

Sikadur® Combiflex®

Unique 'strip and seal' system to seal and waterproof the unusual joint

Description	Versatile sealing system for irregular and difficult joints and cracks. Withstands extreme movements and chemical exposures while maintaining a watertight seal. The system consists of Sikadur 31, Hi-Mod Gel, epoxy adhesive, and Combiflex perforated Hypalon® sealing strip.
Where to Use	<ul style="list-style-type: none"> ■ Types of Joints: construction, expansion, cracks, connecting ■ Types of Substrates: concrete, mortar, steel, iron, aluminum, brick, wood, and other building materials ■ Types of Structures: tunnels, pipes, storage tanks, swimming pools, parking garages, sewage treatment tanks, roofs
Advantages	<ul style="list-style-type: none"> ■ Exceptional adhesion on all common building materials. ■ Easy application. ■ Easy repair. ■ Economical solution. ■ Applicable even on damp surfaces... Sikadur 31, Hi-Mod Gel, is moisture-tolerant. ■ Fast-setting Sikadur 31, Hi-Mod Gel, ensures early joint use. ■ Permanently elastic, even at low temperatures. ■ Seals large and small irregular joints, even with high movement. ■ Weather-resistant. ■ Resists many chemicals. ■ Withstands UV light and is ozone resistant. ■ Approved for contact with potable water. ■ Perforations along edges of Combiflex sheeting provide "rivet effect" and add mechanical bond to augment chemical bond. ■ Contractor has advantage of always working on surface of substrate; no need to remove existing failed joint sealant. ■ No priming; no routing; no need to clean old joints.
Coverage	Hypalon Sheeting - 20 lineal ft./roll. Sikadur 31, Hi-Mod Gel - 40 lineal ft./gal. Combiflex Activator - 20 lineal ft./pt.
Packaging	<p>Kits: Pre-measured kits containing 4 in. wide by 20 ft. long Hypalon sheeting, 60 oz. of Sikadur 31, Hi-Mod Gel and 1 pint of Combiflex Activator.</p> <p>The components may be also be purchased separately:</p> <p>Hypalon sheeting - 4, 8 and 12 in. wide by 20 ft. long and 82 ft. long.</p> <p>Sikadur 31, Hi-Mod Gel -3 gal. units, and 12 oz. units, 12/case.</p>

Typical Data (Material and curing conditions 73°F (23°C) and 50% R.H.)

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

Shelf life	Combiflex Kit - 2 years in original, unopened containers.
Storage Conditions	Store dry at 40°-95°F (4°-35°C.) Condition material to 65°-85°F before using.
Color	Sikadur 31, Hi-Mod Gel, adhesive - concrete gray. Hypalon sheeting - concrete gray.

Typical Technical Data for Sikadur 31, Hi-Mod Gel, Adhesive:

Pot Life	Approximately 30 minutes.
Tack Free Time	2-3 hours

Typical Technical Data for Hypalon Sheeting:

Tensile Properties (ASTM D-412)	
Tensile Strength	1,000 psi (6.8 MPa)
Elongation at Break	800%
Tensile Set After Break	400%
Tear Resistance (ASTM D-624) Die C	
Resistance to Tear	250 lb./in.
Low Temperature of Performance	Maintained to -40°F

Typical Technical Data for Sikadur Combiflex System:

Peel Strength (ASTM D-903)	
7 days Substrate, Concrete	No loss of adhesion between the Hypalon and the Sikadur 31, Hi-Mod Gel, or the Sikadur 31, Hi-Mod Gel and the concrete.

12 Month Chemical Exposure
Water Treatment Process: Immersion in potable water, aerobic, and anaerobic treatment tanks. No change in performance. Combiflex unaffected.

Ozone Resistance	
3 month Exposure	Water/Ozone (3 ppm) - No Effect; Air/Ozone (2-300 ppm) - No Effect

For additional information on Sikadur 31, Hi-Mod Gel, consult Technical Data Sheet or call Technical Service.



