TECHNICAL DATASHEET

CTBOND *Pre*

Pre-applied, High Bond Coated, Flexible waterproofing membrane

Product description

CTBOND ***Pre*** is a unique, 3-layer, highly flexible tanking sheet/membrane. The membrane is pre and cold applied, with no need of heat and open flames during application but can be welded when needed. It consists of a synthetic membrane which is coated with an alkaline resistant pressure sensitive adhesive and further treated with silicium dioxide. This design offers high resistance against water penetration and gases. Because of the flexible adhesion to concrete it is a permanently active waterproofing membrane. The membrane achieves high bonding to concrete by increasing increase the surface area with silicium dioxide granular coating. The CTBOND ***Pre*** is trafficable for about 1-3 months, dependant on the weather conditions. The membrane has a self-adhesive strip on one side for side lap overlapping that ensures perfect bonding between the membranes. Application must be done before the reinforcement steel is fixed and the concrete is poured.

Area of application

CTBOND ***Pre*** is used for the waterproofing of exterior basement walls, foundations, tunnels, floor plates, etc. The same product is suitable for vertical and horizontal areas. CTBOND ***Pre*** is usable against pressurized water and infiltration of gases.

Features

- Flexible adhesion to concrete
- Permanently working
- Highly flexible
- Trafficable
- Pressure sensitive adhesive
- Uniform Depth
- Watertight against pressurized water
- Chemical resistant
- Methane gas barrier
- Radon gas barrier
- UV-resistant for >60 days
- Crack-bridging
- High elongation
- Not harmful for groundwater
- German engineered and manufactured

Specification

Base:	flexible synthetic membrane
Self adhesive coating (1.):	pressure sensitive polymer resin
Active coating (2.):	silicium dioxide, mineral based
Colour:	white
Processing temperature:	> + 5°C to +40°C
Weight:	approx. 1500 g/sqm
Thickness:	approx. 1.3 mm
Length according to DIN EN 1848-2:	20 m
Width according to DIN EN 1848-2:	1050 mm

Basic characteristics	Performance	Harmonized technical specification
Visible defects	Pass	EN 1850-2
Dimensions and deviations	Length: 20 m ± 0.10 m Width: 1050 mm ± 5 mm Straightness: Passed	EN 1848-2
Thickness and area density	Membrane thickness with coating: 1.34 mm (±10%) Area density: 1550 g/m² ± 10%	EN 1849-2
Water tightness Water pressure 60 kPa (0.6 bar)	Passed	EN 1928-A
Water tightness Water pressure 400 kPa (4 bar)	Passed	EN 1928-B
Resistance to impact Substrate Al plate	400 mm	EN 12691-A
Resistance to impact Substrate EPS plate	800 mm	EN 12691-B
Durability – against heat ageing	Passed	EN 1296 and EN 1928-A
Durability – against chemicals	Passed	EN 1847 and EN 1928-A

Basic characteristics	Performance	Harmonized technical specification
Compatibility with bitumen	Passed	EN 1548 and EN 1928-A
Tear resistance – longitudinal direction (nail shank)	>500N	EN12310-1
Tear resistance – transverse direction (nail shrank)	>650N	EN12310-1
Resistance to static loading Substrate: EPS plate	≤ 15 kg	EN 12730-A
Resistance to static loading Substrate: Concrete	≤ 20 kg	EN 12730-B
Resistance to static loading Substrate: EPS plate	≤ 15 kg	EN 12730-C
Tensile force in longitudinal direction	≥ 120 N/6 mm	EN 12311-2
Tensile force in transverse direction	≥ 140 N/6 mm	EN 12311-2
Tensile strength in longitudinal direction	≥ 13 N/6 mm	EN 12311-2
Tensile force in transverse direction	≥ 14 N/6 mm	EN 12311-2
Elongation at rupture – transverse direction	≥ 650%	EN 12311-2:2013

Basic characteristics	Performance	Harmonized technical specification
Elongation at rupture – Longitudinal direction	≥ 500 %	EN 12311-2:2013
Reaction to fire	Class E	EN 13501-1
Gas transmission rate (CH_4)	Passed	ISO 15105-1:2007-10
Radon transmission	D = $1.89E^{-13}$ m^2s^{-1}	ISO/TS 11665-13

Peeling strength of bonding to poured concrete (N/mm²)

Clean surface:	≥ 2.2
Contaminated surface with cement powder:	≥ 2
UV aging (3 months):	≥ 2
Peeling strength of bonding to poured concrete (after being submerged in water) (N/mm):	≥ 2

All technical data are measured in our laboratory.

