

MasterFlow[®] 400

High strength, free flowing epoxy grout

DESCRIPTION

MasterFlow 400 is a solvent free epoxy resin grout formulated to withstand static and dynamic loads in a wide variety of applications.

MasterFlow 400 is suitable for an application thickness range of 20-100mm. The product is three component and easily mixed on site, to a pourable consistency.

TYPICAL APPLICATIONS

- Crane and transporter rails.
- New and old machine base plates.
- Structural filling of holes and cavities in concrete.
- Industrial equipment and machinery subject to static or dynamic forces.
- Equipment where chemical and acid spillage occurs.
- Bridge bearings

ADVANTAGES

- No priming required
- Excellent flow characteristics
- Long pot-life
- High tensile, flexural and compressive strength
- Excellent adhesion to steel and concrete
- Rapid installation and strength gain
- High resistance to dynamic loads and chemical attack
- Tolerant of damp surfaces

PACKAGING AND COLORS

MasterFlow 400 is supplied in Grey colour and in a total pack size of 27 kg.

TYPICAL PROPERTIES*

Pot life / Working time	@25°C	60 min
	@40°C	30 min
**Compressive strength @25°C (ASTM C579 2007 / BS 6319)	7 days	>80 N/mm ²
**Flexural strength @25°C (ASTM C580)	7 days	>25 N/mm ²
**Tensile strength @25°C (BS 6319 Part 7)	7 days	>10 N/mm ²
Density @ 25°C	Approx.	1925 kg/m ³
Co-efficient of thermal expansion (ASTM C531 2000)		5.65 x 10 ⁻⁵ /°C
Effective Bearing Area (EBA) ASTM C1339		>85%

** The above properties are highly temperature dependant. Longer pot life and lower strengths to be anticipated at low ambient temperatures.

APPLICATION GUIDELINES

SURFACE PREPARATION

As with all epoxy resin applications the quality of surface preparation has a direct effect on the performance and durability of the system. Concrete surfaces should be sound, dimensionally stable, clean, free from laitance, paint, oil, grease, mould release agent and residual curing compound. A rough surface is preferable. Metal surfaces or components to be bedded, should be free from any rust, scaling or paint. Formwork if used should be wrapped in polythene to ensure a clean release.

MIXING

Do not split packs or alter the ratio of resin components in any way. Mix with a slow speed drill and paddle. Add the contents of the reactor container to the base component in a suitable mixing vessel, ensuring complete transfer of both resin components. Mix for one minute before slowly adding the aggregate and continue mixing until a flowing, pourable lump free consistency is achieved. Mixing for too long can entrain air.

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PLACING / APPLICATION

Allow to stand free 5min before pouring, into the prepared area in such a manner that it has the shortest distance to flow. For long pours a suitable head of pressure may be required. Ensure the area to be grouted is **not** completely sealed, and any displaced air can be expelled. Pour continuously from one side only.

Allow the grout to set prior to removal of formwork (normally after 6 hours). Where placement exceeds depths of 80mm, application should be carried out in layers. The second layer to be applied after 6 hours.

CHEMICAL RESISTANCE

The resistance of **MasterFlow 400** to most common corrosive chemicals is excellent:

- Dilute and concentrated alkalis
- Most dilute acids
- Oil and petrol
- Ammonia
- Formaldehyde
- Saline solutions
- Mineral oil, vegetable and animal fats

CURE TIME VS. TEMPERATURE

Cure time of the grout will depend upon the temperature of the base and foundation rather than the ambient air temperature. Unless the ambient air temperature has been constant for several days the base / foundation temperature will generally be lower than air temperature. A surface thermometer and field judgement should be used to determine actual cure rates. Cured grout should have solid, almost metallic ring when struck lightly with a hammer, checking as close to the base as possible.

CLEANING

Clean all equipment promptly with a suitable thinner (Xylene / MEK / Acetone). Any excess cured material will have to be mechanically removed.

COVERAGE / YIELD

Approximately yield of 14 L

STORAGE AND SHELF LIFE

Store under cover out of direct sunlight and protect from extremes of temperature. **(In tropical climates the product must be stored in an air-conditioned environment)**. Shelf life is 12 months when stored in unopened containers as above.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult Master Builders Solutions Technical Services Department.

HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product is fully cured or dried). Treat splashes to skin and eyes immediately. If accidentally ingested, seek medical attention. Reseal containers after use. For specific storage and disposal instructions refer to the Material Safety Data Sheet.

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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.

Request and refer to recommended installation procedures for **MasterFlow** grouts prior to use

* Properties listed are based on laboratory controlled tests.

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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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