

POLYMETS-EP775[®]

Edition 08024

Semi-Gloss, Solvent free, polyamine cured epoxy floor coating

Description

POLYMETS-EP775 is a high-performance **VOC free**, two component, solvent free Epoxy based top coat that is specifically design to be used where high chemical, abrasion and impact resistance are required. **POLYMETS-EP775** shows an excellent performance when used as a top coat for concrete floors or as a lining coat for pipes and tanks.

POLYMETS-EP775 can also be used as a high quality self-leveling, mortar & grout when extended with appropriate aggregates quantity, grading & type (please refer to our technical office). It follows the **LEED** requirements for the **VOC** content. **POLYMETS-EP775** is classified as **SR- C80- F20- B2,0** according to **EN13813**.

Advantages

- Provides a Tough hard wearing and flexible film.
- Suitable for marine and industrial atmospheric exposure, immersion and water tanks made of steel or concrete.
- Safe when used for food contact applications
- Cures at low temperatures and cures under water
- Excellent resistance against a wide range of industrial chemicals.

Uses

POLYMETS-EP775 is specially developed for the following:

- Top coat for concrete floors of Garages, storehouses, factories, hospitals, residential floors.
- Top coat for Heavy duty floors in marine and industrial applications.
- Linings for containers, tanks and pipes made of, concrete, asbestos & cement.
- Lining for fuel tanks, potable water tanks and sewage water tanks

Suitable Surfaces

- Steel and non-ferrous metals properly prepared and blast cleaned to ISO-Sa2½
- Concrete free of contamination, dust and efflorescence, and properly prepared

Technical characteristics of mix at 25° C

Color	As per color card
Finish	Semi-gloss
Toxicity	Non-toxic
Mixing Ratio by weight	7: 1 (Base: Hardener)
Pot life	40 mins
Tack free	4 hours
Recoat interval	Minimum 12 hours – Maximum 10 days
Full cure	7 days
Dry film thickness range	100 – 1000 µm
Theoretical spreading rate	2 m ² / L @ 500 microns DFT (loss factors will apply in practice)
Flash point	> 100°C
VOC	0 g/l
Solid content	99 ± 1 %
Chemical Resistance	POLYMETS-EP775 has an excellent resistance to the following reagents:

- Ammonia 40%
 - Sulphuric acid 10%
 - Hydrochloric acid 10%
 - Water deionized
 - Seawater
 - Crude Oil and Gasoline
- For full chemical resistance chart please contact our technical office

Mechanical and physical properties

Heat Resistance ASTM C884 / C884M - 16	(-31°C) - (+155°C)
Compressive Strength EN 196-1	83 N/mm ²
Tensile Strength EN 196-1	36 N/mm ²
Flexural Strength EN 196-1	26 N/mm ²
Shore D Hardness DIN 53 505	86
Tear Resistance ASTM D624	32 N/mm ²
Crack Bridging Ability ASTM C836	No delaminating or rupture of coatings
Elongation ASTM D2370	30%
Pull-off Strength on concrete BS 1881 : 207	2.9 N/mm ² , Failure in concrete substrate
Abrasion Resistance DIN 53 109	≈ 32 mg (CS 10/1000/1000)
Chemical Resistance ASTM D1308	Results listed in chemical resistance chart

Package & Coverage

POLYMETS-EP775 is supplied in Kits (A+B) of 5L & 18L. (Other pack sizes may be available for large orders)
Approximate film thickness & Coverage rate on smooth surface is as follows:

	Minimum	Maximum	Typical
Film thickness, dry (µm)	100	300	200
Theoretical Spreading Rate (m ² /L)	10	3.3	5

Exact consumption depends on the type and roughness of the substrate.

Application Instructions

➤ Surface preparation

- It is recommended that the concrete must have a minimum tensile strength of **1.5 N/mm²** when tested in accordance with **BS EN 1542 or BS 1881: Part 207**.
- New concrete floors must be allowed to cure for at least 28 days and shall have an effective Vapour-proof membrane below to prevent rising dampness and encapsulation.
- All substrates to be coated must be solid, thoroughly clean and free from laitance, dust, loose particles, oil, wax, grease, asphalt, latex and gypsum compounds, curing compounds, sealers and any contaminant that might act as a bond breaker.
- Overwatered, frozen or otherwise weak concrete surfaces must also be cleaned down to sound, solid concrete by mechanical methods.
- The substrate must be rough, porous and load bearing. If necessary, mechanically clean down to a sound, solid substrate by shot blasting or similar. Any additional preparation required to achieve these profiles must likewise be mechanical.
- Concrete must have a minimum ICRI Concrete Surface Profile of 3 (CSP #3).
- Dust and other debris should be removed using vacuum equipment.
- Substrate and ambient temperatures must be at least 10 - 35°C during the application of **POLYMETS-EP775**.

