GENERAL CHEMICAL ENGINEERING

UNI EN ISO 9001:2015
Quality System Certified Company

TECHNICAL DATA SHEET
PRODUCT

POLIEPOXY®

EPOXY-POLYESTER SPECIAL ADHESIVE for MARBLE, GRANITE, NATURAL STONE, ENGINEERED STONE

NATURE OF THE PRODUCT

High mechanical characteristics combined with exceptional adhesive capacities, make **POLIEPOXY®** (adhesive/glue deriving from epoxy compounds combined with unsaturated monomers making hybrid resins, in mixture with monomer styrene, thixotropic agents, stabilizing agents, mineral fillers)the best polyester-based adhesive the actual chemical technology can offer. The mechanical and adhesive characteristics are comparable to those obtained with epoxy resins and, under some aspect (thermal distortion, kinetics of reaction) are undoubtedly better. The high chemical resistances make **POLIEPOXY®** safe from corrosion phenomena due to the atmospheric agents. The resistance to the alkali (good resistance to the saponification) and to the oxidizing agents, make the gluing made by **POLIEPOXY®** also suitable to be cleaned with aggressive detergents (hypochlorites, degreasing detergents or solvent based cleaners).

APPLICATIONS

POLIEPOXY® is recommended for permanent gluing, even in the most difficult situations, of MARBLES, GRANITES, STONES, CONCRETE, IRON and for gluing heterogeneous materials.

PREPARATION

For best results mix 2% to 3% of the catalyst (dibenzoyl peroxide in special formulation) with the adhesive; the version in paste facilitates the dosage. A homogeneous mixing will facilitate uniform catalysis. The catalysis speed is influenced by the temperature and by the proportion/quantity of catalyst. An excess of hardener/catalyst will increase the hardening speed, but weakens the adhesive seal. The surfaces to be treated/glued must be clean and dry and greasy substance free; porosity and a light roughness of the surface favour the best adhesion.
The hardened/cured adhesive is completely workable (grinding, polishing, sanding, buffing, etc.) after 2 to 5 hours.

CHARACTERISTICS OF THE ADHESIVE/GLUE (AS SUPPLIED)

Viscosity and reactivity can slightly vary in case of long storage.

Property	value	unit	method
APPEARANCE	paste	-	-
COLOUR (APHA)	< 80	-	DIN 6271
NON VOLATILE SUBSTANCES	74	%	DIN 3251
STABILITY	12	months	-
DENSITY	1,340	gr/ml	DIN 53217
FLASH POINT	43 (109.4)	°C (°F)	DIN 53213
STYRENE	15-20	%	-
EXPANSION COEFFICIENT	8 x 10^{-4}	K^{-1}	-

PROPERTIES OF THE HARDENED ADHESIVE (typical value)

Property	value	unit	method
TENSILE STRENGTH	80-90	Mpa	DIN 53455
TENSILE MODULUS OF ELASTICITY	2900	Mpa	DIN 53457
TENSILE ELONGATION	1,6	%	DIN 53455
BREAKAGE ELONGATION	3,1	%	DIN 53455
BENDING STRENGTH	109	Mpa	DIN 53452
BENDING MODULUS OF ELASTICITY	3010	Mpa	DIN 53457
HDT (High Distortion Temperature)	102 (215.6)	°C (°F)	ASTM D648
VITREOUS TRANSITION TEMPERATURE	115 (239.0)	°C (°F)	DIN 53455

HARDENING TIME

30°C	20°C	10°C
4-6 minutes	7-10 minutes	15-20 minutes

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PROCESS INFORMATION

POLIEPOXY® adhesive/glue must be kept in the original tins/cans in cool and dry place and sheltered from direct sunlight. Under these conditions it is stable and can be used for 6 months and over. The stability is reduced when stored at temperatures higher than 30°C (86°F). **POLIEPOXY®** is a pre-accelerated adhesive/glue ready to use and it can catalyzed by using a dibenzoyl peroxide based hardener/catalyst even at temperature lower than 18°C (64.4°F).

CHEMICAL RESISTANCE

% loss in weight of diskettes after 21 days dipping at 25°C (77°F)

Chemical aggressive	%
DEMINERALIZED WATER	1,4
SODIUM HYDROXIDE	1,1
ACETIC ACID	8,1
HYDROCHLORIC ACID	1,7
METHYLISOBUTHYLKETONE	3,2
SODIUM HYPOCHLORITE	2,4
ETHANOL	6,7

ADHESION TEST

Tensile strength [after 48 hours hardening at 25°C (77°F)]

Test	support / material			kg/cm²
A	POLISHED MARBLE	*bonded to*	POLISHED MARBLE	23
B	HONED MARBLE	*bonded to*	HONED MARBLE	55
C	POLISHED GRANITE	*bonded to*	HONED GRANITE	60
D	HONED GRANITE	*bonded to*	HONED GRANITE	66

During the tests A-B-C-D the breakage of the support happened, not the breakage of the adhesive

SAFETY

All GENERAL' products are provided with the specific Material Safety Data Sheet.

REMARKS - LIMITATION OF LIABILITY

Various are the factors influencing the hardening process and various and differents are the applications and use of the adhesive / glue.
The data provided derive from published information or from our own laboratory tests. The information provided here must be considered as a guideline and not as any form of performance guarantee. The users must effect on-site tests to verify the suitability of the product for the requested and specific application or use.
Since the application of the product is beyond the control of the manufacturer or supplier, our liability for defective products, when verified, is limited to the refund of the purchase price.

*The excellent mechanical properties, along with its versatility and outstanding adhesive qualities, make **POLIEPOXY®** a reliable and innovative adhesive representing the best the technology offers today.*

A PRELIMINARY TEST IN A SMALL, HIDDEN, AREA ALWAYS IS RECOMMENDED BEFORE THE APPLICATION

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