

Airport runway repair employing Polyfelt 14 paving fabrics

Project Data

Project	: Zeltweg Airbase, Austria
Consultant	: Dipl. Ing. Vasiljevic, Fa. Prüfbau
Contractor	: STRABAG Austria
Sub-contractor	: Teerag-ASDAG, Zwettler
Design and specification	: Zivilingenieurbüro Bieler, Graz
Products Used	: TenCate Polyfelt PGM 14; 150,000 m ²
New Overlay	: From the bottom to the top: 3 layers asphalt concrete: – 60mm BTS 0/22 – 50mm BTS 0/16 – 30mm AB 11 "Anti-Skid" - Surface
Construction Date	: 1990

Overview

In June 1990, the runway of Zeltweg Air Base in Austria had to be repaired. The surface consisted of an old concrete pavement which had been overlaid with asphalt several times in the past decades.

Severe cracks had reflected from the concrete surface through the asphalt overlays. The total area to be repaired was 1700 x 80m = 136,000m².

The New Surface

The following system was applied (from the bottom to the top):

- Tack coat 1.2 kg/m² polymer modified bitumen
- Polyfelt PGM 14 paving fabric
- 3 layers of asphalt concrete:
 - 60 mm AC 0/22 mm
 - 50 mm AC 0/16 mm
 - 30 mm AC 11 mm
- Anti-skid surface

Installation

After application of 1.2 kg/m² polymer modified bitumen, the paving fabric Polyfelt PGM 14 was installed using a special laying device which was mounted on the bucket of a front loader.

For logistic reasons, the complete area was covered with Polyfelt PGM prior to the installation of the asphalt overlay. Approx. 20.000 m² per day were installed by the installation crew, consisting of the bitumen spraying device, Polyfelt PGM installation device and two workers.

The overlaps of the Polyfelt PGM panels of 20 cm were glued by an additional 0.9 kg/m² of tack coat in order to guarantee consistent adhesive bonding at the joints.

The installation of the asphalt overlay was done in three layers, using three finishers working in echelons. The total quantity of asphalt concrete amounted to 40.000 tons.



Figure 1: Runway prior to maintenance works



Figure 2: Reflection cracks from the old concrete surface



Figure 3: The Polyfelt PGM paving fabric was installed using a laying device fixed to the bucket of a front end loader. Brushes behind the fabric ensure smooth laying.



Figure 4: Installation and compacting of the asphalt concrete overlay

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