Limitations

- Minimum surface temperature 40°F.
- Do not thin Sikadur 31, Hi-Mod Gel. Solvents will prevent proper cure.
- Maximum application thickness of
- Epoxy is 1/8 in.
- Epoxy is a vapor barrier after cure.
- Cover plates over joint are required when using Combiflex in traffic areas.
- For applications in face or back-pressure joints, consult Technical Service for joint design suggestions.
- Maximum performance of the Sikadur Combiflex System is achieved only when neither the epoxy adhesive nor the Hypalon sheeting has stress applied in service.
- Not an aesthetic product. Color may alter due to variations in lighting and/or UV exposure.

How to Use

Surface Preparation

Surface must be clean and sound. It may be dry or damp but free of standing water. Remove dust, laitance, grease, curing compounds, impregnations, waxes, and any other contaminants.

Preparation Work: Concrete - Should be cleaned and prepared to achieve a laitance and contaminant free, open textured surface by blastcleaning or equivalent mechanical means.

Steel - Should be cleaned and prepared thoroughly by blastcleaning.

Mixing

Pre-mix each component of Sikadur 31, Hi-Mod Gel. Proportion 1 part Component 'B' to 2 parts Component 'A' by volume into a clean pail. Mix thoroughly for 3 minutes using a Sika paddle on a low-speed drill (400-600 rpm) until uniform in color.

Application

Wipe Hypalon sheeting with Activator a minimum of 1 hr., and a maximum of 8 hrs., before installation. Apply the mixed Sikadur 31, Hi-Mod Gel, 1-1/2 in. on each side of the joint to a thickness of approximately 1/32 in. Work into the substrate for positive adhesion. Set the sheeting into the epoxy. Using a hard roller, force the sheeting down into the epoxy. Apply an additional 1/32 in. layer of epoxy as a top coat to the Hypalon sheet. Sikadur 31, Hi-Mod Gel should not be applied in greater than a 1/8-in. thickness. Sheeting may be bonded together thermally with a hand-welding tool (i.e., Leister heat-welder or similar equipment available at waterproofing supply outlets) or by Activator. Experience demonstrates that heat welding is a quicker method if bonding two strips.

Caution

Component 'A' - Irritant; Sensitizer - Contains epoxy resin and crystalline silica (sand). Can cause skin sensitization after prolonged or repeated contact. Skin and eye irritant. High concentrations of vapor may cause respiratory irritation. If sanded, crystalline silica dust may be generated and may cause lung injury (silicosis) and is listed as a suspect carcinogen by NTP and IARC (2A). Use only with adequate ventilation. Use of safety goggles and chemical resistant gloves is recommended. In case of exceedance of PELs, use an appropriate, properly fitted NIOSH approved respirator. Remove contaminated clothing. Consult MSDS for more detailed information.

Component 'B' - Corrosive; Sensitizer - Contains amines and crystalline silica (sand). Contact with eyes or skin may cause severe burns. Can cause skin and/or respiratory sensitization after prolonged or repeated contact. Skin and eye irritant. High concentrations of vapor may cause respiratory irritation. Overexposure may cause liver, kidney, and/or central nervous system effects. If sanded, crystalline silica dust may be generated and may cause delayed lung injury (silicosis) and is listed as a suspect carcinogen by NTP and IARC (2A). Avoid skin contact. Use only with adequate ventilation. Use of safety goggles and chemical resistant gloves is recommended. In case of exceedance of PELs, use an appropriate, properly fitted NIOSH approved respirator. Remove contaminated clothing. Consult MSDS for more detailed information.

First Aid

In case of skin contact, wash immediately and thoroughly with soap and water. If symptoms persist, consult a physician. For respiratory problems, remove person to fresh air; if symptoms persist, contact a physician. Remove contaminated clothing.

Clean Up

In case of spills or leaks, wear suitable protective equipment, contain spill, collect with absorbent material, and transfer to suitable container. Ventilate area. Avoid contact. Dispose of in accordance with current, applicable local, state, and federal regulations.

KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR INDUSTRIAL USE ONLY

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