WHERE TO USE
Thanks to its high chemical resistance, exceptional flexibility and tear strength, **Purtop 1000** is suitable for waterproofing membranes on storage tanks, basins and hydraulic works in general. The special properties of **Purtop 1000** also makes it suitable for waterproofing both new and old structures.

Advantages
**Purtop 1000** forms an excellent bond and may be applied on various surfaces (concrete, metals, etc.) to create a strong, flexible, continuous membrane. **Purtop 1000** has the following advantages:

- solvent-free;
- immediate waterproofing (after 1 minute) and set to light foot traffic (after 5-10 minutes);
- excellent tensile strength (25 N/mm² according to DIN 53504);
- excellent tear strength (96 N/mm according to ISO 34-1);
- high static and dynamic crack-bridging ability, including at low temperatures;
- elongation capacity more than 350% (DIN 53504);
- excellent resistance to alkalis and diluted acids;
- rapid reaction times when sprayed: gel time at +70°C < 4 seconds;
- no reinforcement required;
- does not generate overloads on load-bearing structures.

TECHNICAL CHARACTERISTICS
**Purtop 1000** is a two-component, solvent-free, pure polyurea resin formulate with fillers according to a formula developed in the MAPEI R&D laboratories. The product is grey in colour and is applied using a high-pressure, bi-mixer spray with flow and temperature control, preferably with a self-cleaning spray gun.

**Purtop 1000** must be applied in layers at least 2 mm thick and its very short reaction time means it may also be applied on vertical surfaces. After reticulation, thanks to its high tensile strength, tear strength and crack-bridging capacity (even at low temperatures), **Purtop 1000** forms a continuous waterproof coating which adapts to substrates with any geometric form.

**Purtop 1000** responds to the principles defined in EN 1504-9 (“Products and systems for protecting and repairing concrete structures: definitions, requirements, quality control and conformity assessment. General principles for the use of products and systems”) and the requirements of EN 1504-2 coating (C) according to principles PI, MC, PR, RC and IR (“Concrete surface protection systems”).

RECOMMENDATIONS
- Do not apply **Purtop 1000** on substrates which have not been cleaned and primed beforehand.
- Do not apply **Purtop 1000** on substrates with rising damp or with a humidity level higher than 4%.
- Do not dilute **Purtop 1000** with solvent or water.
APPLICATION PROCEDURE
Preparation of the substrate
1. Application on concrete substrates and cementitious screeds
Prepare the surface with a sanding machine or by shot-blasting to remove all traces of oil, grease, dirt and any other material which could compromise the bond of the waterproofing system. Remove all dust and any loose or detached parts from the substrate to leave a dry, porous, slightly rough surface with no contaminants. Hollows, cavities or portions of detached substrate must be repaired with:
- Mapegrout 430 fibre-reinforced, fine-grained, normal-setting thixotropic mortar;
- Mapegrout BM two-component mortar with a low modulus of elasticity;
- Mapegrout Easy Flow one-component, sulphate-resistant, fibre-reinforced, controlled-shrinkage thixotropic mortar.
Choose the most suitable product according to the thickness to be repaired, the time available and the site operating conditions. After preparing the surface as described, spray on Mapefloor I 914 two-component epoxy primer with an airless spray gun and dust the surface with 3 kg/m² of Quartz 0.5.
The consumption of Mapefloor I 914 varies from 0.5 to 0.7 kg/m² according to the roughness and porosity of the substrate. The waterproofing membrane must be applied within 12-24 hours of applying the primer (at a temperature of between +15°C and +25°C).
If the residual humidity in the substrate is higher than 4%, and it is not possible to wait until this level drops, apply a coat of Triblock P three-component epoxy primer instead of Mapefloor I 914 and then sprinkle it over with Quartz 0.5 with approximately 3 kg/m² of product. Apply at least 0.25-0.3 kg/m² on non-absorbent substrates and 0.4-0.5 kg/m² on absorbent substrates. The waterproofing membrane must be applied within 24-48 hours of applying the primer (at a temperature of between +15°C and +25°C).

2. Application on metal surfaces
On hydraulic works the entire surface may be in metal, such as metal storage tanks, or there may only be metallic elements passing through the walls of the structure, such as pipe-work. In both cases, after cleaning and treating the surface, apply a coat of Primer EP Rustop two-component epoxy primer by brush, with a roller or by airless spray. The waterproofing membrane must be applied within 6-24 hours of applying the primer (at a temperature of between +15°C and +25°C). The consumption of Primer EP Rustop is approximately 0.2 kg/m² and depends on the roughness of the substrate.

