

Gravel Bonding Resin

**GRAVEL BONDING RESIN IS THE BINDER USED FOR AGGREGATES,
PVA FLAKES AND NATURAL MINERALS**



FixMaster Gravel Bonding Resin is a formulated epoxy resin binder which can be used on a wide range of applications.

The outstanding properties of this binder towards strength and flexibility are excellent making the system highly recommendable in civil engineering applications.

To be used as a binder for pigmented quartz, PVA flakes and other minerals.

ADVANTAGES:-

- Medium Viscosity
- Good Chemical Resistance
- Good Early Strength
- Good Flexibility (Unfilled)
- Excellent Curing Rate
- Versatile

TECHNICAL DATA

Typical Properties		Additional Application Information		
Colour	Straw to yellow liquid	+10°C	+20°C	+30°C
Viscosity @ 20°C	8000- 10000 Mpa	Pot Life	40 Mins	30 Mins 15 Mins
Gel time 500gms @ 20°C	25-30 Mins	Waiting time between coats:		
Curing Speed - thin film @ 20°C	3-4 Hours	Min	28 Hrs	24 Hrs 12 Hrs
Curing Speed - thin film @ 5°C	8-12 Hours	Max	70 Hrs	24 Hrs 24 Hrs
Compressive Strength	84Mpa	Final drying times:		
Flexural Strength	68Mpa	Foot Traffic	2 Days	1 Day 12 Hrs
Hardness (Shore-D)		Lightly Serviceable	3 Days	2 Days 1 Day
After 8 Hours	77	Fully Serviceable	7 Days	7 Days 5 Days
After 24 Hours	85	NOTE: All above values are approximate.		
Adhesion Strength (on steel)	7Mpa	Store away from Food, Drinks, Animals and Children.		

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PACKAGING -

5kg Unit:	Resin	3.40kg
	Hardener	1.60kg
10kg Unit:	Resin	6.80kg
	Hardener	3.20kg

COVERAGE -

Resin Bonded - Each 5kg unit will cover ~7-8 m² @ 0.7mm thick.

Resin Bound with 1-3mm – 5kg will cover ~5m².

MIXING -

FixMaster Gravel Bonding Resin has been accurately pre-measured to provide an exact chemical reaction. Do not attempt to change the mixing proportions, as a weak product will be produced. Thorough mixing of the hardener component with the resin component will ensure a product with optimum properties. Failure to achieve a homogeneous mix can result in soft, uncured spots.

PREPARATION -

Gravel Bonding Resin should only be applied to solid substrates (concrete, tarmac, compacted hardcore etc.) Clean the area thoroughly of any oils or loose debris and ensure the area is dry.

APPLICATION -

BONDED - Once the resin and hardener components have been thoroughly mixed, they should be decanted into a shallow tray/scuttle, then applied to the surface at a rate of 400-500g per m². Once an area has been coated, totally cover with the gravel/aggregate. Use a soft broom to push-in and sweep the gravel to the bare patches of resin, this also helps to embed and secure the gravel. You can then proceed to the next area. Once fully cured the area should be thoroughly swept to remove loose, unbonded surface gravel.

BOUND - Once the resin and hardener components have been thoroughly mixed to a homogenous state the mixed material needs to be combined with the aggregate at a rate of approx. 8(stone):1(resin). Spread onto the surface at a thickness of 10-12mm for pedestrian use or 18mm+ for vehicle use.

STORAGE -

FixMaster resin systems have a shelf life in excess of 12 months if stored in a dry warm environment. All FixMaster products should be stored at ambient temperatures to ensure the products remain in prime useable condition. Storage of products outside this range or repeated fluctuations in storage temperature can reduce the storage life of resin based products.

USEFUL TIPS -

To ensure that you get the optimum of properties and surface finish, remember the following:

- 1) Ideal application temperature is 15-20°C.
- 2) Store materials overnight in a warm place.
- 3) Use heaters if the temperature is low.
- 4) Keep cool if temperatures exceed 30°C.
- 5) Avoid high atmospheric humidity, particularly areas where plaster has just been applied.
- 6) Never alter mixing ratios.
- 7) Mix thoroughly by mechanical means whenever possible.

CLEANING -

All brushes, rollers, tools etc. should be cleaned with thinners immediately after use. For hands – soap and water.

HEALTH & SAFETY -

It is recommended that barrier creams, gloves and protective clothing are used when using Gravel Bonding Resin. If eyes are affected wash with copious amounts of water and seek medical advice. For full details refer to Safety Data Sheet.

EFFECT OF TEMPERATURE CHANGES -

FixMaster systems have been designed to produce the optimum application and physical properties at an ambient application temperature between 15°C and 25°C. When conditions are outside 15-25°C and it is not practicable to provide a suitable temperature, an awareness of the changes in application properties is needed.

TEMPERATURES BELOW 15°C

As the ambient temperature drops below 15°C, the viscosity of the liquid components increase. The lower the temperature the thicker the resin becomes. Resins become more difficult to apply and may not flow out satisfactorily. Equally it may be difficult to achieve coverage rates and excess products may be used. Air may not be fully released leaving pinholes or craters. It would be advisable to pre-warm the resin in the circumstances to achieve coverage.

Trowel applied systems become stiffer and difficult to trowel flat without applying heavy pressure, which can cause trowel burns, and the possibility of bubbles due to trapped air is more likely. If closing the surface of the screed is difficult, the chances of open porous areas are more likely.

Cure times are extended and at temperatures below 5°C the curing reaction may cease completely until a suitable temperature is reached. Although the resin will eventually cure at low temperatures, the polymer reaction is not as thorough as the original design and physical and chemical properties are reduced.

The use of solvents to reduce viscosity at low temperatures is widely accepted by many individuals as a normal practice. This is **not** so when the product has been designed as a solvent free system. Solvents, especially, with a low evaporation rate will create many problems, in many instances total failure and at the least a system which will not meet the relevant specification. To ensure optimum properties the use of any form of dilution must be eliminated on any system that is not designed to be thinned down.

TEMPERATURES ABOVE 25°C

Just as low temperatures increase the viscosity of resins, high temperatures reduce the viscosity and the resin becomes thinner.

Trowel applied systems become easier to trowel but the resin could drain to the bottom of the screed if not compacted properly.

Cure times are reduced but the workable time of the mixed resins is also reduced. This can result in resin going hard before it is applied and difficult in joining together separate mixes.

EFFECT OF HIGH HUMIDITY

FixMaster solvent free epoxy resin systems have been formulated to resist water staining which is caused by the formation of a salt when water comes in contact with the resin surface before the cure is complete. The resultant salt may not show immediately and the effect is that of a slightly matting surface. When the surface is eventually washed with water a white water stain occurs.