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Sikadur®-Combiflex®

High Performance Joint and Crack Sealing System

Technical Data Sheet

DESCRIPTION

The **Sikadur-Combiflex Jointing System** consists of a **Sika® Hypalon Strip** and **Sikadur 31** epoxy resin adhesive.

Combiflex Hypalon Sheet is a highly elastic, rot-proof and chemically resistant sealing sheet with a thickness of 1 mm or 2 mm. **Sikadur 31** adhesive is epoxy resin based and establishes a strong bond to the substrate.

USES

For sealing construction joints, expansion joints, connection joints, cracks and fissures on concrete and masonry for:

* Tunnels, culverts and ventilation ducts.
* Reservoirs and water retaining protection.
* Swimming pools.
* Silos.
* Waste water treatment plants.
* Industrial floors.
* Basements and cellars.
* Failed joint sealants.
* Roof connections.

ADVANTAGES

* Resists water pressure.
* Easy to install.
* Applicable on dry and damp (not wet) surfaces.
* For large expansion joints or cracks.
* Permanent elasticity even at low temperatures.
* Weather resistant.
* Resistant to chemicals.
* No need to remove existing failed sealant.
* Suitable for contact with potable water.
* Suitable for new and existing joints.
* High joint movement capacity.
* Can be internally or externally applied.
* Accommodates variation in joint width.
* Accommodates movement in more than one dimension.
* Also suitable for crack repair and sealing around penetrations.

Technical Data (typical)

Colour:	**Hypalon Strip** - Grey **Sikadur 31** - Grey
Application temperature:	+5°C minimum +30°C maximum
Service temperatures: (wet and dry)	+60°C (dry), +40°C (wet), -30°C (dry)
HYPALON STRIP:	
Elongation at break:	>400%
Tensile strength:	>6.0 N/mm²
Tear propagation strength:	>300 N/cm
Maximum permissible permanent elongation:	1.0 mm strip - 10% of non adhered width 2.0 mm strip - 25% of non adhered width For higher movement place and fix in a loop
Artificial weathering:	10,000 hours passed
Pulsation resistance:	(5% extension, 4 cycles per sec) >100,000 cycles*
Vibration resistance:	(5% expansion, 120 cycles per sec) >50,000 cycles*
Water pressure resistance:	Depending on joint design, up to 1 - 2 bar (25 psi back pressure)
Bond of system:	Concrete . 2.0 N/mm² (Substrate failure)
CHEMICAL RESISTANCE: (SYSTEM)	
Long term:	To water, lime water, cement water, sea water, salt solutions, domestic sewage, bitumen, emulsion type bituminous coatings.
Short term:	To light fuel oil, diesel, diluted alkalies and mineral acids, ethanol, methanol, petrol.

The above chemicals are a guide only. Regarding specific chemical resistance, exposure trials should be carried out.

ADHESIVE- Sikadur 31

Pot life:	**Temp**	**Normal Grade**	**Rapid Grade**
	30°C	20 mins	-
	20°C	40 mins	10 mins
	10°C	1.5 hours	30 mins
	5°C	3.5 hours	1 hour
	0°C	-	1.25 hours

Consult the **Sikadur 31** technical data sheet for additional information.

All above values are approximate.

SURFACE PREPARATION

Concrete:
The concrete surfaces should be mechanically cleaned, preferably by blast cleaning followed by vacuuming. The laitance must be removed to establish good adhesion. All surfaces must be clean, sound and free from any oil, grease or other contaminants. Concrete should be at least 3 weeks old.

Steel:
Grind or grit blast to a clean bright metal finish.

HYPALON STRIP PREPARATION

Thoroughly wipe both sides of the **Combiflex Hypalon** sheeting strips with **Thinner C**. Allow to dry. Do not use too much solvent and avoid damaging the red masking tape. Leave to dry, minimum one hour, maximum 8 hours.

APPLICATION

- The **Sikadur-Combiflex** strip is activated on both sides with **Thinner C** using a clean cloth. leave to dry for at least 1 hour - max
- Use masking tape either side of the joint to provide a neat edge and over the middle of the new or existing joint.
- Mix **Sikadur 31** (components A and B) for a minimum of 3 minutes until the mix is homogeneous.
- Apply **Sikadur 31** adhesive on both sides of the joint onto the prepared substrate. Layer thickness 1 - 2 mm width (on each side) at least 50 - 60 mm.
- Remove masking tape from the middle of joint.
- Place activated **Sikadur-Combiflex** strip in position with red tape facing upwards and roll it to remove entrapped air.
- Apply **Sikadur 31** adhesive on top of the strip.
- Remove masking tapes from the joint sides as well as the red middle tape from the **Sikadur-Combiflex** strip. Smooth **Sikadur 31** with brush.
- **Sikadur-Combiflex** overlap connections should be a minimum of 30-50mm and bonded with hot air welding gun and plate.

Refer to application details - contact Sika Ltd.

IMPORTANT CONSIDERATIONS

- Use **Sikadur 31 Rapid** for potable water contact.
- Refer to **Sikadur 31** technical data sheet.
- Do not use **Thinner C** inside water potable structures. Solvent wipe outside structure.
- This joint sealing method can be carried out horizontally, vertically or overhead. However, it should be noted that **Sikadur 31** is not a contact adhesive and some support of the uncured strip may be required on overhead structures.
- The **Sikadur-Combiflex** system must be protected from mechanical damage.
- Where exposed to water pressure the strip must be supported in joint by foam or sealant.
  Limit without support:5.0 mm joints at +20°C max, 0.5 bar water head using 2.0 mm thick **Sikadur-Combiflex** strip.

CLEANING

Clean tools immediately with **Sika Thinner C**.

PACKAGING

Refer to latest price list.

CONSUMPTION

Per linear metre **Combiflex Hypalon**, width 10 cm, approx. 0.4 - 0.6 kg **Sikadur 31** adhesive (depends on surface roughness, etc.).

STORAGE

Minimum 1 year in unopened original sealed packing stored in dry warehouse conditions (+5°C - +25°C).

Handling Precautions
Sika products are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The materials must not, for instance, be allowed to come in contact with foodstuffs or food utensils and measures should also be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles, barrier creams and rubber gloves is required. The skin should be thoroughly cleaned at the end of each working period either by washing with soap and warm water or by using a resin-removing cream - the use of powerful solvents is to be avoided. Disposable paper towels - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. In case of accidental eye or mouth contact, flush with water - consult a doctor immediately. Health and Safety information on Sika Products is available and we strongly advise that this is read prior to their use. Sika products are for professional use and should be stored in sealed containers away from the reach of children.

Important Note
The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

Please consult our Technical Sales Department for further information

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