

## Hydrolysis-resistant TPU for hydrants

**Thermoplastic polyurethane (TPU) is not only abrasion resistant, wear resistant, and resistant to tear propagation, it is also hydrolysis resistant, which means that it can safely be used with drinking water. Simrit is a supplier of hydrolysis-resistant TPU that has all the necessary approvals for drinking water applications (KTW and W270) and can be used to replace NBR and EPDM sealing materials.**

Hydrolysis-resistant TPU features a range of material properties such as: good wear resistance, high tensile strength and elongation at break, hardness that can be adjusted over a wide range, high ozone resistance and oxidation resistance, very good damping behaviour in dynamic applications, and high resistance to cracking and crack propagation.

The Swiss hydrant manufacturer Hinni AG uses these material advantages for an innovative control system for drinking water networks. A hydrophone in the main hydrant valve picks up and evaluates sound waves from the pipelines. A specially developed precision moulding made of hydrolysis-resistant TPU connects the closing cone in the main hydrant valve with the hydrophone, thereby making the measurements possible. This precision moulding can roll up to follow the movement of the double shut-off in the hydrant. The geometry of the moulding cap has been optimised to ensure that it rolls up smoothly.

Hinni also uses specially developed seals made of this hydrolysis-resistant TPU for the main valve and draining seals in its hydrants. The outstanding advantage of this material is the considerable extension of service intervals. In this way, the hydrant manufacturer helps water supply companies to reduce operating costs.

As illustrated by the Hinni application, this material opens the door to customised solutions that are specially adapted to meet individual application requirements, including a variety of technical and material-specific variants. The colour of the new hydrolysis-resistant TPU can even be adapted to customer requirements.

Moreover, standard seals and precision mouldings made of this hydrolysis-resistant TPU are available and can be used for valves, fittings, sliders, meters, sprinklers, faucets, and mixing faucets, and to seal pipe connections. Because of the high dimensional stability of the hydrolysis-resistant TPU, O-rings made of this material can safely and reliably be used and installed over thread courses and side drilled holes. The fact that this material is extrusion proof and non-deformable, means that additional support rings are not needed for high-pressure applications. These seals are also capable of bridging larger gaps and allow for greater production tolerance and, therefore, lower costs in production.

**Adresse:**

<http://www.gupta-verlag.com/thermoplastic-elastomers/news/technology/8305/hydrolysis-resistant-tpu-for-hydrants>