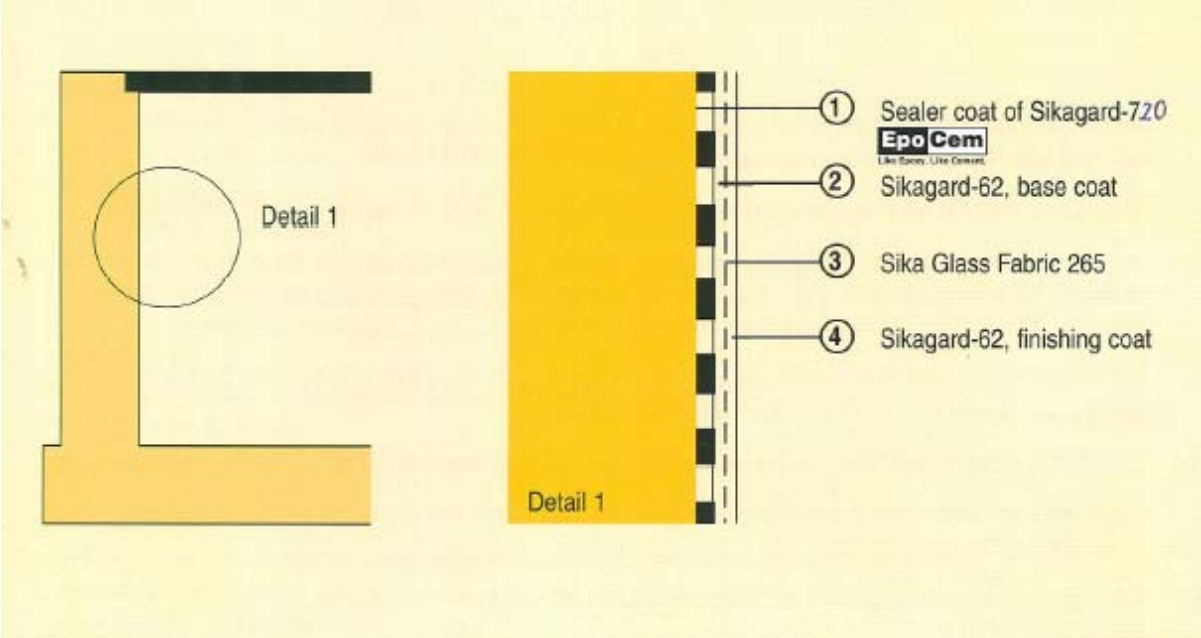
Construction

Sikagard Bund Lining System

Description	Impervious, chemical and abrasion resistant coating for concrete catchment pits, drains, tanks and bund areas in chemical processing plants.
Use	Containment of effluent, chemical waste and pollutants and for prevention of groundwater contamination.
Advantages	▪ Crack bridging capability up to 0.5mm. ▪ Excellent chemical resistance. ▪ High mechanical strength. ▪ Pore free, impervious surface. ▪ Minimum delay between removal of formwork from concrete and application of coating system (new construction).



Schedule of works

- Mechanical removal of poorly adhering or loose areas of surface concrete and cement laitance (high pressure water jet, grinding, scabbling, etc.).
- The exposed surface of the concrete must be thoroughly cleaned to remove all dust and debris.
- Removal of any standing water with an industrial wet-and-dry vacuum cleaner, leaving the concrete surface-dry.
- **Maximum moisture content of substrate: 12%**
- **Minimum direct tensile strength: 1.5 MPa**
- Any construction joints must be sealed using the Sikadur Combiflex high performance joint sealing system. On surface-dry concrete substrates the first coat of Sikadur-31 epoxy adhesive should be worked well into the surface layer of the concrete. The second coat of adhesive must be blinded with coarse quartz sand. (See Fig. 1)