Please take notice of the safety information and advice given in the safety data sheets and on packaging labels.

Delivery Units

CTBOND ***Pre***
20 m per roll
Width: 1050 mm

CTBOND ***PreTape***
20 m per roll
Width: 150 mm

CTBOND ***DoubleTape***
30 m per roll
Width: 100 mm

CTBOND ***RepTape***
20 m per roll
Width: 100 mm

Storage

12 months, ensure in a cool and dry area and in original undamaged packaging

Application

Preparation of the surface:

The surface must be sound, even, stable and clean. The substrate to be covered should not be damaged with, gaps, joints, or voids greater than 10 mm. To prevent movement of penetrations such as conduits for water and electricity during concreting and membrane installation, they must be fixed and stabilized. Damaged concrete should be repaired with Technique Beton Repstar Grout or STARFIX®. Sharp edges must be removed first to prevent damage to the membrane.

Material application:

Horizontal application:

CTBOND ***Pre*** must be placed with the silicium dioxide coating upwards and the white layer facing the substrate. The overlap between the membranes should be 75 mm. Before removing the siliconized PE-foil (from the side lap overlapping area) ensure that the membranes overlapping zone is positioned correctly. Ensure the back side of each subsequent roll is clean prior fixing and overlapping. Then start removing of siliconized PE-foil to bond the membranes together. Use a heavy roller to ensure a complete bonding between the membranes. Then start removing of plastic film and press membranes together. At the overlapping area of end laps the CTBOND ***Pre*** the CTBOND ***PreTape*** is used. The roll width of the tape is 150 mm. The tape must be placed 75 mm (150 mm tape) under the first membrane, with the siliconized PE-foil upwards. While removing the first layer of silicone foil the CTBOND ***Pre*** must be pressed together. The next membrane must be placed over the second half of CTBOND ***PreTape***. Proceed with removing of siliconized foil and press the membranes together.

Vertical application:

CTBOND ***Pre*** must be fixed mechanically to the substrate using fixing tools. These fixings must have a low-profile head so that the membrane will not be damaged from the fixings. The overlap between the membranes is 80 mm. Before removing the siliconized foil (at the overlapping area) ensure that the membrane overlap is positioned correctly. Ensure the back side of each subsequent roll is clean prior the overlapping. Then start removing of siliconized foil to bond the membranes together. Use a heavy roller to ensure a complete bonding between the membranes. Then start with removing the siliconized foil and press membranes together.

All detailing for example around pipes should be completed using CTBOND ***hydro-active-coating***, a liquid applied membrane. For better bonding to HDPE preparation with CTBOND ***RepTape*** is recommended.

Repairs before concrete placement:

In the case of damage to the CTBOND ***Pre*** during installation of formwork and reinforcement steel placement it is necessary to repair prior pouring of concrete. CTBOND ***RepTape*** can be used to repair any cuts or punctures < 10 mm. For larger repairs, cut a sleeve out of CTBOND ***Pre*** and fit across to repair zone. Ensure that the sleeve overlaps a minimum of 150 mm of the damaged area. Repair sleeve must then be sealed with CTBOND ***DoubleTape*** as per recommended cut edge detailing.

Application

Pouring of concrete:

The concrete should be poured within 30 days of CTBOND ***Pre*** installation. Ensure that all overlapping areas are sealed, and the siliconized PE-foil is removed in that area. Do not damage the membrane during pouring of concrete.

Formwork removal:

It is very important not to remove formwork until the concrete has sufficient compressive strength to develop the required adhesion with CTBOND ***Pre***. Too early removal of all formworks can lead to a displacement of CTBOND ***Pre*** and or concrete damage. A minimum concrete compressive strength of 10 N/mm² is recommended prior removing formwork.