Product

STARFLEX HR/FR

cod. 63037
63040000

RAPID CURING PURE POLYUREA TWO-COMPONENT 100% SOLIDS ELASTOMERIC

Features

- Liquid applied product.
- Meets the requirements of standard 1504-2 for coatings: product for humidity control 2.2 (C), physical resistance 5.1 (C), chemical resistance 6.1 (C), increase in resistivity 8.2 (C)
- Fast Hardening with a very fast attainment of the final mechanical characteristics.
- Applicable also in vertical and ceiling.
- High elasticity, tenacity, resistance to puncturing, abrasion resistance and wear resistance with the ability of crack-bridging.
- Water impermeabile, excellent chemical resistance and corrosion resistance.
- Substrate application temprature range: from -20°C a +40°C, dew point of > 5°C (in the absence of condensation).
- Operating temperatures from -40°C to +90°C on the air.

Application field

- Waterproofing and pavementing for car parks.
- Concrete slab waterproofing and for railway bridges, viaducts, underground structures.
- Protection and waterproofing of hydraulic plants, pipes and dams.
- Roof waterproofing for civil and industrial buildings.
- Seamless flexible system.
- Resistance against abrasion.
- Waterproofing for industrial plants, agriculture and petrolchemical applications.

Application

PREPARATION

The surface to be treated must be sound and free from contaminations and debris. Substrate must be with a minimum pull off strength of 1,5 MPa. It is necessary to roughen the surface by mechanical means such as (sandblasting, sanding, shot-blasting or miling) to be chosen case by case.
After the preparation, apply the primer DUROGLASS P3 PRIMER, then take care to broadcast the surface with suitable quartz grain size.
In case of crater formation (pinholes), the primer should be applied even in several coats in order to seal the substrate completely. Applying by trowel add to the mixed compound quartz 0.1-0.3 in size in a ratio of 1: 0.3 or 1: 0.5 in weight to A+B, and saturate (blinding) with quartz. The use of DUROGLASS P3 PRIMER is compatible with slightly damp surfaces.

In the case of damp or counter-pressure substrates, first apply one or two coats of DUROGLASS FU BIANCO TIX or DUROGLASS FU RAPID according to the indications in the relative technical data sheets.

Application

The product can be applied exclusively by spraying devices (proportional hot spray) with two-component airless pumping units, equipped with a mixing gun.

The necessary equipment must also include pre-heating the separate components at temperatures of at least 65-75 ° C. The best results are obtained with pressures of at least 190 - 210 Bar, material temperatures of 75 ° C with heated feeding pipes for the spray gun.

Application on the Metal: The Starflex HR can be used to protect iron surface subjected to abrasion, because it has to be clean and sandblasted at Sa 2 ½ level based on SSPC-SP10. For having crossion resistance also on the steel substrate, we can apply two coats of DUROGLASS FF 4416 as a primer, then sprinkling of quartz with suitable granulometry, and then after 24 hours proceed with the application of STARFLEX HR.

Top coat

If the membrane has to be exposed to solar radiation, apply POLISTAR E / P or other in the available range of the approved UV resistant products, to the hardened surface or in any case within 24 hours.
The over coating has to be applied within 3-4 hours maximum after the application of STARFLEX HR.

In the case of damped substrates or back pressure apply one or two times DUROGLASS FU RAPID or DUROGLASS FU BIANCO TIX before, as it is written the related technical data sheet.

Technical Data

Color	Ral Chart (grey/red/green)
Density ISO 2811-1	1,10 ± 0,03 Kg/l
Viscosità 20°C **UNI EN ISO 2555**	Component A 1.000 ± 200 mPa.s Component B 1.250 ± 250 mPa.s
Pot life 22°C **UNI EN ISO 9514**	3-4 seconds
Mixing ratio	1 : 1 in volume 1 : 1 in weight
Dry contents **UNI EN ISO 3251**	c.a. 99,8 %
Theoretical consumption	2,2-4,4 Kg/m²
Theoretical thickness	2-4 mm
Hardening 22°C, 50% U.R.	-dry at touch 1 minutes -pedestrian passage 40 minutes -overapplication 80 minutes
Permeability to carbon dioxide **EN 1062-6**	R > 50 m
Permeability to water vapour **UNI ISO 7783-2**	Class I

