



The Chemical Company

MASTERFLOW[®] 678 DP PLUS

Deep-pour epoxy resin grout

DESCRIPTION

Masterflow 678 DP Plus is a deep pour, low-exotherm, multi use three component epoxy grout. It can be used where deep sections of epoxy grout must be placed with low heat generation.

RECOMMENDED FOR

- Deep-pour baseplate applications between 150mm and 450mm
- Repair of spalled concrete
- Rebuilding deteriorated curbs, bases and columns
- Anchoring bolts, rebar and dowels
- Exterior grouting and repairs.

FEATURES AND BENEFITS

- **Long working time** – facilitates proper placement
- **Excellent creep resistance, even at high temperatures** – will not deform under constant loads
- **Low exotherm** – results in minimal heat generation
- **Precludes the necessity of rebar installation or multiple lifts** – reduces installation costs
- **Positive expansion** – fills minor gaps and voids in forming
- **Superior adhesion** – positive bond to concrete and steel
- **Ideal for deep pours**-can be placed in lifts of up to 450mm thick

PERFORMANCE DATA

Initial set (hours)	6	
Final set (hours)	7.5	
Expansion	Passes	
Compressive Strength (MPa)	<u>21°C</u>	<u>60°C</u>
1 day	44	-
7 days	73	67
28 days	80	57
Adhesion to concrete (MPa)	> 2.5 (concrete failure)	
Adhesion to steel (MPa)	27	
Peak exotherm, (°C) 1000g, adiabatic conditions	34	

Expect reasonable variations. Unless otherwise noted, test samples were cured 7 days at 23°C and 50% relative humidity.

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.

PROPERTIES

Resin/hardener ratio, by weight	2 to 1
Density (kg/m ³)	2000
Working time at 21°C (minutes)	90

ESTIMATING DATA

One kit yields 0.045m³

APPLICATION

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

If an anchor bolt sleeve is to be filled, be sure all water is removed. If the anchor bolt is to be left ungrouted, seal the bolt hole with felt, foam rubber or other means.

Formwork must be strong and leak proof, and should be placed within 20-25mm of base plate edge. Coat formwork with heavy grease or cover with polythene film to allow easy removal of forms. Forms may be sealed with putty or caulking. Seal wood forms to vertical concrete surfaces by applying putty or caulk below top of concrete, then press form into place.

Moderately sized equipment should utilise a head form sloped at 45° to enhance the grout and minimise forming costs. Note: 125-150mm clearance is recommended at the area where the grout is to be placed.

Forms should extend a minimum of 20mm higher than the bottom of the equipment being grouted.

Protect the foundation and equipment from rain or moisture.

Expansion joints will reduce the possibility of cracking. On multiple sole plate installations each sole plate may be isolated.

Mixing

Pour the hardener into the pail of grout resin and stir until well mixed (2-3 minutes). Keep the mixing paddle submerged to avoid air entrainment.

Pour the mixed liquid into the grout or mortar mixer.

Add the grout aggregate, one bag at a time and mix until aggregate is completely wet.

Discontinue mixing once aggregate is completely wet to avoid excessive air entrapment and heat generation.

Note:

- Do not add solvent, water or any other material to the grout.
- Do not alter the resin-to-hardener proportions
- Precondition all components to 23°C for 24 hours before using.
- Do not use damp or wet aggregate
- Always mix resin and hardener before adding aggregate.



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Placing - 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 and a minimum thickness of 25mm. For intricate voids gentle strapping may be required to assist flow - do not vibrate grout.

For flat bottom plates and bases, the grout should be pured from one side through to the other across the short dimension.

When grouting closed areas, start at one end of the form and fill the cavity completely as you advance toward the other end to prevent air entrapment.

Note: low foundation and ambient temperatures decrease flowability.

Check frequently for leaks. Leaks do not self-seal. If not stopped they will cause voids.

Masterflow 678DP Plus is recommended for pour depths between 150mm and 450mm. For depths less than 150mm, use **Masterflow 648CP Plus**.

For information on hot and cold weather grouting, deep pour recommendations and other application data, please obtain a copy of the BASF "Application Guide for Masterflow Epoxy Grouts" available from your local representative.

CURING

No damp curing or special curing compounds are required. Cure time will vary depending on quantity mixed and placed and ambient temperature. Initial set at 23°C will be in 4-6 hours. **Masterflow 678 DP Plus** 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.

Note: curing rates and strength gain are retarded at lower temperatures - curing will not occur below 5°C.

CLEANING

Clean tools, mixer and other application equipment with **Thinner No. 1**.

PACKAGING

Masterflow 678 DP Plus is packaged in pre-measured units:

Part A:	7.62kg
Part B:	3.81kg
Part C:	4 x 20kg
Total Kit Size:	91.43kg

SHELF LIFE

Masterflow 678 DP Plus has a shelf life of 24 months when properly stored. **Masterflow 678 DP Plus** should be stored in unopened containers at 16 to 27°C in clean, dry conditions.

PRECAUTIONS

As with all epoxy products, wear protective overalls goggles 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 systems. Ensure adequate ventilation.

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

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 Construction Chemicals **Material Safety Data Sheet (MSDS)** from our office or our website.

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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. **BASF Construction Chemicals data sheets are updated on a regular basis and it is the user's responsibility to obtain the most recent issue.**

NOTE

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

BASF Construction Chemicals Australia Pty Ltd Incorporated in NSW A.B.N. 46 000 450 288

Sydney-Head Office: 11 Stanton Road Seven Hills, NSW 2147 Australia Ph. (02) 8811 4200

Newcastle: (02) 4961 3819 **Brisbane:** (07) 3633 9900 **Townsville:** (07) 4774 7344 **Melbourne:** (03) 9549 0300

Adelaide: (08) 8139 7500 **Perth:** (08) 9366 2600 **Kalgoorlie:** 0417 772 355

BASF Construction Chemicals New Zealand Head Office: 45 William Pickering Drive, Albany, Auckland Ph: (09) 414 7233

BASF Websites: www.basf-cc.com.au www.basf-cc.co.nz www.basf-ugc.com