

# AKSID

CONSULTANCY



# WATERPROOFING SOLUTION



**AKSID**  
BUILDING THE NATION





# AKSID ENGINEERING DEPARTMENT

**AKSID Corporation Limited**, an industry leader in construction, is headquartered in Dhaka, Bangladesh and has been developing the construction sector for over 10 years. Our adaptable, professional teams bring added value to our clients' businesses through our expertise and knowledge.

## Highlights:

200+ Employees.

Country Distributor of Sika, World's Largest Construction Chemical Company.

Handling Infrastructure and Mega Projects all over Bangladesh.

Clients include Japanese, Thai, Russian, Korean and the largest groups of companies of Bangladesh.

AKSID provides construction solutions and services to all types - large scale infrastructure to industrial developments to local level construction at site. We have professional skilled manpower, tools, and solutions to help all levels of construction all over Bangladesh.

AKSID is the Country Distributor of Sika, a Switzerland based construction chemical company and the largest manufacturer of construction chemicals. Sika is world renowned and has been producing construction solutions since 1912. Through a successful partnership through Sika, AKSID has grown to be the largest supplier of construction chemicals in the entire country.



# OUR VALUABLE CLIENTS

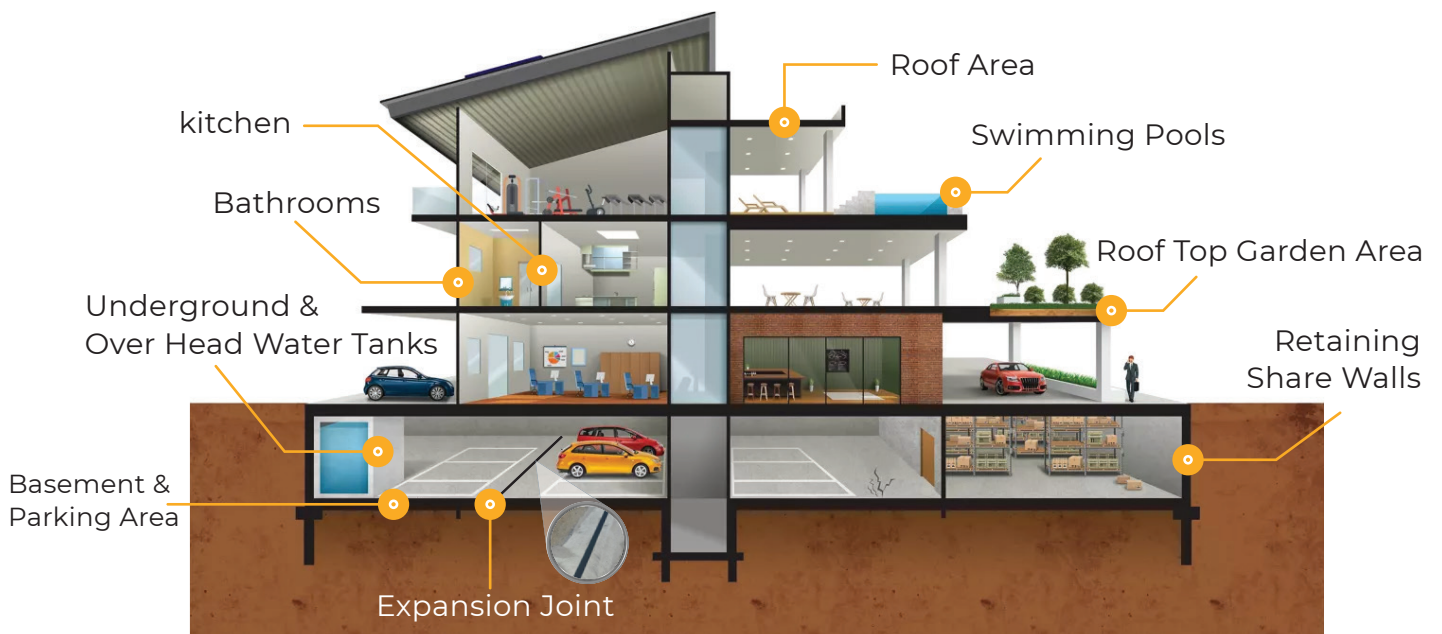




## WHAT IS WATERPROOFING

Waterproofing is what protects your structure against water infiltration which can cause expensive and irreversible damages. The utilization of liquid waterproofing membrane, cementitious materials, polyurethane liquid membrane, and bituminous material are common in the waterproofing of buildings. Waterproofing is necessary for the basement, walls, bathrooms, kitchen, balconies, decks, terrace or roofs, green roofs, water tanks, and swimming pools, etc.

