



Very
High
Durability
Repair &
Prevention
Systems



Certified Quality System since **FEBRUARY 1993**

From Project to Jobsite

RAPI-tec® pva / pav R1 ST-HS

FIBRE-REINFORCED DUCTILE MICRO-CONCRETE WITH VERY HIGH FRACTURE ENERGY AND VOLUMETRIC STABILITY, VERY FAST HARDENING AND STRUCTURAL FITNESS FOR TRAFFIC

**CE approved – Certificate n. 1305 - CPD - 0808
EN 1504-3 Class R4**

R4

EN 1504-3

NORMA EUROPEA

Description RAPI-tec® pva/pav R1 ST-HS is a mortar for localized structural application and repairs on pavements, with a deformation capacity and fracture energy 100 times higher than a standard special mortar. The product contains **FIB-energy® ST-HS**.

Advantages RAPI-tec® pva/pav R1 ST-HS combines a sufficient pot life (about 60 minutes at 20°C) with subsequent rapid hardening (compressive strength at 3 hours = 20 Mpa; flexural strength after 3 hours = 3.3 MPa), no shrinkage, excellent deformability without cracks, high initial and final mechanical strength, excellent durability and resistance to freeze-thaw and sulphate attacks, absolutely waterproof. Thickness from 5 mm to 200 mm. Possible addition of about 30% of healthy and washed gravel for thicknesses higher than 40 mm.

Application RAPI-tec® pva / pav R1 ST-HS is used wherever you need the quick and structural viability of traffic after application. High initial and final resistance and durability.

Construction and patching/repairing of floors resistant to wear and extreme stresses from impact and heavy traffic.

Repair and reconstruction of floors and joints in concrete. Repair and reinforcement of floors, jacketing of columns and beams, repairs and reconstructions in the total absence of shrinkage and with structural viability after 3 hours. As shrinkage free substrate, rapid suitable for epoxy, polyurethane, elasto-plastic coatings.

On request, the product can be tinted with inorganic, UV resistant pigments pastes.

Method of use • The substrate needs to be healthy, clean, sound without loose particles or dust, washed by water pressure and saturated with water before application.

- No presence of oil, greases or detergents.
- Temperature of application: +5°C to +35°C.
- Mix with vertical axes mixer or efficient drill with whisk.
- Mix the powder with potable water till a perfect homogeneous paste is obtained. Mixing time: about 3-4 minutes or more.
- Add the fibres FIB-energy® ST-HS to the paste. Continue mixing till homogeneous paste. Mixing time not less than 7 minutes.
- Poor the paste over the proper prepared substrate and smoothen with vibrating ruler.
- The surface, after application and just walkable (1÷2 hours), has to be protected with polyethylene sheet or with insulation sheet **INSULATOR-tec 10**.
- Dosage water: for each 25 kg bag, use 2,75 ÷ 3 Kg. water (11 ÷ 12%)

Remark Information according to 2003/53/CE:
Storage: 6 months in original closed packaging, maintained in close and protected environment, dry, at temperature between + 5°C and + 35°C.

Packaging RAPI-tec® pva/pav R1 ST-HS / **FINE** : Bags of 25 Kg (powder) + 1,13 Kg fibre **FINE**
For low thickness - (use safety gloves for the manipulation and dosing of the fibres).

RAPI-tec® pva/pav R1 ST-HS / **GROSS** : Bags of 25 Kg (powder) + 1,38 Kg fibre **GROSS**
For big thickness or for repair of joints - (use safety gloves for the manipulation and dosing of the fibres).



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Technical characteristics (typical values)

