Adhesives – Restoration by structural reinforcement with composite materials

Tecnoepo 701/L GREY

STRUCTURAL ADHESIVE
For reinforcement with tight plate

CE approved – Certificate n. 1305 - CPD - 0808
EN 1504-4 prospect ZA.1a

Description — Two-components product based on epoxy-ammino, charged with fillers and pigments, formulated as adhesive which cures at room temperatures.

Characteristics — High tixotropy.
High reactivity.
High mechanical resistances.
Medium-high glass transition.

Use — As adhesive for the repair or restoration of structural characteristics, with reinforcement techniques using fabrics or laminates in carbon, glass fibre or various hybrid fibres, steel plate (beton plaquè).

Application — *Tools:* by trowel.
Temperature of application: 5 ÷ 35°C and relative humidity of max 60 %.
Clean tools with : MEK or acetone or diluents for epoxy.

METHOD OF USE

PREPARATION OF THE SUBSTRATE

Prior the application of the adhesive, it is necessary to verify the condition of the cementitious substrate: it must be clean and oil free, without fats, delaminating particles and free from cracks and discontinuities. The preparation of the substrate should be done choosing the proper following procedures:
- Elimination with proper equipment of the superficial dust when the substrate seems in good condition. Vacuuming and/or washing with pressured water is always recommended.
- Repair or level with cement based mortars or resin based materials, when the substrate has cracks or anomalies. In any case, apply the coating only on de-dusted and sound substrates;
- Sandblast or shotblast with steel abrasive grit is needed in case of not-cohesive parts.

Avoid the application on substrates contaminated with oil and/or greases.

APPLICATION

Make sure the room is well ventilated and follow the recommendations stated in the Material Safety Data Sheet on the use of PPE (Personal Protective Equipment).
On the support previously prepared, continue with the application of **Tecnoepo 701/L** as follows:
- using a trowel, pour component B in component A pail
- mix the two components till complete homogenisation of the mix (homogeneous colour)
- apply uniformly the product on the reinforced plate by trowel, with a dosage of approx 1÷1,5 kg/m^2
- apply the plates to the surface, making a light pressure in order to achieve the adhesion and shore them up till curing (at least 24 hours at 20°C).

IMPORTANT: When the room temperature and the substrate are less than 10°C, it is necessary to heat separately the 2 components of the product to a maximum temperature of 30°C (eventually en bain-marie) in order to maintain the product mellowness and the better applicability

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APPLICATIVE CONDITIONS

Substrate temperature	: +5°C / +35°C
Substrate humidity	: ≤ 3%
Ambient temperature	: +5°C / +35°C
Relative humidity	: max 60%
Dew point	: the substrate and the product shall be at a temperature minimum 3°C higher than the dew point to avoid the risk of condensation.

PACKAGING

☒ supply - *kg*

component	a	b	a+b
pail	2.1	0.9	3

STORAGE

Store in the original and unopened packaging at a temperature between +5°C and +35°C. Product can be kept 12 months from the production date.

TECHNICAL CHARACTERISTICS

APPLICATIVE CHARACTERISTICS at 20 ± 2°C	**Test method**	**Unit of measurement**	**Typical values**	
Mixing ratio in weight	-	A : B	2,1 : 0,9	
Solid content in weight on total	-	%	~ 100	
Consumption	-	Kg/m^2	1÷1,5	
Specific weight	EN ISO 2811-1	kg/l	~ 1,45	
Pot life	EN-ISO 9514	minutes	60±10	
Workability time of the mixture (summer)	EN ISO 9514	minutes	~ 35	
Open time (summer)	EN 12189	minutes	~ 60	
PERFORMANCE CHARACTERISTICS	**Test method**	**Unit of measurement**	**Typical values**	**Values according to EN-1504-4**
Coefficient of thermal expansion	EN 1770	For C°	$30x10^{-6}$	≤ $100 x10^{-6}$
Total shrinkage	EN 12617-1	%	0,07	≤0,1
TG – glass transition temperature	EN 12614	C°	51,3	≥ 40
Resistance slant shear strength in compression	EN 12188	N/mm^2 at 50°	> 65	≥ 50
		N/mm^2 at 60°	> 70	≥ 60
		N/mm^2 at 70°	> 80	≥ 70
Adhesion by direct pull-off		N/mm^2	> 16	≥ 14
Flexural strength at 28 days	EN 12190	N/mm^2	> 35	-
Compression strength at 28 days	EN 12190	N/mm^2	> 60	≥ 30
Elasticity modulus in compression	EN 13412	N/mm^2	~ 4000	≥ 2000
Durability	EN 13733	-	Passed	Passed/Not passed

The above information is based on our best experiences and lab results and on results of the application of the product in various fields. Tecnochem Italiana is not responsible for negative performances due to not proper use of the product or for defects due to elements not connected with the quality of the product included wrong storage. Technical characteristic in this technical data sheet are up-to-dated periodically .Revision date of this technical data sheet is indicated below

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