

TECHNICAL DATA SHEET

TECHNICAL FEATURES

Semi-glossy, water-based epoxy enamel, specific as anti-dust coating for industrial concrete floors. The treated surface is dustproof and impermeable to oils and greases. It is also resistant to petrol, acids and diluted bases. The product is characterized by excellent flow, smooth and saturated appearance and high adhesion to the cementitious support by virtue of the positive results of the pull-off tests necessary to identify the traction and resistance of the film system. The product is certified with A+ classification according to the minimum environmental criteria (CAM) and the interior Air Quality (IAQ) parameters with reference to voc emissions within 28 days of application. The product also has the EC marking for construction products with reference to the DoP performance parameters necessary for the products used in the building sector. Finally, the product was tested according to the Ministerial Decree 236/89 relating to the BCRA method which measures the coefficient of dynamic friction in order to verify the resistance to slipperiness on the cement substrate. The product is HACCP certified according to the UNI 11021 standard relating to products and systems for painting environments with the presence, handling, distribution and storage of food.

APPLICATION FIELD

Water-based epoxy enamel ideal as finishing coat for concrete floors. Suitable for floors in warehouses, garages, food and mechanical industries, workshops. The product is also suitable for vertical application on ceramic materials. It is the ideal product where a high surface hardness and structured body effect are required. This product can also be applied directly on the cement substrate as long as the pre-existing conditions of the floor are checked. In cases where the concrete surface requires the use of a suitable primer, we recommend the preliminary application of a first coat of solvent-based and water-based fixative impregnating agents provided for in the flooring range. By virtue of the Haccp certification it is the ideal product for painting environments and floors in which the deposit, storage, processing, administration of food substances to the consumer take place, i.e. canteens, food industries, industrial kitchens, warehouses and food laboratories, bars, restaurants and dairies. Finally, on the basis of the adhesion performance, defined by the cross cut method and by measuring the pull-off traction, the product is also applicable on vertical tiles in fine porcelain and glazed stoneware, in monoporosa cladding, in fiber mosaic, glass, single and double fired.

Classified according to EC Regulation 2004/42/EC - Dlgs 161/06 -Cat. j-BA) two-pack performance coatings. EC LIMIT VALUE 140 g/l (2010) - CONTENT 1 g/l

GENERAL INFORMATION

Nature: Water-based

Packages: 0,750 L - 2 L

SUBSTRATE PREPARATION

- New floor: to perform the work to the state-of-the-art, it is necessary to check the absorption of the substrate pouring water on it in order to verify the sufficient porosity level of the surface to be treated. If the water is rapidly absorbed, the support is in excellent conditions to be coated. Otherwise, it is not porous enough and it must be chemically treated as follows: wash the floor with a mixture of 1 part of muriatic acid to 9 parts of water and after the reaction of the acid, rinse well with water. When the floor is completely dry, proceed coating it.
- Already coated floors: mechanically remove any old paint and any possible residual, not compliant element, spots of oil, coat scraped by wheels and any friable material.
- Metal surfaces: the surface must be clean, dry, degreased and free from rust and/or calamine. Before applying Interior Design Resin, apply one coat of the proper water-based epoxy primer Make Primer for Tiles and 24 hours later, apply the final coat.

APPLICATION

Application conditions

Application by brush or short-haired roller (for enamels) is recommended. To ensure the homogeneity of the product with the hardener, please follow the instructions below: pour the hardener (Component B) into the pigmented base (Component A); mix everything with an electric stirrer with motor speed at 300-400 rpm. Avoid partial mixing of the product. Do not use water to wash the hardener packaging. After hardening, let the product rest for 5-10 minutes, dilute with water and proceed with application. Apply the first coat diluted at 20%; after about 12-24 hours, and no later than 3-4 days, finish with a coat of product diluted at 10% with tap water. If the conditions above are not respected, problems of non-uniformity of the finish may occur, with differences in brightness and color.