➤ Priming

- All areas to be coated with **POLYMETS-EP775** must be first primed with **PRIMER-EP200** (please refer to separate technical data sheet) or any other a suitable epoxy primer from the **Hemts Construction Chemicals Ltd.** range depending on the substrate condition & porosity.
- One or more coats of the primer may be required depending upon the condition and porosity of the concrete substrate.
- High porosity substrates may be revealed after preparation and will be evident by their rapid suction and absorption.
- Poorly primed surfaces may lead to blistering or pin holing in the cured resin.

➤ Water leaks, Joints and Moving Cracks

- Any water leaks must be stopped and repaired following a proper repair procedure, using **VICASEAL MORTAR** or **VICAREPLUG & VICASEAL INJECTION** if required.
- Under no circumstances should **POLYMETS-EP775** be installed over any joints or any moving cracks. All existing expansion joints, isolation joints, construction joints and control joints (saw cuts), as well as all moving cracks, must be honored up through the topping by installing a flexible sealing compound specifically designed for use in moving joints.
- Failure to do so may result in cracking and/or disbonding of the topping. Even the slightest amount of movement in a control joint will cause the **POLYMETS-EP775** to show a hairline crack in a pattern reflective of the joint.
- **Hemts construction chemicals Ltd.** cannot be responsible for problems that arise from joints, existing cracks or new cracks that may develop after the system has been installed.

➤ Dormant Cracks

- Before proceeding with the installation, all dormant cracks greater than 0.7 mm wide must be prefilled with a fully rigid, 100% solids material.
- The filling of dormant cracks as described above is recommended to help prevent the cracks from showing through the topping. However, should movement occur, cracks will reappear.

➤ Mixing

- **POLYMETS-EP775** comes in a 5 kg or 10 kg kits with separate, pre-weighed amounts of hardener (Part B) and base (Part A).
- Before blending, thoroughly stir the individual components after opening each container.
- The base (Part A) is mixed with the hardener (Part B).
- Pour in all of the hardener and thoroughly mix for at least 3 minutes with a low-speed drill (300 rpm) and an epoxy mixing paddle.
- Pour some of the epoxy back into the hardener container after it has been mixed, mix for 10 seconds, and then pour the entire contents back into the resin container. Mix for another 30 seconds before applying.

Note: Once mixed, **POLYMETS-EP775** will generate heat and lose working time if it is left in the mixing container or otherwise kept in bulk.



➤ Application

- Immediately after mixing, spread using a notched or flat squeegee at the above-mentioned rates depending on the surface profile, and the rest of the batch within 20 minutes @ 20°C using a short haired roller for smooth substrates and long-haired roller for rough substrates and a brush for tight spaces and corners. Make sure that the entire surface is coated and that there is no ponding of the material.
- Avoid all general traffic over the surface for a minimum of 8 hours.
- A second coat is applied as soon as the first coat has dried (typically 12 - 24 hours). This time will vary depending upon the condition of the surface and the ambient temperature.
- Provision for ventilation and air movement will be required. When using new rollers, ensure that all loose fibers are removed prior to use, any loose fibers released from the roller will cause unsightly blemishes in the finished coating.
- A fine textured finish with improved slip resistance may be achieved by the use of suitable fine aggregates. Following the application of the first coat of **POLYMETS-EP775**, broadcast the fine aggregates at a rate of 0.6 - 2 1.0kg/m (depending on the area/location of use) onto the wet coating to seed the surface. After initial cure, the excess aggregates should be removed by brushing or vacuuming. The second coat of **POLYMETS-EP775** will then encapsulate the aggregates. Depending on the surface profile and quantity of aggregate used, the second coat may consume more material than the first coat to achieve a fully sealed surface.

➤ Precautions

- **This product is for professional use only.**
- All tools used must be cleaned immediately after application using a suitable solvent.
- **POLYMETS-EP775** is highly affected by heat. While high temperature decreases its working time, low temperature increases it. Never apply **POLYMETS-EP775** on substrates of temperature less than 10°C.
- **POLYMETS-EP775** is exothermic when mixed and highly reactive, so use it immediately after mixing without interruption.

Health and safety

POLYMETS-EP775 should not come into contact with food, mouth, skin or eyes during application. Always wear safety goggles, dust mask and gloves. If skin contact occurs, wash thoroughly with clean water. Should eye contact occur, rinse immediately with plenty of clean warm water for 15 minutes and seek medical advice. If accidentally swallowed, drink 2 cups of clean water and seek medical advice. Keep away from children reach.

Never use solvents it will only make **POLYMETS-EP775** penetrate deeper into your skin. Avoid inhalation of spray mist. Product is flammable, so keep away from sparks or flames and smoking.

Storage & shelf life

Keep the containers in a dry, cool, well-ventilated space and away from source of heat and ignition. Containers must be kept tightly closed. The shelf life of the product is one year in its original sealed packing, Storage in dry area at temperatures between +5°C up to 40°C.

Technical support

For any technical support, please consult our technical office or representatives.

