

# Sealing & Bonding Bonding Agent

**Market** Transportation Industry

**Market segment** Air

**Sub-segment** Airport Terminals

**Project** GTAA New Terminal, Lester B. Pearson International Airport, Toronto, ON

**Products** Sikadur 32 Hi-Mod

**Existing situation** New Building

**Challenge** Provide material that will fully bond a 50 mm light weight concrete topping without saw cuts and cracks

**Solution** Sikadur 32 Hi-Mod Epoxy Bonding Adhesive – Approximately 92,900 m<sup>2</sup>

Construction

## New airport terminal prepares for take-off Super-strength adhesive provides crack-free concrete surface



The Terminal Development Project of the Lester B. Pearson International Airport, headed by the Greater Toronto Airports Authority, includes the replacement of Terminals 1 and 2 with a new single terminal scheduled to open in early 2004. The new Terminal 1 will contain a gross floor area of 328 km<sup>2</sup>, 258 passenger check-in counters in the main departure hall and a baggage handling system with 15 km of conveyor that can handle 18,000 bags per hour.

The passenger areas of the new terminal have a variety of architectural floor finishes and it was required that finish concrete surfaces needed to be crack-free and protected from construction traffic damage prior to the application of the final flooring. As such, it was decided to leave rough slabs during heavy construction and then place a 50 mm fully-bonded concrete topping as the final surface to receive the flooring systems. Due to the nature and expense of the finished floor systems, it

was essential that the bonded topping remain crack-free, fully bonded and be placed in 300 to 400 m<sup>2</sup> sections without saw-cuts or joints. After extensive evaluation of various suppliers and on-site trials, the concrete topping applicator selected Sikadur 32 Hi-Mod as the preferred product.

The surfaces were shotblasted and vacuumed and Sikadur 32 Hi-Mod was applied by squeegee and back-rolled to a film thickness of 20 mils. During cooler temperatures, Sikadur 32 Hi-Mod was warmed in a hot box prior to

application to facilitate placement. To date, approximately 80,000 m<sup>2</sup> of bonded topping has been placed without issue.

The Sika Solution with Sikadur 32 Hi-Mod's high bond strength and ease of application proved as the ideal epoxy bonding adhesive for this project.

Additional Sika products used on this project included: EmeriCrete SH as a floor hardener, Florseal WB as a cure and seal, Sika CarboDur, SikaWrap, M-Bed Standard, Sika Grout 212, SikaTop 111 Plus, and Sikadur 42 Grout Pak.



**Sika**®

## **Sikadur 32 Hi-Mod** High-Modulus, High-Strength, Epoxy Bonding Adhesive

- Structural adhesive for concrete, masonry, metal, wood etc
- Can be used as a protective coating for reinforcing steel.
- Insensitive to moisture before, during and after cure.
- Fast initial set; rapid gain to ultimate strengths.
- Excellent adhesion to most structural materials; easy to mix: 1:1 ratio.

## Other related products

### **Sika Emeri-Crete SH**

Dry Shake hardener for lower level baggage handling areas

#### **Premixed natural emery aggregate surface hardener**

Highly recommended for heavy-duty industrial surfaces and blended to be incorporated into the surface of freshly placed concrete providing many more years of durability over non-hardened surfaces.

- Highly resistant to impact and abrasion.
- Non-rusting, anti-slip finish.
- Unaffected by intense heat-maximum 290°C.

### **Florseal WB**

Curing material for bonded topping

#### **Acrylic emulsion, curing and sealing compound**

- Used for optimum curing and sealing of concrete floors.
- Adheres to damp concrete and seals in the moisture necessary for curing and hardening the surface.
- Remains as an effective film to protect the concrete surface from stain and provides a dust-proof finish.
- Once coat effectively cures and seals the concrete surfaces in one single, economical operation. No other curing method, such as burlap or plastic sheeting, is required.

### **Sika Grout 42 Multi-Flo**

Form and pour material for nosing compound on expansion joints

#### **Pre-proportioned, epoxy base plate, routing system**

- Designed to sustain high loads.
- Moisture insensitive.
- High vibration resistance.

New

## **Fast Set Mortars** Complete your jobs without delays!

### **SikaQuick 1000**

One-component, rapid-hardening, early strength gaining, cementitious patching material for concrete

- Specially suited for hot weather applications when extended working time is required
- Rapid hardening as defined by ASTM C928
- Allows application of an epoxy coating within 6 hours
- Open to foot traffic in 4 hours, to vehicle traffic in 6 hours

### **SikaQuick 2500**

One-component, very-rapid hardening, early strength gaining, cementitious patching material for concrete

- Very rapid hardening as defined by ASTM C928
- Allows application of an epoxy coating within 4 hours
- Open to foot traffic in 45 minutes, to vehicle traffic in 1 hour
- High early strength and fast setting

### **SikaSet 45**

One-component, very-rapid setting, early strength gaining, chemically reactive patching and repair material for concrete

- Very rapid hardening as defined by ASTM C928
- Freeze/thaw resistance
- Open to foot traffic in 45 minutes, to vehicle traffic in 1 hour
- High early strength and fast setting



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