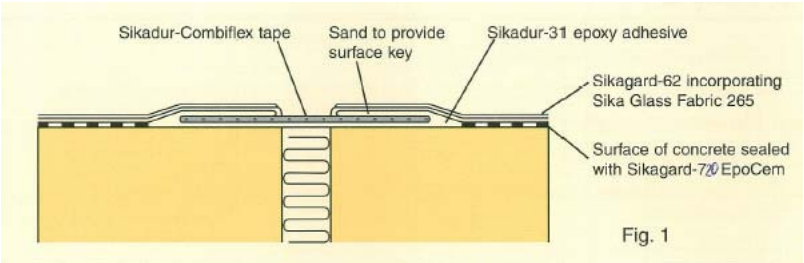


Fig. 1

Construction

- Pointing of non moving cracks and brickwork or patching of any holes left by tie-bolts or tie-wires should be done with Sikadur-31 epoxy resin repair mortar.
- Repair and reprofile severely damaged areas with Sikagard-720 EpoCem mortar (extend with sand).
- Apply a coating of Sikagard-720 EpoCem sealing mortar (min. thickness 1mm) to seal all exposed concrete surfaces. If the substrate is very dry the surface should be lightly dampened prior to application. Apply Sikagard-720 EpoCem at least 2mm thick if it is required to act as a temporary moisture barrier.
- All internal angles (wall-to-wall/wall-to-floor junctions) must be finished with a continuous fillet or coving, using a mortar mix made up from Sikagard-720 or Sikadur-31.
- Sika Glass Fabric 265 required for the various stages of the works should now be measured and cut to size.
- Apply the base coat of Sikagard-62 protective coating, using a short-haired lambswool roller. Apply a generous coating (at least 800g/m≈)
- Waiting time between application of Sikagard-720 EpoCem and base coat: approx. 24 hours (at 20°C/720% R.H.).

  Note: The measured moisture content of the Sikagard-720 EpoCem must be below 4% before application of the Sikagard-62 coating can commence.
- Press the precut pieces of glass mesh into the coating material, using a small seam roller (metallic disk diameter: 15mm) to remove entrapped air. Adjoining sections of mesh should overlap by a minimum of 100mm (see Fig. 2.)

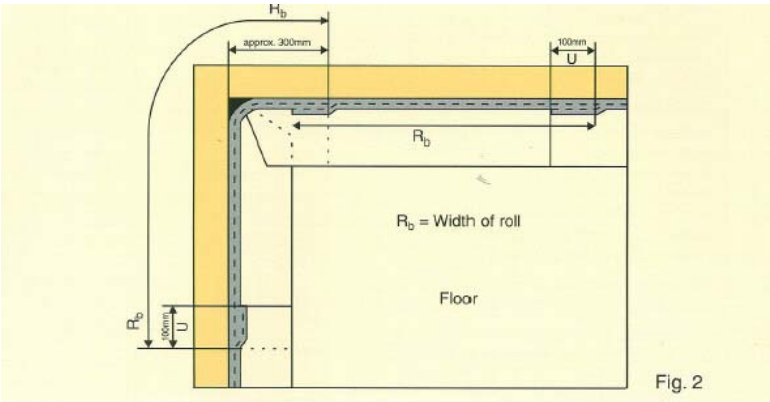


Fig. 2

Wall surfaces should be treated first. At the junction with the floor, the sections of mesh should extend over the coving to finish approximately 200mm out from the wall. Similarly, the sections of mesh applied to the floor should be carried approximately 150mm up the walls (see Fig. 3).

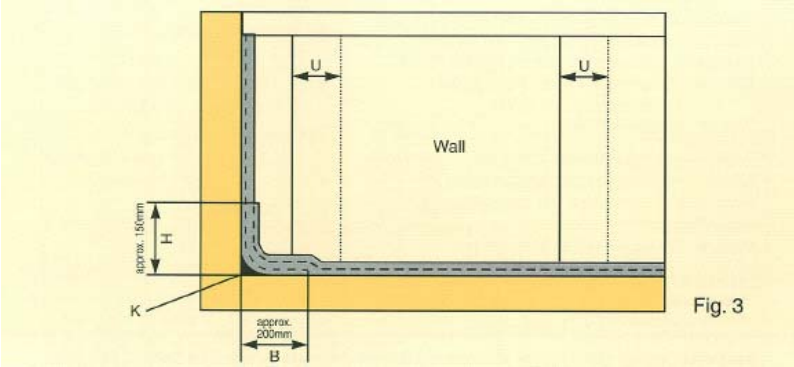


Fig. 3

- The joint slot between the end of the glass fabric and the angle-iron edging strip should then be filled with a joint sealant (Sikadur-51) of firm but resilient consistency (see Fig. 4) Seal the perimeter joint with Sikaflex-11FC.
- An alternative method of terminating the glass fabric, where an angle-iron edging strip is not used, is to tuck the glass fabric into a chase and mortar into position with Sikadur-31 (see Fig. 5)