Application of the membrane
Purtop 1000 must be applied at a temperature between +5°C and +40°C. Before applying Purtop 1000, remove all traces of dust from the surface with an industrial vacuum cleaner. The temperature of the substrate must be at least +3°C higher than the dew-point temperature and the level of residual humidity must be no higher than 4%.
To apply Purtop 1000 membrane, use a high-pressure, bi-mixer industrial spray gun with flow and temperature control, preferably fitted with a self-cleaning spray gun.

Purtop 1000 must be applied continuously on all the horizontal and vertical surfaces. If application of Purtop 1000 is interrupted and then taken up again after the maximum covering time (2 hours), an overlap at least 30 cm wide must be made after applying a coat of Primer M at a rate of at least 0.1 kg/m² (the maximum covering time of this primer is 2 hours).

Cleaning
Because of the high bond strength of Purtop 1000, we recommend cleaning tools with solvent naphtha before it starts to set. Once hardened, cleaning is much more difficult and must be carried out mechanically.

CONSUMPTION
Consumption of Purtop 1000 depends on the roughness of the various substrates. The theoretical consumption on a smooth surface with a substrate temperature of between +15°C and +25°C is 2.0 kg/m² per 2.0 mm of thickness.
If the substrate is rougher or if the application temperature is lower, consumption and the setting and hardening times increase considerably. On severely damaged substrates, we recommend that they are repaired with a suitable product beforehand.

PACKAGING

STORAGE
Purtop 1000 may be stored for up to 12 months in its original packaging in a covered, dry area at a temperature of between +15°C and +25°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION
Purtop 1000 component A is corrosive, component B is hazardous and may cause irreversible damage. When applying the product, we recommend using protective clothing, gloves, safety goggles, a safety mask to protect the respiratory system and to work only in well-ventilated areas. If the product comes into contact with the eyes or skin, wash immediately with plenty of clean water and seek medical attention.
Purtop 1000 component A is also hazardous for aquatic life; do not dispose of in the environment.
For further and complete information about the safe use of our product please refer to...
**Technical Data (Typical Values)**

**Product Identity**
- Component A: Grey
- Component B: Amber yellow

**Consistency:**
- Component A: Fluid
- Component B: Liquid

**Density (g/cm³):**
- Component A: 1.08 ± 0.03
- Component B: 1.11 ± 0.03

**Brookfield viscosity at +23°C (mPas):**
- Component A: 530 ± 100 (rotor 3 - 50 RPM)
- Component B: 975 ± 175 (rotor 3 - 90 RPM)

**Hazard Classification according to Directive EC 1999/45:**
- Corrosive, dangerous for the environment, hazardous

**Application Data of Product (A+B) at +23°C - 50% R.H.**
- A/B ratio (by weight): 100/103
- A/B ratio (by volume): 100/100
- Get time at 70°C (seconds): < 4

