EUROKOTE® 48-20
Technical Data Sheet

DESCRIPTION
Two component solvent free high build epoxy coating, applied by twin-feed hot airless spray or by syringe at room temperature for the repair of small areas.

APPLICATION AREAS
EUROKOTE® 48-20 is designed for the protection of pipes, accessories and storage vessels in contact with drinking water, sea water, waste water and industrial water.
EUROKOTE® 48-20 is recommended as repair product for EUROKOTE® 712 PP and 711.92 type FBE powder coatings, ENDOPRENE® type polyurethane coatings and EUROKOTE® type liquid epoxy coatings.

APPROVALS
EUROKOTE® 48-20 meets the requirements of the European EN 10339 Standard.
EUROKOTE® 48-20 meets the requirements of numerous European bodies for contact with drinking water, particularly: blue version – ACS (F) – DVGW W270/UBA (D) - BELGAQUA (B) – WRAS (UK) up to 60°C – red brown and ivory versions: WRAS (UK), ACS (F).

CHARACTERISTICS
Number of components	: 2
Colour of dry film	: Blue, red brown, ivory, grey (please consult us for other colours).
Appearance of dry film	: Gloss
Density at 23°C	: Around 1.6 g/ml
Calculated dry solids (by volume)	: 100 %

NOMINAL DRY FILM THICKNESS
EUROKOTE® 48-20 is designed to be applied in a single coat at a nominal dry film thickness range between 300 and 800 μm. The final choice of the thickness will be determined by the end use specification.

THEORETICAL COVERAGE
Machine/Palette knife: 1.3 m^2/kg, i.e. 2 m^2/l for 500 μm DFT

DRYING TIME (for 500 μm dry film)
	At 10°C	At 20°C	At 40°C
Dust free	6 h	3.5 h	1.5 h
Hard dry	12 h	6 h	3 h
Fully dry *	72 h	24 h	12 h

* Depending on the application parameters, the environment and the composition of the systems.

CLEANING SOLVENT
Diluant. 011.02

STANDARD PACKAGING
Doses (R+D) of 73.5 kg in containers (blue, red brown)
Box (R+D) of 26 x 1 kg doses (all colours)
Doses (R+D) of 50 ml in syringes (all colours)
Please consult us for other types of packaging.

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STORAGE
Use by date under shelter, at a temperature between + 5°C and + 35°C in the original unopened packaging :
- 12 months for 73.5 kg packaging,
- 24 months for syringes and 1 kg.

HEALTH AND SAFETY
Flash point: Part R: > 100°C - Part D: > 100°C
Always consult the legal labelling on the packaging and the material safety data sheet before use.

SPECIFIC RECOMMENDATIONS
The coating may be brought into contact with drinking water 24 h after application, without any alteration of the water quality.

SUBSTRATES
- Steel, iron.
- Other substrates: please consult us.

PROPERTIES OF THE CURED COATING

Physical and mechanical properties	Standard	Substrate	Thickness	Result
Electrical non porosity at 20°C (5 V/µm)	EN 10339	Steel Sa 2 ½	400 µm	No porosity
Sattec adhesion at 20°C	ISO 4624	Steel Sa 2 ½	400 µm	≥ 10 MPa
Shore D hardness at 20°C	ISO 868	Steel Sa 2 ½	400 µm	> 70
Static indentation, 48 h at 20°C	EN 10289	Steel Sa 2 ½	400 µm	≈ 2 %
Tensile strength at 20°C	ISO 1184	Free film	1 mm	≈ 15 N/mm^2
Elongation at break at 20°C	ISO 1184	Free film	1 mm	≈ 3 %
Taber abrasion (CS17 wheel, 1 kg, 1000 cycles)	ASTM D 4060-95	Smooth steel	400 µm	≈ 90 mg
Examples of chemical resistance*				
Resistance to deionised water				
- immersion for 7 days at 80°C	ISO 2812-2	Steel Sa 2 ½	400 µm	No alteration
- immersion for 12 months at 60°C	ISO 2812-2	Steel Sa 2 ½	400 µm	No alteration
- absorption after 30 days at 50°C	ISO 62	Free film	1 mm	< 1.5 %
- absorption after 30 days at 20°C	ISO 62	Free film	1 mm	< 1 %
Resistance to 10% sulphuric acid				
- absorption after 30 days at 20°C	ISO 2812-1	Free film	1 mm	< 1 %
- absorption after 2 days at 50°C	ISO 2812-1	Free film	1 mm	< 2 %
Resistance to 10 % caustic soda				
- absorption after 30 days at 20°C	ISO 2812-1	Free film	1 mm	< 1 %
- absorption after 2 days at 50°C	ISO 2812-1	Free film	1 mm	< 1 %

* Please consult us for other products and temperatures.

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INSTRUCTIONS FOR USING EUROKOTE® 48-20

1. Preparation of the surface to be coated

Surface preparation is a very important phase and must be carried out with particular care.
The quality of the stripping and dust removal phases has a considerable influence on the adhesion performance of the coating.

