VARAPOXY GP

GENERAL PURPOSE EPOXY RESIN MORTAR

DESCRIPTION

VARAPOXY GP is a blend of aggregates bonded together with solvent free epoxy resin, designed for speedy and permanent repairs to concrete. The mixed material is applied to a suitably prepared surface and quickly cures to form an impermeable repair unaffected by most forms of chemical attack. It is supplied as a three pack material in pre-weighed quantities ready for on-site mixing and use.

USES

For speedy and permanent repairs to concrete structures, where strength, impermeability to water and resistance to aggressive chemicals is essential. Emergency repairs to concrete structures, repairs to acid tanks, sea walls, industrial floors in plating shops, chemical handling and process areas and bedding of precast concrete beams. It is suitable for use in marine environments.

ADVANTAGES

Speed: Early development of strength and hardness.

Quality: Pre weighed quality controlled materials.

Chemical Resistance: Resistant to a wide range of acids, alkalies and industrial chemicals.

Strong & Permanent: Twice as strong as typical concrete. Good resistance to abrasion and impact.

Waterproofing: Cures under damp conditions and cured surface is impermeable to water.

TYPICAL PROPERTIES

Pot life: 90 minutes at 20° C, 40 minutes at 35° C.

Initial Hardness: 24 hours.

Full Cure: 7 days. Below 20° C the curing time will be increased.

Minimum Application Temperature: 5° C.
Density: Typically 2020 kg/M^3.

CHEMICAL RESISTANCE

Performance of **VARAPOXY GP** blocks continually immersed at 20° C.

Citric Acid 10%	: Excellent
Tartaric acid 10%	: Excellent
Acetic Acid 5%	: Satisfactory
Nitric Acid 10%	: Good
Hydrochloric acid 25%	: Excellent
Sulphuric acid 10%	: Very good
Sugar solutions	: Very good
Lactic acid	: Very good
Hydrocarbons	: Very good
Phosphoric acid 50%	: Very good
Sodium hydroxide 50%	: Excellent
Diesel fuel/petrol	: Excellent

MECHANICAL CHARACTERISTICS

	Test Method	VARAPOXY GP	Typical Concrete
Compressive strength	**ASTMC-579**	75 N/mm^2	30 N/mm^2
Flexural Strength	**ASTMC-580**	20 N/mm^2	6 N/mm^2
Tensile Strength	**ASTM C 307**	10 N/mm^2	3 N/mm^2
Compression modulus	**ASTM C 469**	16 kN/mm^2	20 kN/mm^2
Water Absorption	**ASTM D 670**	0.20%	5.0%

INSTRUCTION FOR USE

Surface Preparation: All grease, oil, chemical contamination, dust, laitance and loose concrete must be removed by scabbling or light bush hammering to provide a sound substrate.

Metal surfaces should be de-greased followed by grit blasting to **BS 4232:** Second Quality or **SA2.5** (**SIS 05 59 00)**

PRIMING:

Before application of **VARAPOXY GP**, a primer must be used. The use of **VARAPRIME EP-10** is recommended. Refer respective product data sheet for more details.

Mixing: Mechanical mixing is necessary. The total base and hardener components should be thoroughly mixed in the base container and then emptied into a paddle mixer. Add the aggregate slowly with the mixer running and continue for 2 to 3 minutes until all the components are thoroughly blended.

Application : The mixed material should be applied with a steel trowel to the surface primed as necessary, and whilst the primer coat is still tacky, press firmly into cracks to ensure positive adhesion. In vertical applications, the material should be "built-up" to a maximum thickness of 12mm. But in horizontal application the maximum thickness can be increased by 20 mm in small areas where local mechanical support exists. In horizontal application, layers of up to 40-50 mm can be applied on chequer board style.

PACKAGING & YIELD

VARAPOXY GP is available in 12kgs packs which yields 6 litres giving a theoretical coverage of 1.2m^2 at 5mm thickness.

PRECAUTIONS

Cleaning: Spillages should be absorbed with sand or earth etc. and disposed in accordance with local regulations. Clean tools and equipment with water/solvents immediately after use.

Storage: Store in dry conditions upto 20^{o} C. Shelf life is 12 months.

PERFORMANCE STANDARDS

ASTM-C 881 - Type I & IV, Grade 3, Class B&C Passes ASTM-C 883 & ASTM-C 884.

HEALTH AND SAFETY

VARAPOXY GP should not come in contact with skin and eyes or be swallowed. Avoid prolonged inhalation of vapours. Some people are sensitive to epoxy resins, therefore, protective gloves, goggles and barrier cream should be used. Ensure adequate ventilation and if working in enclosed areas, suitable breathing apparatus must be used.

If mixed resin comes in contact with skin, it must be removed before hardening with a resin removing cream, followed by washing with soap and plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately. Do not in duce vomiting.