at 23° C (MPa) (ASTM C 579, Method B)	
24 Hours	75
7 Days	100
Tensile strength at 25° C, 7Day(MPa) (ASTM C 307)	13
Flexural strength at 25° C, 7Day(MPa) (ASTM C 580)	28
Compressive Strength, Post cured*, 7Day(MPa) (ASTM C 579, Method B)	110
Flexural strength, Post cured*, 7Day(MPa) (ASTM C 580)	28
Flexural modulus, Post cured*, 7Day(GPa) (ASTM C 580)	15
Bearing Area (%) (ASTM C 1339)	>90%
Creep @ 60° C, 28 days(inch/inch)	at 2.2MPa Load, 0.0039
(ASTM C 1181)	at 4.2MPa Load, 0.0044
Coefficient of thermal expansion, cm/cm/° C (ASTM C 531)	22.8x10 <sup>-6</sup>
Shrinkage, Unrestrained; Linear, %, (ASTM C 531)	0.016
* <b>Post Cured: Cured 24 hours at room temperature, post cured 16 hours at 60° C, and conditioned 24 hours at test temperature.</b>	



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The performance data is typical, and based upon controlled laboratory conditions. Actual performance on the job site may vary from these values based on actual site conditions.

## Chemical Resistance

**Masterflow 648** resists non oxidising mineral acids and salts, caustics, dilute oxidising acids and salts, plus some organic acids and solvents. Chemical resistance depends on the chemicals involved, their concentration, temperature and degree of exposure.

## Fill Ratio

The fill ratio is the weight of aggregate to that of the combined resin and hardener components. **Masterflow 648** is designed to be utilised at a variable fill ratio from 6.75:1 (Standard flow) to as low as 5.0:1 (Hi-flow).

**Masterflow 648** maintains a high bearing area when fill ratios are decreased. In addition, physical properties, including high temperature performance, are maintained.

## APPLICATION

For information about application, please obtain a copy of the BASF "Application Guide for Masterflow Epoxy Grouts" from your local representative.

## Curing

**Masterflow 648** is self-curing.

## Pour Thickness

**Masterflow 648** can be used for deep pours. When pour thickness exceeds 150mm, use of steel reinforcing bar and **Masterflow 718** is recommended. With the unique variable fill ratio of **Masterflow 648**, the minimum pour thickness can be as low as 20mm in many applications.

## ESTIMATING DATA

Hi - Flow	18 Kg	8.2 L
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## PACKAGING

Kit size	18kg
Part A	2.18 kg
Part B	0.82 kg
Part C	15 Kg

## SHELF LIFE

**Masterflow 648** can be stored in tightly closed original containers for 24 months in controlled environments.

## PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF Material Safety Data Sheet (MSDS) from our office or our website.

**MasterFlow648/02/0618**

## STATEMENT OF RESPONSIBILITY (Disclaimer)

The technical information and application advice given in this BASF Construction Chemicals 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.

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**BASF India Limited**  
Construction Chemicals Division  
Plot.No.12,TTC Area  
Thane Belapur Road,Turbhe  
Navi Mumbai - 400705,India  
Tel: +91 22 67127600, Fax: +91 22 67917358  
E-mail: construction-india@basf.com , www.master-builders-solutions.basf.in