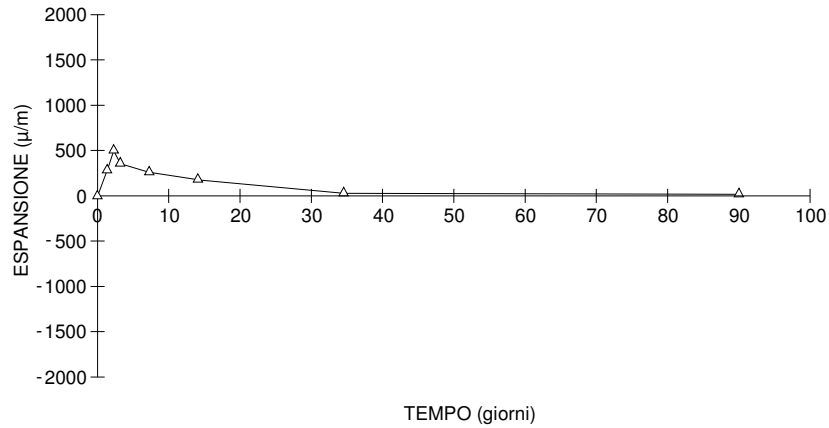
Maximum particle size aggregates	≤ 2 mm
Initial setting time (20°C) DPU	60 minutes
Final setting time (20°C)	90 minutes
Density	2,3 Kg/litre
Consumption	2,1 Kg/m ² /mm
Compressive strength	
2-5 hours	20 MPa
24 hours	40 MPa
7 days	78 MPa
28 days	96 MPa
Flexural strength	
2-5 hours	3.9 MPa
24 hours	11 MPa
7 days	20 MPa
28 days	24 MPa
Modulus of elasticity (28 d)	36 GPa
Fracture Energy (28 gg)	~ 10.000 N/m
Impermeability to water EN 12390-8 5 bar x 3 days.	< 3 mm
Resistance to frost/thaw cycling in presence of salts, according the Suisse standard SIA 162: (weight loss after 28 cycles ≤ 600 gr/m ² corresponding to the optimal resistance for applications on motorways).	≤180 gr/m ²
Free Shrinkage/expansion (T = 20° R.H. = 50%) (UNI EN 1217-4 / UNI 6687-73)	± 10 µm at 90 d
Adhesion to the support (EN 1504-3)	3 MPa at 28 days (substrate failure)
Impact resistance (CSTB 3232)	No crack after 25 impacts
Surface hardness (EN 13892-6)	≥ 150 N/mm ²
Shore hardness (ISO 868)	D ≥ 75
Penetration test (EN 12697-21)	l < 0,1 mm
Wear resistance roller (XP P 11-101)	Δvr ≤ 2 cm ³
Resistance to abrasion (EN 102)	20 mm ³
Resistance to sulphates UNI EN 196/1 and ASTM C 88 (sequence of 15 immersions and drying in magnesium sulphate solution)	No degradation Weight loss < 0,20%
Resistance to chemicals (contact time 24 hours)	No change of the surface with caustic soda, amine, methanol, trichloroethylene, gasoil, engine oil, brake fluid

Safety instructions Use on building sites the usual protections as for cementitious materials.
Carefully read the instructions on the packaging or consult the relevant MSDS of the product.

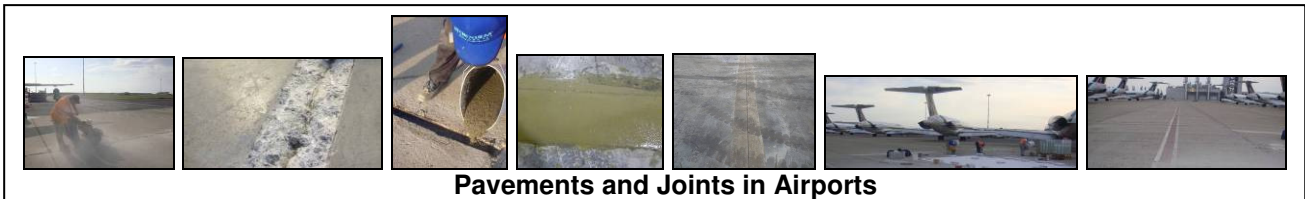
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Zero shrinkage

UNI 6687-73



Repairs and restoration of concrete floors with rapid usability: 3-4 hours after application





