

# MASTERFLOW<sup>®</sup> 622

Heavy duty epoxy resin chocking grout

## DESCRIPTION

**MASTERFLOW 622** is a rapid hardening, high strength grout, based on modified epoxy resin and is designed for use as a precision, heavy duty chocking grout for engineering applications. It is supplied as a solventless, two-component system consisting of epoxy resin, combined with inert fillers and specially graded silica aggregate and the hardener, to produce a high viscosity flowable liquid grout.

## FIELDS OF APPLICATION

- Machinery with high dynamic loads and vibration
- Backing of steel liners of ore crushing machinery in mines and quarries.
- In corrosive environments where chemicals, oils and solvents make cementitious grouts unsuitable.
- Production line equipment that must resume operations with minimum downtime.
- Machinery base plates, crane rails, anchor bolts and heavy equipment where tensile strength greater than cementitious systems can provide is required.

**MASTERFLOW 622** is not recommended when the temperature of the grout after mixing and placing is unsustainable above 15°C for a period of 48 hours. Excessive loads may induce creep. Where required maximum thickness is greater than 50mm, additional aggregate may be incorporated. For achieving greater than 50 mm thickness, upper operating temperatures in excess of 130°C and for wet substrates, please refer to BASF Construction Chemicals representative.

## FEATURES & BENEFITS

- Resistance to vibration and impact, particularly applicable where cycles of compression/tension make cementitious grouts unsuitable.
- High early and ultimate strengths, minimum production shutdown.
- Excellent chemical resistance, maximum protection against attack from mineral acids, oils, fats, fuels, and strong alkali and salt solutions.
- Excellent resistance to lubricating and hydraulic oils.
- High bond strength, tenacious adhesion to prepared surfaces.
- Supplied in pre-measured volumes, eliminates the need for complicated on-site measuring and ensured product performance.

## TYPICAL PERFORMANCE DATA

Compressive strength development (50mm cubes )

**Age**                    **23°C**

12 hours                80 MPa

24 hours                105 MPa

( After 7 days cure at 23°C ± 2°C )

Compressive Strength(ASTM D695)                    120 MPa

Compressive Modulus    4.0 GPa

Tensile Strength(ASTM D638)                                60 MPa

Linear Shrinkage(ASTM C531-81)                            0.01%

Bond Pull-out    Concrete failed at 2.9 MPa

Setting time @ 23 °C    6 hours

## Chemical Resistance

**MASTERFLOW 622** resists most hydraulic and lubricating oils, common organic solvents and alkalis including strong caustic soda solutions. Chemical resistance depends on the chemicals involved, their concentration, temperature and degree of exposure. Good housekeeping practices such as immediate clean up of all spillage will greatly extend the working life of the product.

## SPECIFICATION

	<b>Part A</b>	<b>Part B</b>	<b>Mixed Unit</b>
Supply form	White	Dark blue	Blue
	Viscous	Heavy	Liquid
	Paste	Liquid	
Viscosity			30 Pa.s
Density			1690 kg/m <sup>3</sup>

## APPLICATION

### Application Thickness

Suitable minimum and maximum thickness depend on a number of factors including clearance, distance to be flowed and ambient temperature.

Due to its special engineered properties, **MASTERFLOW 622** requires a "head" of grout to ensure complete filling of the space to be grouted.

For grouting bedplates, a maximum of 50mm is recommended.

For grouting anchor bolts where flow distance is not critical, thinner sections (down to 3mm clearance) can be placed.

### Surface Preparation

To obtain maximum performance :

1. Concrete should be well cured, at least 28 days old and have a minimum compressive strength of 25 MPa.

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- Clean surface thoroughly to remove all contaminants such as dirt, oil grease, wax, rust and coatings.
- Remove laitance and roughen surface to ensure good bonding by chipping, scabbling, grit blasting or acid etching. Allow to dry thoroughly.

## Formwork

Must be strong and leak proof, and should be placed within 20-25mm of base plate edge. Coat formwork with debonder or cover with polythene film to allow easy removal of forms.

## Mixing

**MASTERFLOW 622** is formulated with a mix ratio of 5:1 by volume, Part A Resin to Part B hardener. Units may be split, but it is essential to maintain the correct ratio of Part A to Part B. The mix ratio by weight is 10:1 resin to hardener. Remove rim from Part B tin to ensure complete removal of contents. Transfer contents of Part B to Part A container. Mix for 3 minutes using a slow speed electric drill with a flat paddle. Avoid entrapping air. Use without delay.

## Placing

- Machine Bases, Crane Rails  
Clearances must be such that grout will flow without forming air pockets – provide ventholes. Grouting operations must be continuous with a minimum head of 15mm. For intricate voids, gentle strapping may be required to assist flow.
- Anchor Bolts, Dowels, Starter Bars  
Holes must be completely dry. Pump or use tremmies for bolts in situ. For bolts placed into preformed holes, prefill the hole with grout then slowly work the bolt into the grout.

## CURING

No damp curing or special curing compounds are required. Cure time will vary depending on quantity mixed and placed and ambient temperature. The larger the volume and the higher the temperature, the shorter will be the cure time. Initial set at 23°C will be in 4 – 6 hours. **MASTERFLOW 622** will be fully cured with maximum physical strength and chemical resistance at 7 days at 23°C. Do not install

equipment before full cure has been attained or creep may occur.

Pot life will vary depending on temperature and quantity mixed and placed. As a guide, the pot life of a 10 kg pack mixed at 23°C, would be about 30 minutes.

## ESTIMATING DATA

**MASTERFLOW 622** is available in two component pack of 10 kg which yields (when mixed) 5.9 litres or in bulk 5 kg pack yields (when mixed) 2.9 litres.

## SHELF LIFE

**MASTERFLOW 622** has a shelf life of 24 months if stored unopened in original containers at moderate temperatures.

## PACKAGING

Two component system available in :

Packaging	Part A Resin	Part B Hardener
10 kg kit	9.1 kg	0.9 kg
5 kg kit	4.55 kg	0.45 kg

## PRECAUTION

As with all epoxy products, wear protective overalls and gloves – prolonged contact with skin should be avoided as it could produce dermatitis, particularly with people whose skin may be sensitive to epoxy resin system.

Ensure adequate ventilation.

Mix entire contents of each unit as supplied. Do not attempt to split units unless accurate measuring can be assured.

Do not use at temperatures of less than 15°C unless artificial means of heating can be used to assist cure. During cold weather Part A should be pre-warmed to between 20 and 30°C.

For detailed Health, Safety and Environmental recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

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## STATEMENT OF RESPONSIBILITY

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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