

Tunnel, Austria

POLYUREA

Construction Contractor	Östu Stettin
Consultant	Polycoating GmbH & VIP GmbH
Coating Contractor	Polycoating GmbH, AT
Project Area	Tunnel Austria approx. 4.000 m ²
Construction System	December 2010 QuickSpray Industrial



Project Description

Polyurea is entering the tunnel systems in Europe. In a scientific project for designing a research-tunnel to measure the earth magnetis, for the first time VIP and its partners managed to use Polyurea in a specific system-setup for tunnel sealing. In a specially designed moulding system, developed by Polycoating GmbH and VIP GmbH, both parties achieved a revolution in traditional tunnel sealing systems. After doing a larger test area of approx. 300m² in a larger side-tunnel and a variety of hard material testing procedures, the whole system was approved. The sheer speed of cure of the system (24h vs. 6-7 weeks), the high degree of security in the application of Polyurea and the low level of material consumed are just a few of the many advantages, that need to be highlighted.

The work was carried out in the following steps:

1. Preparation of the stone surfaces; Checking for cuts and little stone hollows; eliminating of water ingress through drainage; wet areas with high residual moisture were treated using the VIP QuickBlock lithiumsilicate solution.
2. Insertion of the specially designed moulding system based on a concrete jacket, primer and Polyurea.
3. QuickSpray Industrial (aromatic) was applied by 2K Hot Spray machine.
4. Finish of the moulding with spray-concrete.

Through the speedy completion of the project the authorities managed to save substantial costs. This turns Polyurea into a real alternative against conventional systems, adding a host of improved material features and benefits including extremely high elasticity, high temperature resistance, etc. and a much longer durability for the tunnel.

