BITUTHENE® 5000

Composite membrane incorporating high performance moisture and water resistant rubberised asphalt with tough, puncture and heat resistant polypropylene reinforcing mesh. Specially developed for use under a hot applied asphalt concrete wearing course

Application

BITUTHENE® 5000, also known as Heavy Duty BITUTHENE®, is a waterproofing material incorporating high strength, heat resistant mesh embedded in a layer of self-adhesive rubberised asphalt. It is supplied in rolls interwound with special release paper which protects the adhesive surface until ready for use and allows easy handling during installation. BITUTHENE® 5000 is supplied in rolls 1.0 m wide, 20.0 m long and in min. membrane thickness of 1.6 mm. The rubberised asphalt is covered with release paper that is removed during installation.

The membrane is self-adhesive and cold applied. No special adhesive or equipment is necessary to form laps. BITUTHENE® 5000 is an excellent waterproofing membrane for plazas, bridges, vehicular traffic structures, or parking decks to be overlaid with an asphalt concrete wearing course. It is adaptable for either new construction or repair applications.

BITUTHENE® 5000 strips are recommended for the restoration of concrete pavements with asphalt concrete overlays to prevent premature deterioration of asphalt paving over the transverse and longitudinal joints caused by reflection cracking and sub-base erosion. BITUTHENE® 5000 membrane will remain flexible to perform over the extreme range of service temperatures expected on plazas, bridges, and parking decks. Its toughness and flexibility allow it to cycle over small cracks, even during critical winter months.

Advantages

- Cold applied - no heating plant or hot bitumen bedding adhesive required, self-adhesive overlaps provide continuity.
- Flexible - easily applied, conforms to changes in profile, accommodates shrinkage cracks up to 0.6mm.
- Robust - accepts road laying machinery.
- Pre-formed - guaranteed thickness, not subject to site variation.
- Mesh reinforced - provides dimensional stability and resistance to damage.
- Rubber/bitumen - self-adhesive, elastic compound provides bonding and transmission of braking forces to substrate, allows healing of small punctures.

Supply

BITUTHENE® 5000	1.6 mm Thick 1.0 m wide x 20.0 m long/roll
Weight of roll	40 kg gross
Ancillary Products	
BITUTHENE® Primer B1	5 and 25 litre drums.
Coverage	8-10 sq m per litre (depending on method of application, surface texture, porosity and ambient temperature)

Typical Test Values may represent average values from samples tested. Test Methods noted may be modified.

Installation

Surface Preparation

Smooth, monolithic concrete surfaces are required for proper membrane adhesion. Surfaces must be free of voids, spalled areas, loose aggregates, and sharp protrusions, with no coarse aggregate visible. Broom finishes must not be used. Concrete must be cured and dry before applications of BITUTHENE® 5000. Clean surface (broom, vacuum cleaner or compressed air) to remove dust, loose stones, and debris.

Priming

Apply BITUTHENE® Primer B1 to all concrete or masonry surfaces with a lambswool roller (8-10 m^2 per litre). Allow primer to dry one hour or until tack free. Prime only the area which will be covered with membrane in a working day. Areas not covered with membrane in 24 hours must be reprimed.

Temperature

Apply BITUTHENE® 5000 only in fair weather when air and surface temperature are above +5°C.

Slab Drainage and Joints

Provide proper pitch to drains and gutters. BITUTHENE® 5000 should be laid from the low point to the high point with the membrane overlapped min. 50 mm in shingle fashion. Weep holes or drainage openings should be provided at the structural deck level to drain water which penetrates the asphalt concrete.

A 320 mm reinforcing strip of BITUTHENE® 5000 must be applied over non working joints or cracks not exceeding 3 mm in width before applying the full coverage of membrane. Terminate BITUTHENE® 5000 at expansion joints and seal terminations with a suitable mastic at the termination to ensure a tight seal. Steel finger joints or other expansion joints assemblies should be placed to the level of the asphalt concrete overlay.

Kerb and Termination Edges

Kerb flashing strips should be applied to a joint just below the height of the asphalt concrete overlay and a minimum of 150 mm on the deck. Then apply the first full sheet as close as possible to the kerb. A fillet should be provided at the kerb and parapets to avoid a sharp break at these points.

The fillet material (latex modified cement mortar) should be well adhered to the deck and kerb or parapet. Performed cant strips are not recommended.

Compatibility

BITUTHENE® 5000 is incompatible with certain fresh tars, pitches, liquid waterproofing, and sealants which contains tars or polysulfide polymer. Avoid direct contact of the adhesive layer of BITUTHENE® 5000 or mastic with such systems.

Paving

The asphalt concrete overlay should be placed as soon as possible after application of BITUTHENE® 5000. A minimum of 50 mm compacted overlay is recommended. The preferred asphalt concrete temperature in the paving machine hopper is 140°C to 160°C. Preformed protection courses such as roofing felts or asphaltic hardboard are not recommended. Paving must not be started following rain until the membrane surface is dry. Only asphalt concrete delivery equipment should be permitted on the membrane prior to placement of the asphalt concrete. Flat tracked or pneumatic tire equipment may be used. In the event of skidding of the pneumatic tire machine during warm weather, broadcast a very small amount of fine sand or cement in the tire paths. Excess use of cement or sand could prevent adhesion of the asphalt concrete. Pavers should avoid stopping with a full hopper or build up of material in the auger. If a stop is necessary, use extreme care in restarting. Paver screeds should be preheated, but burners should not be on during paving.

Precautions

Care should be taken to minimise the possibility of pavement shoving on heavy traffic structures with more than a 4% grade. BITUTHENE® 5000 strips over joints in T beam structures will not provide complete waterproofing. For such structures, 320 mm strips, followed by membrane coverage over the entire surface are required to provide a complete waterproofing system.

Health and Safety

Read the product label and Safety Data Sheet (SDS) before use. Users must comply with all risk and safety phrases. SDSs can be obtained from GCP Applied Technologies or gcpat.com.

Specification Clause

All areas so designated shall be waterproofed with a minimum 1.6 mm thick self-adhering membrane of rubberised asphalt integrally bonded to polypropylene mesh. BITUTHENE® 5000 set pre-formed self-adhesive membrane shall be laid onto smooth concrete primed with Primer B1 and with minimum overlaps of 50 mm. BITUTHENE® 5000 must be laid strictly in accordance with anufacturers instructions and supplied by GCP Applied Technologies. For further information, contact your local GCP representative.

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