Capillary absorption	$w < 0,1\ kg/m^2 \cdot h^{0.5}$
and permeability to water **UNI EN 1062-3**	
Direct traction resistance **UNI EN 1542**	> 3,00 MPa

Strike resistance **UNI EN ISO 6272**	20Nm	
Fire resistance certificate	BROOF T4	
Wear resistance **UNI EN ISO 5470-1**	Mola H22 1000 g 1000 giri : < 35 mg	
Thermical shock resistance **UNI EN 13687-05**	> 3,3 MPa	
Elongation at failure **UNI EN 12311-2**	> 300%	
Traction resistance **UNI EN 12311-2**	> 16 MPa	
Failure resistance **UNI EN 12310-2**	> 12 KN/m	
Hardness Shore D **EN ISO 868**	> 45	
Crack bridging **UNI EN 1062-7**	Method B, dynamic: B1 (23); B2 (23); B3.1 (23); > B4.1 (23) Method A, static: A5 (23)	
Ozone resistance **UNI EN 1844**	maximum	
Chemical resistance **EN 13529**	Hydrocarbon mixer Acetic acid 10% Sulphuric acid 20% Sodium Hydroxide 20% Sodium chloride	Classe I e II Classe I e II Classe I e II Classe I e II Classe I e II
Storage	The product in original sealed packs, that are stored in dry and protect area, at temperature from +5°C to +35°C, can be stored for 6 months.	

CR4 : 60% toluene – 30% xilene – 10% metilnaftalene
CR9 : Acetic acid aT 10%
CR10 : Sulphuric acid 20%
CR11 : Sodium Hydroxide 20%
CR12 : Sodium chloride 20%

CE

PERFORMANCE TO CERTIFICATION CE - EN 1504-2		
Prodotto tipo 1702	**DoP 103**	
characteristics	**Product performance**	**Test Method**
Permeability CO2	R > 50 m	EN 1062-6

Determination of water-vapour transmission	Classe I	EN ISO 7783-2
Determination liquid-water transmission rate	< 0,1 kg/m^2 x h$^{0.5}$	EN ISO 1062-3
Bond strength by pull-off	> 2,0 N/mm^2	EN 1542
Crack bridging	> Classe B4.1	EN 1062-7
Resistenza all'urto	Classe 3	EN ISO 6272-1
Resistance to temperature shock	>2 N/mm²	EN 13687-5
Abrasion resistance	< 3000 mg	EN ISO 5470-1
Resistance to severe chemical attack	CR4 (Classe II), CR5a (Classe II), CR6 (Classe II), CR9 (Classe II), CR10 (Classe II), CR11 (Classe II), CR12 (Classe II), CR13 (Classe II)	EN 13529
hazardous substances	hardened product does not release hazardous substances	
reaction to fire	NPD	EN 13501-1
Linear shrinkage	NPD	EN 12617-1
Coefficient of thermal expansion	NPD	EN 1770
Cross-cut test	NPD	EN ISO 2409
thermal compatibility	NPD	EN 13687-1
resistance to liquids	NPD	EN ISO 2812-1
slip/skid resistance of a surface	NPD	EN 13036-4
coating systems for exterior	NPD	EN 1062-11
electrical resistance	NPD	EN 1081
compressive strength	NPD	EN 12190
Compatibility on wet concrete	NPD	EN 13578

The data and prescriptions contained in this schedule, based on the best practical and laboratory ex- periences, are to be considered in any case indicative. Given the different conditions of use, and the intervention of factors independent of MPM (support, environmental conditions, technical direction of application, etc.) those intending to use the product are held to establish whether it is suitable or not for the intended use. Our guarantee extends only to the quality and consistency of the finished product with the data given above, and only for technical schedules bearing the stamp and countersigna- ture of the personnel delegated by our offices. The customer is further held to verify that these values are valid for the product batch concerning him and have not be updated and/or substituted by sub- sequent issues and/or new formulations. The data contained may vary at any moment without any obligation on the part of MPM to give prior notice.