## WORKABLE AREAS





# At a Glance

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## SikaTop® Seal-107 IN

2 - part Polymer Modified Cementitious  
Waterproofing Slurry And Protective  
Coating.



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## SikaTop® Seal-109 hi

Polymer-modified, Flexible, Cementitious  
Waterproofing Coating



04 •



## Sikadur Combiflex® SG-20 P

High Performance Expansion Joint And Crack  
Sealing Tape



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# BENEFITS OF WATERPROOFING

- ▲ Improves Structure Durability
- ▲ Reduces Cost of Repairs
- ▲ Offers Energy Efficiency
- ▲ Water absorption can be decreased.
- ▲ Prevents the formation of cracks on the concrete floor.
- ▲ The appliance is easy.
- ▲ It will increase the lifetime of a solid construction.
- ▲ It prevents corrosion of reinforcement.
- ▲ Also, prevents dampness inside the building.
- ▲ It prevents seepages from the ceiling and walls.
- ▲ This reduces the maintenance coast of the building.
- ▲ The property value can be increased.
- ▲ It supplies a healthy environment; good waterproofing system helps in making a clear living workspace.
- ▲ It protects the property as well as the people present therein.
- ▲ Improves the Life of Interior Work and Furniture



**BEFORE**



**AFTER**



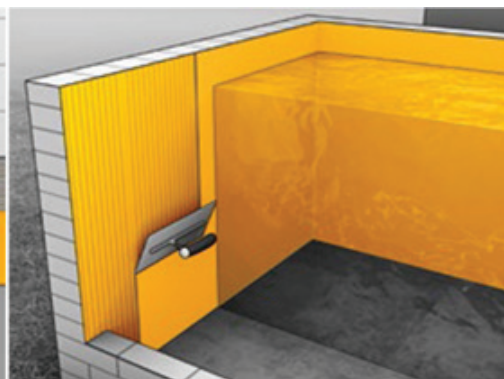
# SIKATOP® SEAL-107 IN

Two-part Polymer Modified Cementitious Waterproofing Slurry And Protective Coating.

SikaTop® Seal-107 IN is a two-part acrylic polymer modified cementitious liquid applied waterproofing coating system. It comprises of a liquid polymer and a cement-based mix incorporating special admixtures. It is applied to concrete and mortar to prevent water infiltration

## WORKABLE AREAS

- ▲ Potable concrete water tanks/reservoirs
- ▲ Terraces and balconies
- ▲ Basement and Retaining walls
- ▲ Swimming pools, fountains and water bodies
- ▲ RCC gutters, drains and planter boxes
- ▲ Bathroom/toilets/Sunk slabs
- ▲ Lift pits/Sump
- ▲ Seawalls



## ADVANTAGES

- ▲ Easy to apply by brush or in thin trowel applications
- ▲ No additional water is required to make the slurry
- ▲ Pre batched components with consistent quality
- ▲ Hand or Spray applied
- ▲ Easy and fast mixing
- ▲ Increased frost and salt resistance
- ▲ Very good adhesion with sound and prepared substrates
- ▲ Protects concrete against water penetration, chloride and carbonation
- ▲ Non-Corrosive to steel and iron
- ▲ Approved for potable water contact
- ▲ Flexible enough to bridge hairline crack
- ▲ No drying or shrinkage cracks if used according to instruction
- ▲ Good resistance to abrasion and erosion
- ▲ Bonds well to all damp substrates
- ▲ Can be applied on reinforced concrete, mortar or masonry



## TECHNICAL INFORMATION

Approvals/Certificates

SGS Certificate - Free from acute lethal toxicity as per IS 6582

CFTRI Certificate for repeated use with aqueous foods / water as per USFDA 175.300

