

MasterFlow[®] 678

Deep-pour epoxy resin grout

MATERIAL DESCRIPTION

MasterFlow 678 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.

AREAS OF APPLICATION

- 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

CHARACTERISTICS 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
- **Superior adhesion** – positive bond to concrete and steel
- **Ideal for deep pours** - can be placed in lifts of up to 450mm thick

PROPERTIES

Initial set (hours)	6	
Final set (hours)	7.5	
Compressive Strength (MPa)	21°C	60°C
	1 day	-
	7 days	44
	28 days	73 67 80 57
Adhesion to concrete (MPa)	> 2.5 (concrete failure)	
Adhesion to steel (MPa)	27	
Peak exotherm, (°C) 1000g, adiabatic conditions	34	
Resin/hardener ratio, by weight	2 to 1	
Density (kg/m ³)	2000	
Working time at 21°C (minutes)	90	

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.

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 or grit blasting to achieve a CSP 4 - 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.

Placing

Clearances must be such that grout will flow without forming air pockets - provide vent holes. Grouting operations must be continuous with a minimum head of 15mm and a minimum thickness of 40mm. For intricate voids gentle strapping may be required to assist flow – do not vibrate grout. For all flat bottom plates and bases, the grout should be poured from one side through to the other across the short dimension.

When grouting closed areas use a tremmie pipe and pump to ensure that you can completely fill the cavity.

Start at one end of the form and fill the cavity completely as you slowly withdraw the tremmie pipe toward the other end to prevent air entrapment.

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

Mixing

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

Pour the mixed liquid into the grout pan style mixer. Add the grout aggregate, one bag at a time and mix until aggregate is completely wet.

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Discontinue mixing once aggregate is completely wet to avoid excessive air entrapment and heat generation. Always mix resin and hardener before adding aggregate. 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
- Low foundation and ambient temperatures decrease flowability.
- **MasterFlow 678** is recommended for pour depths between 150mm and 450mm. For depths less than 150mm, use MasterFlow 648.
- For information on hot and cold weather grouting, deep pour recommendations and other application data, please obtain a copy of the “Application Guide for MasterFlow Epoxy Grouts” available from your local Master Builders Solutions Technical Sales Representative.
- 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 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.
- Curing rates and strength gain are retarded at lower temperatures - curing will not occur below 5°C.

ESTIMATING DATA

One kit of **MasterFlow 678** yields 45L (0.045m³).

PACKAGING

MasterFlow 678 is packaged in pre-measured units:

Part A:	7.62kg
Part B:	3.81kg
Part C:	4 x 20kg (MasterFlow 648 Part C)
Total Kit Size:	91.43kg

SHELF LIFE

MasterFlow 678 has a shelf life of 12 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall.

PRECAUTIONS

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

DISCLAIMER

MasterFlow-678-ANZ-V5-0121

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