TEKE utilizes polyurea in countless applications. It improves appearance and mechanical, chemical and corrosion resistance of concrete, steel, fiberglass and wood constructions. Polyurea can be used to isolate constructions of the ground.

Polyurea coating provides new possibilities in the applications where earlier materials did not work.

Industrial tanks and other structures of concrete, steel and fiberglass coating outside and inside.

Flue gas equipment and chimneys coating to stand corrosion.

Drinking water tanks coating and sealing inside and outside. Polyurea version with WRAS-drinking water approval (Water Regulations Advisory Scheme). Drinking water tank before and after coating in the picture below.

Roof coating to make it waterproof using fire rated polyurea version. Durability of polyurea also creates "a safety belt"against snowloads on the roof.

Industrial safety-pool coating.

Water insulation of metro tunnel entrance to prevent formation of dangerous ice. Polyurea layer structure (water and heat insulating layers) is connected with anchors.
Food industries: Polyurea is VOC free (Volatile Organic Compounds) and water approved, which makes it suitable for coating food industrial areas.

Production area in the food industry spraycoated with polyurea to protect walls and to maintain hygieny.

Coating of ramps and parking lots to make them wear-resistant and waterproof.

Coating of airports, bridges and tunnels.

New production: Coating of silos, funnels, mixers, and vehicle parts for mechanical and chemical resistance.

Inside and outside lining and coating of oil, gas and water pipes and pipelines. Also on top of the insulation to achieve watertightness.

Coating and sealing swimming pools and water amusement parks. Water pools can be sprayed on geo-textiles on terrain. Withstands repeated freezing and meltdown cycles. Tightness gives good resistance against microbiological flora.

Sports auditorium coating and water proofing.

Ship decks and vehicle floors walls and platforms coating and lining to stand mechanical and chemical stress and to absorb sound. Cargo and ore transport train wagons coating.

Joints and cracks repair and coating. The picture shows the train ramp. It was in use two hours from the start of the repair work.

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Polyurea IS NOT polyurethane,

It is new “bullet-proof coating” material

Terms polyurea and polyurethane are often mixed together, although they are completely different materials. Development of polyurea began in the 1990s. The end result was very strong, tough, yet flexible, durable and long lasting coating material. Soft polyurethane on the other hand, has been used since the 1950s especially for isolation. Polyurea has substantially better properties than polyurethane.

Polyurea is touch dry within 5-10 seconds, even in as low working temperature as -30 degrees centigrade. The product is VOC-free. It does not emit toxic compounds when it cures. Therefore, polyurea can be used in the food industry and in drinking water applications.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Polyurea</th>
<th>Polyurethane</th>
<th>Epoxy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drying time</td>
<td>touch dry in 5-10 sec.</td>
<td>one day</td>
<td>several days</td>
</tr>
<tr>
<td>Ultimate elongation</td>
<td>up to 700%</td>
<td>600%</td>
<td>poor, cracks</td>
</tr>
<tr>
<td>Strength</td>
<td>very good</td>
<td>good</td>
<td>good</td>
</tr>
<tr>
<td>Chemical resistance</td>
<td>very good</td>
<td>good</td>
<td>good</td>
</tr>
<tr>
<td>Temperature resistance</td>
<td>-50 - +150 °C</td>
<td>-30 - +100 °C</td>
<td>-20 - 110 °C</td>
</tr>
</tbody>
</table>

Application for TEKE polyurea

Drinking water tanks, food-industry tanks and areas, process tanks, fuel tanks, roof waterproofing, sewage waterproofing, bridge waterproofing, parking lots and garages, tunnels, ship and offshore industry, wearproofing parts in production, coating of foam rubber, EPS-, XPS- and PU-coating.

This document, further information and videos can be found in the web: www.teke.fi/polyurea-en

TEKE has special knowledge of coating and repair of metals and concrete. Company has also developed dry cleaning technologies for power plant heat-exchange elements and turbines.

www.TEKE.fi

Further information
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