Composition	Part A Liquid polymer & additive	Part B Portland Cement with selected aggregate and additive
Packaging (25 kg System)	5 kg Container	20 kg bag
Color	White Liquid	Grey Powder

**Mixed Product Color** Cement Grey Slurry  
**Density Fresh Slurry** ~ 2.0 kg/liter (mixed density of A+B) at +27°C  
**Mixing Ratio** Part A : Part B = 1:4 (By weight)

### System Structure

Coat	Product	Consumption
Base Coat	SikaTop® Seal-107 IN	~ 1.5 kg/m <sup>2</sup>
Fabric Reinforcement	Sika® Fabric-50	1 m <sup>2</sup> /m <sup>2</sup>
Top Coat	SikaTop® Seal-107 IN	~ 1.5 kg/m <sup>2</sup>



<b>Waiting Time</b>	The waiting time between consecutive coats is 2 - 6 hours (at +30°C)
<b>Layer Thickness</b>	1.5 – 2.0 mm average thickness with Sika® Fabric-50
<b>Compressive Strength</b>	
<small>(At temperature +27°C) (ASTM C 109)</small>	3 days $\geq 2$ N/mm <sup>2</sup>
	28 days $\geq 20$ N/mm <sup>2</sup>
<b>Tensile Strength</b>	$\geq 4.5$ N/mm <sup>2</sup> after 14 days exposure (ASTM D 2370)
<b>Elongation at Break</b>	~ 8-10% with Sika® Fabric-50 (ASTM D2370)
<b>Tensile Adhesion Strength</b>	$\geq 2$ N/mm <sup>2</sup> (Concrete Failure) (ASTM C 882)

## APPLICATION INFORMATION

Ambient Air Temperature +10°C min. / +40°C max.

Substrate Temperature +10°C min. / +40°C max.

Pot Life ~ 40 minutes at +27°C

## MIXING

The consistency of the mix can be altered by reducing the amount of Component A (liquid) to be used. Under normal circumstances, when the full quantities of both components are mixed together, a slurry consistency will result. For trowel able consistency use only 90% of component A. Mix in a clean container by slowly adding the powder component to the liquid component and stirring with low-speed mixer (max. 500 rpm). Mix for 3 minutes until free from lumps.

## APPLICATION

The surface must be pre-wetted to a saturated surface dry condition with no standing water at time of application. While the surface is still damp from saturation, apply the first coat and leave to harden for 2-6 hrs at +30°C before applying the second coat.

### As a Slurry

Apply the mixed SikaTop® Seal-107 IN by hand using a hard plastic bristled brush or broom. Applied in the same direction. Apply the second coat of SikaTop® Seal-107 IN in crosswise direction to the first application as soon as first coat has hardened.

### As a Mortar

SikaTop® Seal-107 IN is applied by trowel (e.g., for a smooth surface finish), the product must be mixed with a 10 % reduction of part A. Apply the second coat of SikaTop® Seal-107 IN as soon as the first coat has hardened. For pore / blowhole filling, tightly trowel into the pores / blowholes of the surface. For floor applications, to avoid risk of damage to the first coat, it is recommended that the second coat be applied before 24 hours. If the second coat is applied 12 hours or later, the first coat shall be slightly prewetted, preferably by using a fine spray. After the second coat has been applied, a better finish can be achieved by rubbing down with a soft, dry sponge. For more details, please contact Sika Technical Services.

