

Sikadur® Combiflex® SG System

High performance joint sealing system

Description	High performance joint sealing system for construction, expansion and connection joints as well as for cracks. When fixed to the joint, allows irregular and high movement in more than one direction, while maintaining a high quality seal. The Sikadur Combiflex SG System consists of a modified flexible Polyolefin (FPO) waterproofing tape with advanced adhesion using Sikadur 31, Hi-Mod Gel (1:1 Mix Ratio).
Where to Use	Sealing system for expansion, construction and connection joints, as well as for cracks in: <ul style="list-style-type: none">■ Tunnels and culverts■ Hydroelectric power plants■ Sewage treatment plants■ Basements■ Water retaining structures and drinking water reservoirs■ Around iron, steel and concrete pipes■ Swimming pools Sealing of: <ul style="list-style-type: none">■ Joints with extreme movement■ Building sections where varying settlement is expected■ Cracks Repair/reinstatement of leaking joint sealing systems such as: <ul style="list-style-type: none">■ Waterbars■ Joint sealants, etc.
Advantages	<ul style="list-style-type: none">■ Advanced adhesion, no activation of tape required■ Easy to install■ Suitable for both dry and damp concrete surfaces■ UL Listed for potable water applications■ Extremely flexible■ Performs well within a wide range of temperatures■ Excellent adhesion to many materials■ Weather and water resistant■ Approved for contact with potable water■ Good resistance to many chemicals■ Root resistant■ Versatile system suitable for many difficult situations

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°-85°F (4°-30°C.) Condition material to 65°-85°F before using.
Color	Sikadur 31, Hi-Mod Gel (1:1 Mix Ratio), adhesive - light gray. FPO sheeting - concrete gray.

Typical Technical Data for Sikadur 31, Hi-Mod Gel (1:1 Mix Ratio), Adhesive:

Pot Life	Approximately 60 minutes.
Tack Free Time	1.5 - 2.5 hours

Typical Technical Data for Combiflex SG:

Tensile Properties (ASTM D-412)	
Tensile Strength	> 1,740 psi (12 MPa)
Elongation at Break	> 600%
Tear Resistance (ASTM D-624) Die C	
Tear Strength	69 lb/in. (12 N/mm)
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 Tape and the Sikadur 31, Hi-Mod Gel (1:1 Mix Ratio), or the Sikadur 31, Hi-Mod Gel (1:1 Mix Ratio) and the concrete

Chemical Resistance

Long term to:
Water, lime water, cement water, seawater, salt solutions, domestic sewage, bitumen (according to EN 1548), bitumen emulsion coatings (staining possible), etc.
Temporary to:
Light fuel oil, diesel, diluted alkali and mineral acids, ethanol, methanol, petrol, etc.

Ozone Resistance

3 month Exposure	Water/Ozone (3 ppm) - No Effect; Air/Ozone (2-300 ppm) - No Effect
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Coverage	Sikadur Combiflex SG Tape - 20 lineal ft./roll. Sikadur 31, Hi-Mod Gel (1:1 Mix Ratio) - 40 lineal ft./gal.
Packaging	Kits: Pre-measured kits containing 4 in. wide by 20 ft. long Sikadur Combiflex SG tape, 60 oz. of Sikadur 31, Hi-Mod Gel (1:1 Mix Ratio). The components may be also be purchased separately: Sikadur Combiflex SG Tape - 4, 8 and 12 in. wide by 20 ft. long and 82 ft. long. Sikadur 31, Hi-Mod Gel (1:1 Mix Ratio) - 3 gal. units, and 1 gal. unit.
Limitations	<ul style="list-style-type: none"> ■ Minimum surface temperature 40°F. ■ Do not thin Sikadur 31, Hi-Mod Gel (1:1 Mix Ratio). 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 Sikadur Combiflex SG Tape in traffic areas. ■ If joints are to be subjected to water pressure, the tape must be supported in the joint. Hard foam or joint sealant is recommended. ■ For exposure to negative water pressure, the Sikadur Combiflex SG Tape must be secured with a steel plate fixed on one side. ■ The Sikadur Combiflex SG Tape must be protected from mechanical damage. ■ 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 (1:1 Mix Ratio). Proportion 1 part Component 'B' to 1 part 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	If the surface of the Sika Combiflex SG Tape is contaminated or dirty, clean it with a dry or wet cloth. Use water but do not use solvent for cleaning. Check the Sikadur Combiflex SG tape for damages during storage and transport (i.e. heavy scratches) and remove critical parts if necessary. NOTE: NO ACTIVATION ON SITE REQUIRED. Apply the mixed Sikadur 31, Hi-Mod Gel (1:1 Mix Ratio), at a width of at least 1-1/2 in. on each side of the joint to a thickness of approximately 1/32 in. minimum. 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. minimum layer of epoxy as a top coat to the Sikadur Combiflex Tape. Sikadur 31, Hi-Mod Gel (1:1 Mix Ratio) should not be applied in greater than a 1/8-in. thickness. When overlapping sheets, sheeting must be bonded together thermally with a hand-welding tool (i.e., Leister heat-welder or similar equipment available at waterproofing supply outlets). The welding area must be prepared by roughening the surface by Scotch® Brite or sand paper. Roughen the tapes only in the welding area. Overlaps must be 2 to 4 inches. Roll
Caution	<p>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.</p> <p>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.</p>
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.

Construction



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