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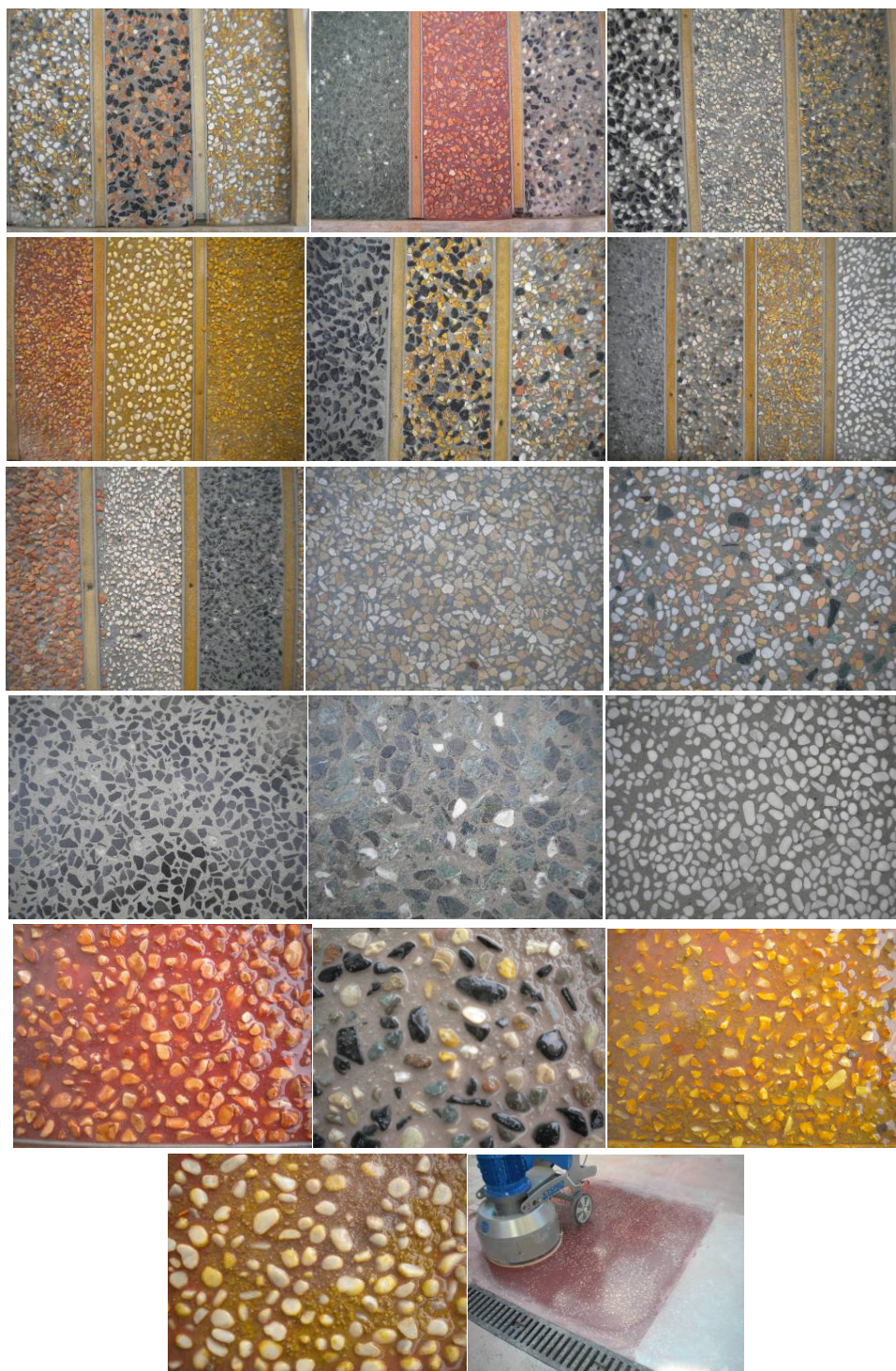


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TECHNOLOGY RAPI-tec® pva/pav

COLOURED FLOORS WITH GRINDED STONE FINISH, RAPID EXECUTION AND USABILITY FOR TRAFFIC.
WASHED CONCRETE TOPPING



The above data are based on our actual and most experienced practical and laboratory knowledge and the results are collected from application of the product in different situations. Tecnochem Italiana does not assume any responsibility regarding inadequate or negative performance as a result of improper use of the product or for defects deriving from factors or elements other than the quality of the product including improper storage. The technical characteristics and performance mentioned in this datasheet are updated periodically. The revision dates and number of revision of the datasheets are listed in the table below. Eventual variations are traceable on our website www.tecnochem.it where the most updated datasheets can be retrieved.

Edition: 09/2010

Date revision : 05/2013

Nr.rev.: 8

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