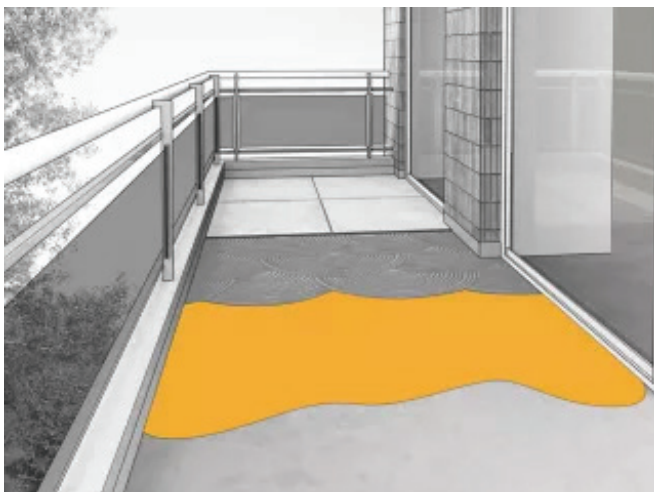
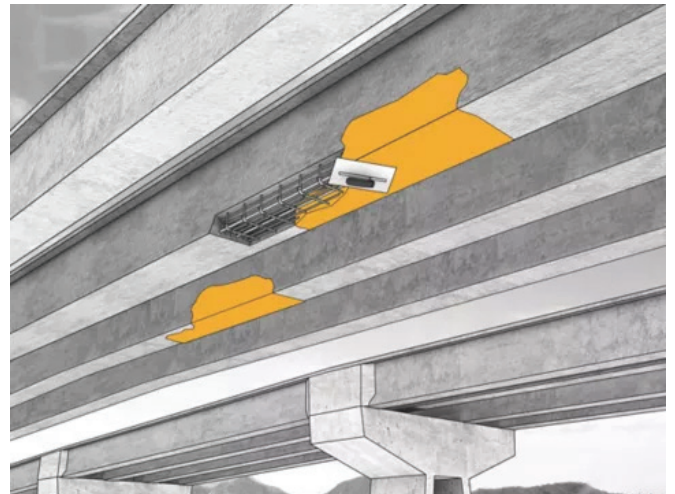
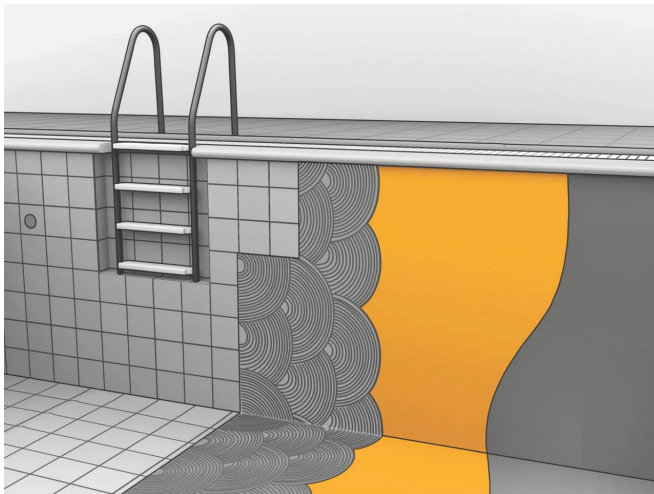
# SIKATOP® SEAL-109 HI

Polymer-modified, Flexible, Cementitious Waterproofing Coating

SikaTop® Seal-109 hi is a cementitious, two-part, polymer-modified flexible waterproofing coating. It is applied to concrete and mortar to prevent water infiltration.

## WORKABLE AREAS

- ▲ Water Tanks
- ▲ Basements
- ▲ Car Parks
- ▲ Terraces
- ▲ Balconies
- ▲ Bridges
- ▲ Retaining Walls
- ▲ Swimming Pools
- ▲ RC Gutters
- ▲ Bathroom Floors And Walls
- ▲ Planter Boxes
- ▲ Kitchens
- ▲ Waste Water Treatment Plants
- ▲ Shower Rooms
- ▲ Laundries





## ADVANTAGES

- ▲ Crack-bridging & Elastic
- ▲ Good Impermeability against water ingress
- ▲ Highly water resistant, arrest salt petre and prevent carbonation
- ▲ Extremely good bonding with high abrasion resistance
- ▲ Simple application and fast curing
- ▲ Excellent adhesion to concrete, brickwork and corrugated asbestos cement sheets
- ▲ Non-toxic, same as cement

## TECHNICAL INFORMATION

Approvals/Certificates

Conforms to IS 101, IS 2645, ASTM D 2370, EN 1348 etc.