EQUIPMENT	VISCOSITY	NOOZLE	PRESSURE	NOTES
ROLLER AND BRUSH	-	-	-	Dilution for roller application: 1st coat at 20% with tap water; 2nd coat at 15% with tap water

CATALYSIS

HARDENER	CATALYSIS	USE	POT LIFE AT 20°C	PACKAGE
EPOX HARDENER FOR FLOORS	25% by weight (100 + 25)	Standard for flooring	90 minutes	1 kg - 4 kg

ENVIRONMENTAL CONDITIONS

ENVIRONMENT TEMPERATURE	SUBSTRATE TEMPERATURE	RELATIVE HUMIDITY	SHELF LIFE
12°C - 35°C	10°C - 35°C	60 %	Store in original sealed packaging at +5/+35°C. Protect from frost.

TECHNICAL DATA

THEORETICAL AVERAGE SPREADING RATE	APPLICATION	DILUTION	GLOSS	WET FILM THICKNESS EACH COAT
3,8 m ² /kg each coat at the dry film thickness of 100 μ	Short haired roller, Brush	1st coat at 20% with tap water - 2nd coat at 15% with tap water	50 - 60 gloss	181 μ
DRY FILM THICKNESS EACH COAT	N° OF COATS	TOTAL DRY FILM THICKNESS	THEORETICAL AVERAGE CONSUMPTION	
100 μ	2 coats to achieve the total requested thickness	180 μ	265 g/m ²	

DRYING

				
OVERCOATING INTERVAL	AIR DRYING	DUST-FREE DRYING	DRY TO TOUCH	DRY THROUGH
12 ore - 4 days	20°C	-	-	36 - 48 hours
				
FULL CURE	FLASH OFF	STOVING DRYING	RESISTANCE TO TEMPERATURE	
12 days	-	-	80°C	

WARNINGS AND RECOMMENDATIONS

- The degree of gloss can be influenced by the chosen color and the thickness applied. Unlike a glossy final coat, resistance to scratching and polishing is lower.
- The color match is evaluated after the application and drying of the product.
- In order not to incur financial penalties, after having colored a product with tinting machine, send the MSDS and apply the appropriate legal labelling.
- Total color development in epoxy resins is obtained after the hardening and dilution of the product.
- For slightly matt colored products (yellow, orange, red) it is recommended to use a suitable white primer.
- Shelf Life Component B: the shelf life of the hardener used with Component A is 12 months.
- The Pot Life can be influenced by the temperature. It is recommended to catalyze the quantity of product necessary to carry out the application within and no later than 30 minutes in order to avoid exothermic reactions and the complete hardening of the catalyzed material. Increasing the temperature of the material and the substrate, the pot life time useful for the application decreases (120-150 min at 10°C/90-120 min at 20°C/30-60 min at 30°C). After these times the product tends to dulling.
- Do not apply the product with floor temperatures below +10°C. Check for the presence of moisture in the substrate: it must not exceed 4%. Before applying any coating, it is advisable to carry out the "plastic sheet" test, according to Standard ASTM D 4263-83, to check for any problem caused by excessive rising moisture and/or counter-thrust water.
- Walkability parameters and overcoating interval for applications on cementitious floors: at 10°C walkable in 3 days and complete film hardening after 12 days; at 20°C walkable in 2 days complete film hardening after 8 days; at 30°C walkable in 2 days and complete film hardening after 6 days. In order to obtain such performances, the coatings must be applied in compliance with the application intervals defined according to the temperature: at 10°C the interval between the first and second coat must be 24 hours; at 20°C the interval must be 12 hours; at 30°C, the interval must be 8 hours.
- The floor must have a minimum compressive strength of 25 N/mm² and tensile strength of 1,5 N/mm².
- Especially as final coat, it is always advisable to use materials of the same production batch; different production batches of the same colour can have light differences.
- For floors subject to the parking of vehicles with new tires, it is recommended to carry out a preliminary test to exclude the formation of stains caused by the tire blend. The phenomenon is more evident with light colors.
- For anti-skid effect in compliance with the Italian Ministerial Decree 236-89 Ref. B.C.R., add component A with 5% of Antiskid additive; mixing must be carried out with an electric stirrer with motor speed of 300-400 rpm. Then catalyse the product as indicated in the technical data sheet.
- Apply the second coat after 12 hours and not later than 4 days at 15°C and after 12 hours and not later than 3 days at 20°C.
- The full chemical resistance is reached at 20°-30°C after 10-15 days.