Construction

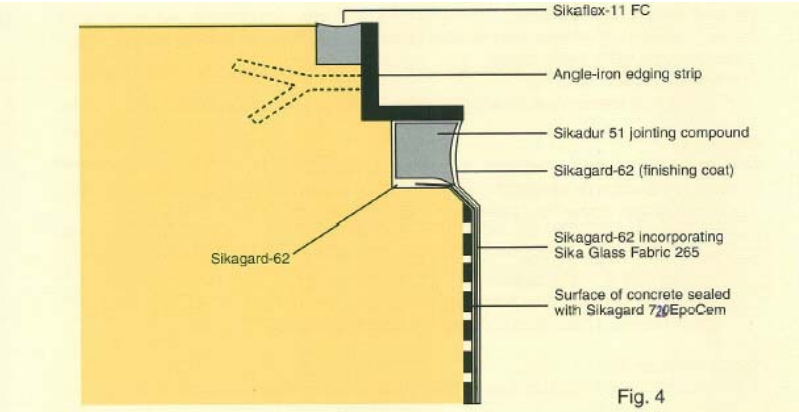


Fig. 4

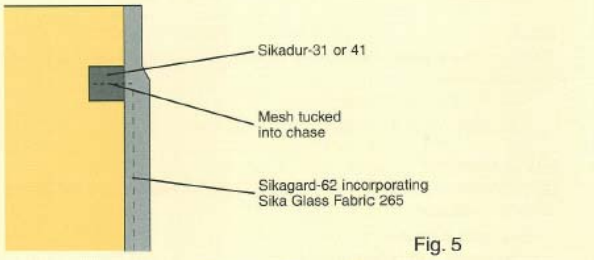


Fig. 5

- When the base coat with mesh reinforcement is fully hardened (waiting time approx. 24 hours at 20°C), the entire surface should be sanded by hand using a course grade of glasspaper (60 to 80 grit).
- Pore-free surface testing should then be carried out using a portable "holiday" tester, according to the manufacturers instructions. A suitable tester is model PHD 1-20 from Sheen Instruments Ltd UK.
- Any remaining pores should be filled and made good with Sikagard-62, extended with a small quantity of thixotropic additive such as Thickener T. A hot-air blower may be used to speed up the curing process.
- Finally, the finishing coat of Sikagard-62 should be applied, using a short-haired lambswool roller. The coating should be carried all the way up to the angle-iron edging strip (ie covering the joint seal previously formed with Sikadur-51 joint sealant).

  N.B. Substrate temperature must be 3°C above measured dew-point.
- The installed membrane lining should be left to cure for at least 7 days (at 20°C) before exposure to chemicals.

Important Notification

Construction

The Products

- **Sikagard-720 EpoCem**

  A three-component cementitious epoxy-modified sealing mortar & temporary moisture barrier
  - Density: 2.0 kg/litre (when mixed)
  - Applied thickness: 0.5-2 mm
  - Coverage: As a sealer coat: 2.5-4.0 kg/m^2 approx., depending on condition of substrate.

- **Sikagard-62**

  A two-component solvent-free protective coating based on epoxy resins
  - Density: 1.3 kg/litre (when mixed)
  - Yield: 0.14 kg/m2 approx. for a theoretical dry film thickness of 0.1mm
  - Coverage:
    Base Coat: 0.8 kg/m^2 approx.
    Finishing Coat: 0.7 kg/m^2 approx.
    Total coating thickness: 1.1 – 1.3 mm approx.

(Refer to Technical Data Sheet for chemical resistance information).

- **Sika Glass Fabric 265**

  A glassfibre reinforcement mesh of special shear resistance and good wettability.
  - Weight: 265 g/m^2 approx.
  - Coverage: (as part of total coating system) 300g/m^2 approx.

- **Sikadur-51**

  A two component solvent-free thixotropic flexible joint sealant based on a polyurethane modified epoxy resin.
  - Density: 1.55 kg/litre (when mixed)
  - Coverage: Varies according to dimensions of joint slot.

- **Sikadur-Combiflex**

  High performance joint-sealing system using Combiflex Hypalon tape and Sikadur-31 epoxy resin adhesive.

  Sikadur-31 Adhesive
  - Density: 1.65 kg/litre
  - Coverage: approx. 1kg per linear metre of joint

  Combiflex tape
  - Thickness: 2mm
  - Width: 100-200 mm approx. (Depending on size of joint)
  - Coverage: approx. 1.1 linear metre per linear metre of joint.

- **Sikadur-31**

  A two-component solvent-free thixotropic epoxy resin repair mortar.
  - Density: 1.5 kg/litre
  - Coverage: Varies according to requirements.

- **Sikaflex-11FC**

  A fast curing, one component polyurethane sealant with permanent elasticity and shore hardness of 40-45
  - Density: 1.2kg/litre
  - Coverage: Varies according to dimensions of joint.

For further information, please refer to individual Product Data Sheets (supplied on request)

Sika Australia Pty Limited
ABN 12 001 342 329

www.sika.com.au
Tel: 1300 22 33 48