

## MAPEPLAN TU S

Synthetic waterproofing membrane for tunnels and underground structures

### DESCRIPTION

**MAPEPLAN TU S** is a PVC-P synthetic waterproofing membrane. It can be applied as a fluid barrier in the construction of tunnels and underground structures.

**MAPEPLAN TU S** is a homogeneous membrane composed of a main black layer and a orange signal layer.

**MAPEPLAN TU S** is conform to EN 13491 and SIA V 280 standards.

### WHERE TO USE

- Drill and blast tunnel waterproofing;
- Open cut tunnel waterproofing;
- Underground structures waterproofing.

### TECHNICAL CHARACTERISTICS

**MAPEPLAN TU S**, due to the special formulation achieved at Mapei SpA laboratories, can accomplish different waterproofing requirements. The presence of the signal layer allows to easily detect any eventual damage, even if minimal, that may occur during the installation and/or during all the subsequent working phases, thus safeguarding the integrity of the whole waterproofing system.

**MAPEPLAN TU S**, due to the high standard production level, performs both good mechanical properties and workability and welding characteristics.

- Signal layer (orange);
- High workability and good welding characteristic;
- High mechanical resistance;
- High resistance to permanent pressure;
- High resistance to root action;
- High flexibility at low temperature;
- High resistance to stray currents (50 KV);
- High resistance to ageing;
- Explosion resistance;
- Self-extinguishing in case of fire, class E classification according to EN 13501-1;
- Suitable for contact with both alkaline and acidic water.

### PACKAGING

**MAPEPLAN TU S** is supplied in 20 m rolls. It is possible to supply a higher roll length upon request, depending on either the tunnel profile or the structure to be waterproofed.

**STORAGE AND WASTE DISPOSAL**

MAPEPLAN TU S is stable on ordinary working conditions. It is advised to store the product at the site in its original sealed packaging. According to current norms regarding waste disposal, the product may be disposed of in an authorized waste tip, a recycling plant for plastics or an authorized thermo-reducing plant.

FOR PROFESSIONALS USE ONLY.

**WARNING**

*Although the technical details and recommendations contained in this product report correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical applications: for this reason, anyone who intends to use the product must ensure before handing that is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequence deriving from the use of the product.*

<b>TECHNICAL DATA (typical values)</b>	
<b>PRODUCT IDENTITY</b>	
Raw material:	PVC-P
Colour:	orange/black
<b>MAPEPLAN TU S 20</b>	
<b>Dimensions:</b>	
Thickness (UNI EN 1849-2) (mm):	≥2±10%
Standard roll length (UNI EN 1848-2) (m):	20 (-0/+5%)
Width (UNI EN 1848-2) (m):	2,10 (-0,5/+1%)
Mass per unit area (UNI EN 1849-2) (g/m <sup>2</sup> ):	2740 (-5/+10%)
<b>TECHNICAL CHARACTERISTICS</b>	
Tensile strength at break (EN 12311-2) (N/50mm):	≥800
Elongation at break (EN 12311-2) (%):	≥200
Resistance to tearing (EN 12311-2) (N):	≥160
Puncture CBR test (EN ISO12236) (N):	≥150
Watertightness (UNI 1928) (B method – 24 hours at 0,5)	Passed
Foldability at low temperature (EN 495/5) (temp. = -25°C):	No break or crack
Dimensional stability (heating at +80°C for 6 hours) (UNI EN 1107-2) (%):	≤2
Microbiological resistance (32 weeks) (SIA V 280) (%)	≤8
Washout – Migration (8 months) (SIA 280-12) (%)	≤6
Fire reaction classification (EN 13501-1):	class E

Quality of welding seams (peel break) (EN 12317-2):	not inside welding seam
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