Before applying the coating, the surface to be coated must be dry and free of any soiling (such as existing coatings, paints and non-adherent particles, grease, oil, etc.) that can adversely affect surface preparation. Contaminants should be eliminated by any appropriate means using products that are compatible with the coating to be applied.

1.1 Application on metal substrates

The substrates to be coated must be prepared by stripping with abrasives to obtain a minimum Sa 2 ½ surface finish as per the ISO 8501-1 Standard, with a surface roughness (Rz) between 30 and 120 μm (according to the end use specification) measured in accordance with the ISO 8503-4 Standard, followed by careful removal of dust. Before application, the surface must be inspected. Any slivers, scale, weld splatter and surface imperfections must be eliminated.

If an adjacent coating is to be over-coated, the area in question should be roughened or finely abrasive blasted to promote inter-coat adhesion. In the case of a very thick coating, the edge should be chamfered.
Carefully remove all traces of dust before application.

Surfaces cleaned to Sa 2 ½ surface finish must be protected in order to ensure they are maintained in a perfect state of conservation up to the application of the final coating.
The temperature of the steel surface and the time before applying the coating must not lead to any oxidation of the surface that could adversely affect the quality or the adhesion of the coating.

1.2 Repair of coatings

• All non-adherent parts of the existing coating should be removed with a knife, scraper or any other suitable means.
• Grind or wire brush the stripped surface to remove any remaining adherent parts of the coating and eliminate any traces of oxidation and soiling so as to obtain a ST3 degree of surface finish as per the ISO 8501-1 Standard. This may be done using an abrasive flap wheel with 40 grain abrasive.
• Chamfer the existing coating adjacent to the area to be repaired and roughen the surface over a width of 50 mm.
• Carefully remove all traces of dust from the area to be repaired.

2. Application

2.1 Cold application

EUROKOTE® 48-20 is a two component product supplied in separate predosed non divisible packaging.

MIXING RATIO	VOLUME	BY WEIGHT
Partie R (Epoxy)	100 parts	68 %
Partie D (Hardener)	50 parts	32 %

The temperature of the substrate should be between + 10 °C and + 50°C and maintained at least 3°C above the dew point during the application and drying of EUROKOTE® 48-20 in order to avoid any condensation on the substrate to be painted.

The ambient temperature should be between + 10°C and + 40°C and the relative humidity should not exceed 85 %.

- The temperature of the product should be between + 10°C and + 30°C.
- Mix components R and D, which are predosed, with a spatula until completely homogeneous.
- Apply a thick coat of around 500 µm of the homogeneous mixture with a spatula or brush, without dragging the product so as to avoid reducing the thickness.
- Cover both the steel surface and the adjacent roughened existing coating.

POT LIFE:
- At 20°C: around 30 minutes for 1 kg
- At 40°C: around 15 minutes for 1 kg

2.2 Machine application

EUROKOTE® 48-20 is a two component product supplied in separate predosed packaging.

MIXING RATIO	BY VOLUME	BY WEIGHT
Epoxy resin (part R)	100 %	68 %
Hardener (part D)	50 %	32 %

- The temperature of parts R (resin) and D (hardener) must be around 40°C to enhance their flowability and facilitate their being fed to the metering unit of the airless spray.
- Before use, carefully mix parts R and D separately with a mechanical mixer until fully homogeneous. Do not dilute.
- Transfer parts R and D by pumping to the metering unit of the airless spray equipment, which enables automatic and controlled metering and mixing of the two components.

EUROKOTE® 48-20 is applied by airless spray (nozzle 21 to 31/1000 in., minimum pressure 160 bars) in several wet on wet coats. The temperature of the product (part R and part D) should be around 60°C. The substrate temperature should be between + 10 °C and + 50°C and maintained at least 3°C above the dew point during the application and drying of EUROKOTE® 48-20 in order to avoid any condensation.
The ambient temperature should be between + 10°C and + 40°C and the relative humidity should not exceed 85 %.
The applied coating should be uniform and the thickness of the wet film should be measured using for example method n° 6 of the ISO 2808 Standard.

3. Control of the coating

When the film has attained a sufficient degree of hardness (minimum 6 h at 20°C, minimum 3 h at 40°C), the following controls should be carried out:
- The appearance and the continuity of the entire coating should be visually inspected. The coating should have a uniform colour and appearance, exempt of any defects that could adversely affect the quality of the coating.

- The thickness of the coating measured using, for example, method n° 7C or 7D of the EN ISO 2808 Standard should comply in every respect with the contract or the specification.

- The non-porosity of the coating should be checked. The applied voltage should be that given in the specification employed and should be at least 5 volts per micron of dry film thickness and should not exceed 8 volts per micron.

4. Repairs

If there are any defects, a new coat of EUROKOTE® 48-20 should be applied.
All repairs should be controlled again for porosity and thickness as described above.