	Part A	Part B
<b>Composition</b>	Acrylic Co-polymer	Specially graded cementitious powder
<b>Packaging</b> (25 kg System)	10.0 kg container	15.0 kg bag
<b>Color</b>	White Liquid	Grey Powder

**Mixed Product Color** RAL 7037 (Dusty Grey)

**Density** ~1.6 kg/liter (mixed density of A+B) at 27°C

**Mixing Ratio** Part A:Part B=1:1.5 (by weight)

### System Structure

Coat	Product	Consumption
Base Coat	SikaTop® Seal-109 Hi	~ 1 kg/m <sup>2</sup>
Fabric Reinforcement	Sika® Fabric-50	1 m <sup>2</sup> /m <sup>2</sup>
Top Coat	SikaTop® Seal-109 Hi	~ 1.2 kg/m <sup>2</sup>

**Layer Thickness** 1.5 mm with Sika® Fabric-50

**Waiting Time** The waiting time between consecutive coats is ~2 - 6 hours (at +30°C)

**Tensile Strength** 2 N/mm<sup>2</sup> after 28 days (with Sika® Fabric-50) (ASTM D 2370)

### Elongation at Break (ASTM D 2370)

~ 35% without Sika® Fabric-50

~ 20% with Sika® Fabric-50

### Tensile Adhesion Strength

~ 2 N/mm<sup>2</sup> (Concrete Failure) (ISO 4624)

### Behaviour after Artificial Weathering

No Chalking or Cracking on the film when tested for 500 hours (IS 101)

# APPLICATION INFORMATION

**Ambient Air Temperature** +10°C min. / +40°C max.

**Substrate Temperature** +10°C min. / +40°C max.

**Pot Life** ~ 30 min at 27 °C (Mixed Material)

## Mixing

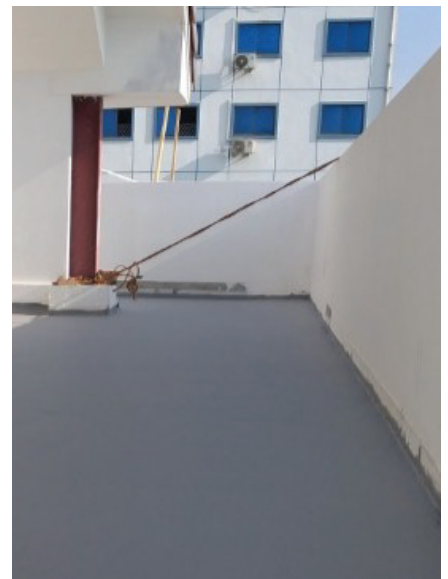
Used as slurry Part A : Part B = 1: 1.5 (by weight). The consistency of the mix can be altered by reducing the amount of Component A (liquid) to be used . Under normal circumstances, when the full quantities of both components are mixed together, a slurry consistency will result. For trowellable consistency use only 90% of component A. Mix in a clean container by slowly adding the powder component to the liquid component and stirring with slow speed mixer (500-600 rpm). Mix for 3 minutes until free from lumps.

## Application

Dampen all the surfaces immediately ahead of SikaTop® Seal-109 hi application. While the surface is still damp from saturation, apply the first coat and leave to harden for 2 to 6 hrs. For slurry consistency apply with a hard bristled brush or broom. For trowellable mortars use a notched trowel. After the second coat has been applied, finish by rubbing down with a soft, dry sponge.

## As a Slurry

Apply the mixed SikaTop® Seal-109 hi mechanically, by spray or by hand using a stiff brush, applied in the same direction. In case the coating is to be reinforced with glass fabric, lay the Sika® Fab-1 into the freshly applied base coat and embed firmly into the wet coat with brush. Apply the second coat of SikaTop® Seal-109 hi, applied by brush in crosswise direction to the first application as soon as first coat has hardened.





# SIKADUR COMBIFLEX® SG-20 P

High Performance Expansion Joint And Crack Sealing Tape

Sikadur-Combiflex® SG-20 P is a flexible waterproofing tape based on modified flexible Polyolefin (FPO) with advanced adhesion properties. The product is part of the Sikadur Combiflex® SG System which consists of a modified flexible Polyolefin (FPO) waterproofing tape and a Sikadur® epoxy adhesive.



