PENTENS TO-100

High Performance Waterproofing Membrane

Product Data Sheet

Description

PENTENS TO-100 is a tough, pliable high-performance torch-on waterproofing membrane. It is comprised of a high strength engineered film and a thick layer of rubberised asphalt, forming a dual waterproofing barrier.

PENTENS TO-100 is available in a variety of thickness to suit different application requirements. The upper surface can be covered with sand or mineral finishing. The lower surface has a polyethylene film which melts when torched.

PENTENS TO-100 adheres tenaciously to the substrate, eliminating any trappings of water underneath and providing an impervious water barrier above.

Uses

PENTENS TO-100 is used for the waterproofing of flat or pitched roofs. It is also designed for use on:

- Inverted roofs & parapets
- Basements
- Lift pits
- Bridges & tunnels
- Terrace, balconies & patios
- Concrete foundation and footing
- Sunken slabs
- Re-roofing

Advantages

- Excellent resistance to positive water & vapor pressure.
- Good heat resistance.
- Good dimensional stability under tension.
- Will not become embrittled with age. It will bridge shrinkage cracks and accommodate continued movement.
- Easy to apply using flame-torch method.
- Flexible even at low temperatures.
- High puncture and fatigue resistance.
- Chemical resistance.

Technical & Physical Data

Thickness (mm)	3mm / 4mm
Surface Finishing	Sand / Mineral
Dimension of The Roll	1 x 10M
Weight of The Roll (+/- 3%) 3mm 4mm	 33kg 45kg
Coating Mass	APP / SBS
Tensile Strength-membrane (ASTM D412-06a)	48.7 kgf/cm²
Coating Asphalt Softening Point (R&B), ºC Penetration @25ºC, (0.1mm)	>140 (ASTM D36) 12–25 (ASTM D5)
Pliability (180 bend with over 25mm mandrel at - 32°C) (ASTM D 146 Sec. 13.1)	Unaffected
Fatigue Cycling Over Crack at 26°C (100 cycles)	Unaffected
Fatigue Cycling Over 25mm Joint at 26°C (1000 cycles)	Unaffected
Hydrostatic Pressure @5bar (50mm) BS EN 12390 (Part 8)	No leakage
Water Absorption (BSP), (%)	<0.2
Elongation at Break (ASTM D412-06a)	54%
Heat Resistance @120ºC DIN EN 52 123	No Flow

Important Notes

The material must be stored indoor to avoid being exposed to direct sunlight, wind or rain.

Disclaimer. All representations and recommendations set forth are given in good faith and to the best of our knowledge. However due to varying conditions and applications, the buyer shall conduct its own tests of this product before use. Under no circumstances will the manufacturer be liable for any loss or damages caused by incorrect usages. The sale of this product shall be on terms and conditions set forth on Pentens order acknowledgement.

Instruction for Use

Surface Preparation
All concrete or masonry surfaces should be cured for a minimum of seven days and dry. Surface may be cured using clear resin-based curing compounds. Do not use curing compounds containing oil, wax or pigment. Surface shall be broom-cleaned, free from voids, loose aggregates, sharp protrusions, form-release agents or other contaminants. Concrete surface should be of smooth wood-float or off-form finish. Brick or masonry surface should be of smooth finish with cut joints.

Priming
Apply a layer of PENTENS T-101 at the rate of 0.2kg/m² to a clean smooth and dry surface by brush, lamb wool roller or spray. Allow primer to dry one hour or until tack-free. Prime only the area which will be covered with membrane. Areas not covered within 24 hours shall be re-primed.

Alignment
Start the installation of all membrane plies from the low point or drains, so the flow of water is over or parallel to the plies, but never against the lap. All overlaps at the membrane seams shall be installed to have "up" slope laps over "down" slope laps. Begin membrane application by unrolling PENTENS TO-100 membrane roll and aligning the side laps. Side overlaps should be at a minimum of 100mm and the end overlap of 150mm.

Torching
Flame-torch the roll to the primed substrate. PENTENS TO-100 are installed by using a cylinder-fed propane gas torch. Use of hand-held roofing torch is recommended as it provides good control. Begin torching the embossed polyethylene side of the rolled portion of the membrane. The flame heat mush be applied evenly and within the right temperature range. As the membrane is heated, the embossing starts to melt away and a bead of liquid bitumen visible on the underside of the roll.

Roll forward the membrane and press firmly with the boot or roller against the substrate to bond well. The propane flame should be moved from side to side and up the lap edge while the membrane is slowly unrolled and adheres to the surface.

Caution: *Do not over torch the membrane as this will expose the reinforcement and cause damage to it.*

All inside and outside corners should be double-covered with membrane by applying an initial strip of minimum 300mm in width centered along the axis of the corner. A 15mm fillet formed with Pentens mastic shall be used on the inside corners. The outside corners should be free from sharp edges.

Sealing
Heat both the overlaps and use round tipped trowel to seal the overlap. Adequate heat is confirmed when a uniform flow of melted bitumen compound flows evenly in a bead that oozes from the applied membrane's edges. Excess compound should be smoothened and pressed on the seam using a heated trowel. Any un-bonded areas must be lifted and re-torched.

Up Stand
Flashing details are accomplished using cut pieces of PENTENS TO-100 membrane in combination with appropriate prefabricated flashing components. The same side lap and end lap rules apply to flashing details as to field membrane. An appropriate flashing membrane (mineral surface membrane) shall be lapped with the base membrane and taken up on the parapet wall and tucked into the concrete. The grooves must be sealed with a suitable mastic sealant (PENTENS Flex-609).

Immediately before covering the membrane, a careful inspection shall be made. Holes, tears, misaligned or wrinkled seams or other application imperfections shall be patched with membrane or mastic. All horizontal applications should be flood tested with a minimum 50mm head of water. Mark any leaks and repair when membrane is dry.

The specified covering material or topping system shall be placed on the membrane within 5 days after application.

Health & Safety

PENTENS TO-100 contains a tacky bitumen compound which can stick to human skin when applied. Such stains can be removed by using a cloth dipped in a suitable cleanser.

PENTENS

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