**Ambient Application Temperature:**
- From +5°C to +40°C

**Performance on Free Film (Thickness 2 mm)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method(s)</th>
<th>Requirements</th>
<th>Performance of Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permeability to water vapour:</td>
<td>EN ISO 7783-2</td>
<td>Class I $s_r &lt; 5$ m</td>
<td>Class I (average $s_c = 2.9$ m)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class II $s_r &lt; 50$ m</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class III $s_r &gt; 50$ m</td>
<td></td>
</tr>
<tr>
<td>Capillary absorption and permeability to water:</td>
<td>EN 1062-3</td>
<td>$w &lt; 0.1$ kg/m²·h⁰.⁵</td>
<td>Average $w = 0.05$ kg/m²·h⁰.⁵</td>
</tr>
<tr>
<td>Permeability to CO₂:</td>
<td>EN 1062-6</td>
<td>$s_c &gt; 50$ m</td>
<td>$s_c = 285$ m</td>
</tr>
<tr>
<td>Direct traction adherence test</td>
<td>EN 1542</td>
<td>Cracking or flexible systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>with no traffic: $&gt; 0.8$ (1.0)⁻⁰⁰</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>with traffic: $&gt; 1.5$ (1.0)⁻⁰⁰</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rigid systems: $&gt; 1.0$ (1.0)⁻⁰⁰</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>with no traffic: $&gt; 2.0$ (1.0)⁻⁰⁰</td>
<td></td>
</tr>
<tr>
<td>Cracking ability</td>
<td>EN 1062-7</td>
<td>Classes required and test conditions indicated in tables 6 and 7.</td>
<td>Static at -10°C: exceeds class A5 dynamic at +23°C: exceeds class B4.1</td>
</tr>
<tr>
<td>Impact strength measured on MC (A+B)</td>
<td>EN ISO 6272-1</td>
<td>No cracks or delamination after loading</td>
<td>Class III</td>
</tr>
<tr>
<td>coated concrete samples according to EN 1766. Note: The expected thickness and impact load influence which class is chosen.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resistance to thermal shock (1x):</td>
<td>EN 13687-5</td>
<td>After thermal cycles</td>
<td>3.6 $N/mm²$ flexible system with traffic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) no swelling, cracking or delamination</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) average direct traction adherence test ($N/mm²$)</td>
<td></td>
</tr>
<tr>
<td>Abrasion resistance (Taber test)</td>
<td>EN ISO 5470-1</td>
<td>Loss in weight less than 3000 mg with an H2Z abrasive disk/1,000 cycles/1,000 g load</td>
<td>Loss by weight &lt; 200 mg</td>
</tr>
<tr>
<td>Exposure to artificial atmospheric agents according to EN 1062-11:2002, 4.2 (radiation, UV rays and humidity) for external applications only. Only white and RAL 7030/ require testing:</td>
<td>EN 1062-11</td>
<td>After 2,000 hours of artificial inclement weather: no swelling according to EN ISO 4629-2 no cracking according to EN ISO 4629-4 no foaming according to EN ISO 4629-5 Slight colour variations, loss of brightness and crumbling may be acceptable</td>
<td>no swelling, cracking or foaming (colour change)</td>
</tr>
<tr>
<td>Resistance to severe chemical attack</td>
<td>EN 13029</td>
<td>Reduction of hardness less than 50% when measured according to the Buchholz method, 24 hours after removing the coating material from immersion in the test liquid</td>
<td>Na₂CO₃: 20%, class II CH₃COONa: 10%, class II H₂SO₄: 20%, class II KOH: 20%, class II CH₂OH: class II mixture (60% toluene, 30% xylene, 10% methylisopropylketone): class II</td>
</tr>
<tr>
<td>Reaction to fire</td>
<td>EN 13501-1</td>
<td>Euroclass</td>
<td>E</td>
</tr>
</tbody>
</table>

**Reaction to Fire:**
- Euroclass E
our latest version of the Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

WARNING
Although the technical details and recommendations contained in this product data sheet 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 application: for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

All relevant references for the product are available upon request and from www.mapei.com

<table>
<thead>
<tr>
<th>SUBSTRATE</th>
<th>PRIMER</th>
<th>CONSUMPTION (kg/m²):</th>
<th>MIN-MAX COVERING TIMES (approximate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>sand-blasted Mapefloor I 914*</td>
<td>500-700</td>
<td>12-24 hours</td>
</tr>
<tr>
<td></td>
<td>sand-blasted Triblock P</td>
<td>250-500</td>
<td>24-48 hours</td>
</tr>
<tr>
<td>Steel (not stainless) and iron</td>
<td>Primer EP Rustop</td>
<td>approx. 200</td>
<td>6-24 hours</td>
</tr>
<tr>
<td>Non-ferrous metals (e.g. Al)</td>
<td>Primer EP Rustop</td>
<td>approx. 200</td>
<td>6-24 hours</td>
</tr>
<tr>
<td>Zinc-plated sheet</td>
<td>Primer EP Rustop</td>
<td>approx. 200</td>
<td>6-24 hours</td>
</tr>
<tr>
<td>Purtop 1000</td>
<td>No primer</td>
<td>–</td>
<td>30 mins. - 2 hours</td>
</tr>
<tr>
<td></td>
<td>Primer M</td>
<td>approx. 50</td>
<td>1-2 hours</td>
</tr>
</tbody>
</table>

* If the treated surface contains humidity due to surface condensation, apply a thin coat of Primer M with a roller (consumption 50-60 g/m²).

Note: the covering times are for temperatures of from +15°C to +25°C.