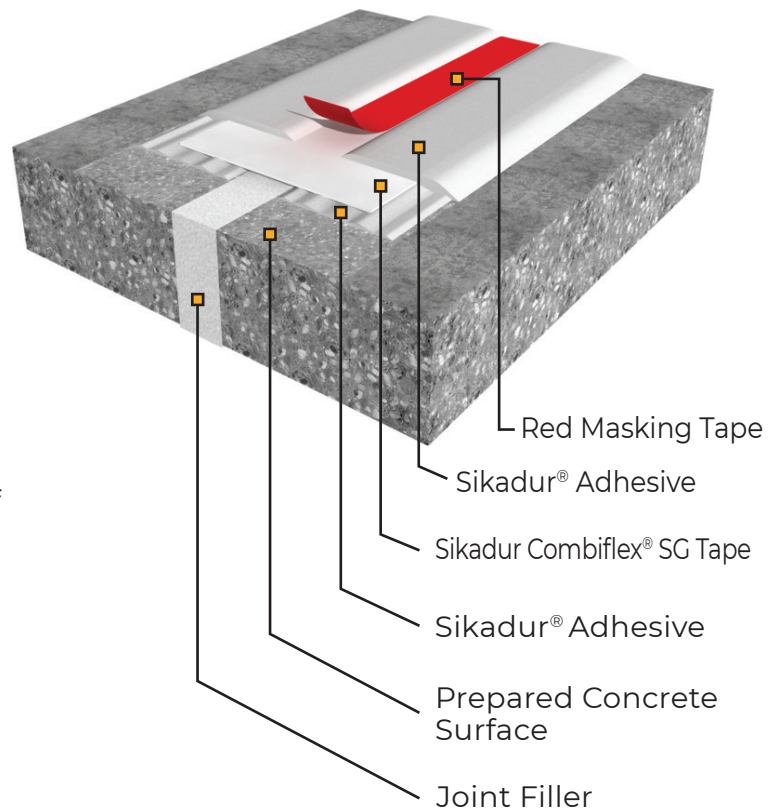
## WORKABLE AREAS

- ▲ Tunnels and culverts
- ▲ Hydroelectric power plants
- ▲ Sewage treatment plants
- ▲ Basements
- ▲ Water retaining structures
- ▲ Drinking water reservoirs



## ADVANTAGES

- ▲ Advanced adhesion, no activation on site required
- ▲ Highly flexible - high crack and joint bridging ability
- ▲ Good chemical resistance
- ▲ Weathering and UV-resistant
- ▲ Root penetration resistant
- ▲ Performs well within a wide range of temperatures
- ▲ Plasticizer-free
- ▲ Hot air weldable
- ▲ Can be used in contact with portable/drinking water



## TECHNICAL INFORMATION

### Approvals/Certificates

- ▲ Drinking water AS/NZS 4020, Sikadur Combiflex® SG, ams Laboratories, Test report No. 1116525
- ▲ Drinking water KTW, Sikadur Combiflex® SG, HY, Certificate No. K-248079-14-Ko
- ▲ Root Resistance CEN/TS 14416, Sikadur Combiflex® SG, SKZ, Test report No. 89643/09
- ▲ Sanitary Compliance XP P 41-250, Sikadur Combiflex® SG, CARSO, Certificate No. 16 MAT LY 108
- ▲ Water Regulations up to 50 °C BS6920-1:2000, Sikadur Combiflex® SG, WRAS, Approval No. 1708503
- ▲ Type testing EN 13967:2017-04, Sikadur Combiflex® SG-20, SKZ, Test report No:132501/18-II

<b>Packaging</b>	1 roll of 25 m length
<b>Color</b>	Flexible light grey membrane
<b>Width</b>	15, 20, 25, 30, 40, 50, 100, 200 cm
<b>Length</b>	25 m roll

<b>Composition</b>	Modified flexible Polyolefin (FPO)
<b>Effective Thickness</b>	1.0 mm and 2.0 mm (-5 % / +10 %) (EN 1849-2)
<b>Mass per unit area</b>	2095 g/m <sup>2</sup> (-5 % / +10 %) (EN 1849-2)

## Consumption

Sikadur-Combiflex® SG System consists of a modified flexible Polyolefin (FPO) waterproofing tape and a Sikadur® epoxy adhesive.