TEMPERATURE °C	PAINTING INTERVAL	WALKABLE AFTER	COMPLETE POLYMERISATION
+ 10°C	24 hours	3 days	12 days
+ 20°C	12 hours	2 days	8 days
+ 30°C	8 hours	2 days	6 days

SUPPLY TECHNICAL DATA

	PARAMETER	DATA	TEST METHOD
Composition: Epoxy polyamide Reference color: White Ral 9010 % solid content by weight: $64 \pm 2\%$ solid content by volume: $44 \pm 2\%$ VOC: 1.1 ± 2 g/l VOS: $0.07 \pm 2\%$	SPECIFIC WEIGHT	1.4 - 1.6 g/ml	ISCOL 2
	GLOSS	50 - 60 gloss 60°	ISCOL 6
	VISCOSITY	5000 - 6000 mPa.s (20° C) Rod 4 Speed 20	ISCOL 1

MIXING RATIO A+B

	METHOD	0948
Specific weight after catalysis (A+B): $1.46 \pm 0,05$ g/ml % solid content by weight (A+B): $72 \pm 2\%$ % solid content by volume (A+B): $55 \pm 2\%$ VOC (A+B): 0.8 ± 2 g/l VOS (A+B): $0.05 \pm 2\%$	A+B BY WEIGHT	100 + 25
	A+B BY VOLUME	100 + 35

NOTES

Cleaning tools: At the end of the application, carefully wash the spray guns, the painting systems and the containers with tap water. In case of removal difficulties due to the drying of the product, use a limited quantity of suitable thinner in order to remove the residual material left on the application equipment.

Sanitary labelling: Handle the product with care. Make reference to the MSDS and respect the national and local regulations in force concerning personal and environmental safety.

Additional notes:

- The spreading rates are theoretical, indicative and intended per coat as they can be influenced by the color and the application system. Practical application test is suggested.
- The data reported in this data sheet have been obtained using only Make Design production materials (coatings, hardeners, thinners) applied in accordance with the specifications described. The improper use of thinners and/or hardeners, other than those mentioned or not manufactured by Make Design, can compromise application features, performances and final curing of the product. Therefore, in case of mixed coating systems with Make Design and other brand products, the conformity of the results with the parameters indicated in the technical data sheet cannot be granted.
- All times indicated in the drying section are to be intended at the temperature of 20°C, unless otherwise specified.
- The gloss indicated and tested may change during the application phase because it can be influenced by the following factors: realized color, thickness, number of coats, environmental conditions, thinner and hardener used if different from those established in the technical data sheet.
- Product certified in compliance with the Ministerial Decree 236-89 Ref. B.C.R for non-slip flooring - test report n° 20204159/n dtd 21/07/2020, and with the Environmental Product Declaration EPD according to the LCA - Life Cycle Assessment methodology
- Pot Life times have been defined at the temperature of 20°C, therefore higher or lower temperatures, hardeners, environmental conditions and humidity different from the standard can influence in defect or in excess the duration of the Pot Life.

The information contained in this technical document is correct and accurate to the best of our knowledge, and should therefore be considered reliable. In any case, they cannot imply a guarantee on our part, as certain factors such as the preparation of the product and the substrate, the conditions of use, application, drying and overcoating, as well as the state of conservation of the products, are outside our strict control. It is responsibility of the user to verify the suitability of the products for the specific use, as well as the correct and precise execution of the work in accordance with the content of the technical data sheet, the recommended coating system and preparation of the support. For further information regarding the method of application and conditions of use, it is recommended to contact our technical support service. It should be noted that the packaging image could have a placeholder purpose and could therefore be an indicative reference. The packages indicated may vary according to the additions or changes of the annual price lists. This document replaces all previous versions. In any case, it is advisable to refer to the annexes with the explanatory notes to better understand and deepen the parameters of the technical data sheet. The updated edition, available on the website www.make-design.it in the section technical data sheets of the download area is to be considered the only ones to consult as reference.