Consumption of Sikadur®-31 C at per metre length of Sikadur-Combiflex® SG-20 P tape

Tape Width	Tape Thickness	Adhesive Consumption
15 cm	1 mm	~ 1.0 kg/m
20 cm	1 mm	~ 1.2 kg/m
15 cm	2 mm	~ 1.1 kg/m
20 cm	2 mm	~ 1.4 kg/m
25 cm	2 mm	~ 1.7 kg/m
30 cm	2 mm	~ 2.0 kg/m

<b>Shore D Hardness</b>	35 (DIN 53505)
<b>Resistance to Impact</b>	≥ 1500 mm (EN 12691)
<b>Resistance to Root Penetration</b>	Pass (CEN/TS 14416)
<b>Tensile Strength</b>	≥ 16 N/mm <sup>2</sup> (EN 12311-2)
<b>Elongation</b>	> 750 % (EN 12311-2)
<b>Maximum Permissible Permanent Elongation</b>	<25 % of non-adhered tape width
<b>Tear Strength</b>	> 50 N/mm (EN12310-2)
<b>Joint Shear Resistance</b>	≥ 500 N/50 mm (EN 12317-2)
<b>Watertightness</b>	Pass (Method B, 24 h / 60 kPa) (EN 1928)
<b>Chemical Resistance</b>	Tested according to EN 1847. Contact Sika Technical Services for additional information.
<b>Durability of Watertightness against Ageing</b>	Pass (12 weeks) (EN 1296) Pass (Method B, 24 h / 60 kPa) (EN 1928)
<b>Durability of Watertightness against Chemicals</b>	Pass ((Ca(OH) <sub>2</sub> , 28 d, 23°C) (EN 1847) Pass (Method B, 24h / 60 kPa) (EN 1928)
<b>Resistance to Weathering (Artificial weathering)</b>	7500 h passed (EN ISO 4892-2/-3) Reaction to Fire: Class E (EN 11925-2)
<b>Service Temperature</b>	-10 °C min. to +40 °C max



# APPLICATION INFORMATION

**Ambient Air Temperature** -10 °C min. to +40 °C max.

**Substrate Temperature** -10 °C min. to +40 °C max.

## Selection of tape size

Selection of the correct tape size (thickness and width) and of a suitable Sikadur®-31 C adhesive depends on the required performance.

# APPLICATION

Concrete or other substrate is prepared either side of the joint / crack by mechanical means, i.e., blast cleaning, grinding etc. followed by vacuuming to remove residual dust etc.

- ▲ Sikadur Combiflex® SG-20 P tape connections and overlaps must be welded.
- ▲ The mixed 2-part Sikadur®-31 C adhesive is applied on the sides of the joint/crack by brush, trowel or spatula.
- ▲ Sikadur-Combiflex® SG-20 P tape is then firmly pressed into the adhesive using a roller.
- ▲ Sikadur®-31 C adhesive is then applied on top of the Sikadur-Combiflex® SG-20 P tape.
- ▲ The red middle strip is removed while the adhesive is still wet.



# FAQ'S

## **What is the function of waterproofing?**

The main function of waterproofing is to prevent water penetration into the concrete. It also prevents the growth of fungus and shows resistance to abrasion and erosion. In addition to these, it provides a lot of benefits to your structures.

## **Should I waterproof my structure at the time of construction or resolve the problem post construction?**

Waterproof during construction is the best. You won't have to face any leakage issues and hassles after construction. It just helps save time and money. If you cannot manage it during construction, post construction waterproofing solutions are also effective to minimize further damages.

## **How long the waterproof solutions last for?**

Usually, any waterproofing solution comes with a guarantee of 10 to 15 years; however, it is subject to the method of applying it and the proportion of the elements. If you follow the steps wisely, you don't need to re-waterproof even beyond this range.

## **Is waterproofing solution expensive?**

Waterproofing is not as pricey as you think. The project cost will depend on the extent of the moisture damage, but the long-term payoff makes it all worth it.



# OUR OTHER SOLUTIONS



Concrete Repair



Concrete Injection



Grinding & Polishing



Grouting



PU Flooring



Industrial Flooring



Roofing