Duromastic Traffic-Decking System

Technical Data & Guide Specifications

TECHNICAL DATA

1. General Information

1.1 Description: A hot applied thermoplastic over-lay system comprising of three components. Components include:

1.11 Hot process elastomeric membrane comprised of modified rubberized asphalt containing mineral filler and thixotropic agents, designed to be applied at thicknesses of $^{1}/_{16}$" to $^{1}/_{8}$" (1.6 to 3mm)

1.12 Inert bond-sheet made of asphalt saturated fiberglass.

1.13 Hot applied thermoplastic mastic containing one, or a blend, of residual and naturally occurring asphalts with specifically graded calcium carbonate flour, washed sand and containing coarser granules.

1.2 Membrane Characteristics: Tough rubberlike substance having excellent elongation and return. Little or no flow when subjected to 60°C (140°F) heat on a metal sheet angled at 75°. Will not crack when bent over a ¼" (6.3mm) diameter mandrel at -15°F (-27°C). Crack bridging up to $^{1}/_{16}$" (1.6 mm).

2. Hot Applied Thermoplastic Mastic

2.1 Description: Dense almost void less mass having tenacious bond when applied to membrane and bond-sheet combination. Tough and withstands the heavy traffic. Non-flamable and will not support combustion. Requires little maintenance is both impervious and impermeable. Can be subjected to traffic within 3 hours of application. Can be applied at low temperatures.

2.2 Limitations:

For use on suspended slabs the dead load capacity of the structure should be checked to ensure it can withstand 7 pounds per square foot. (32.5 kilograms per square meter).

Exterior applications shall use the exterior mix design.

2.3 Standards: CAN/CGSB-37.65-M88

3. Product Information, Composition and Manufacturing:

3.1 Membrane

3.11 The membrane shall consist of a blend of the following raw materials:
- A grade of residual asphalt having a suitable penetration and softening point.
- A synthetic rubber of sufficient molecular strength to produce a tough non-flowing membrane.
- A flux oil which will completely dissolve the rubber.
- A fine filler compatible with the membrane.

3.12 All components shall be mixed in a high-speed mixer until smooth homogeneous mix is obtained.

3.13 Material shall be run off into containers to transport and re-melt on the job site.

3.2 Mastic

3.21 Thermoplastic Mastic shall consist of a blend of raw materials including:
- Residual and naturally occurring asphalts.
- Specifically graded limestone (calcium carbonate filler.
- Washed sand and angular grit

3.22 All components shall be mixed in a special mastic cooker with rotating blades at 4 to 6 rpm.

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3.23 The mastic can be used immediately after fully mixed, or can be cast into suitably sized blocks for re-melting on site.

3.24 Thickness & Weight:

Suspended Slab: Mastic is applied at ½" (12.7mm) thickness. Weight including membrane is 7lbs/sq.ft (34kg/sq.m).

Garbage Areas: Mastic is applied in two lifts of ½" (12.7mm) thickness. Weight including membrane is 14lbs/sq.ft (68kg/sq.m)

Ramp: Mastic is applied in three lifts for a total mastic thickness of 1 - $^{5}/_{8}$" (41.3mm). Weight including membrane is 23lbs/sq.ft (112kg/sq.m).

3.25 Physical Properties:

When product has cooled to ambient temperature, system can be opened to traffic.

The mastic surface has good impact resistance, excellent adhesion to the membrane, excellent abrasion resistance, excellent impermeability, excellent resistance to road salts and the surface is slightly softened by oil.

4. Requirements

4.1 Concrete Substrate

Concrete for sub-floors shall have a maximum slump of 3" (7.6cm) and have a minimum compressive strength of 3000 psi (20,600 kN/m2) at 28 days. The surface shall be wood float finish and wet cured for a minimum of 7 days. Minimum slope to drains shall be 1%. Curing compounds or metallic surface hardeners shall not be used.

Finish surface shall be uniform, straight, sound, hard, non-dusting, free from holes, mortar, laitance, efflorescence or other materials which may impair adhesion of membrane to concrete surface.

Existing concrete surfaces shall be shot blasted prior to mastic application.

4.2 Drains

The drains shall be set in the low sloped areas and shall be set 3/8" (9.5mm) lower than finished elevation of the hot mastic traffic decking.

4.3 Operation and Maintenance

The Mastic traffic deck should be hosed down with water following each winter to remove build-up of road salts and sand from the mastic surface.

Deck should be inspected for any cracks or opening of control-joints and if required, filled with jointing compound.

Drains should be kept free of debris in order to ensure proper drainage.

Duron's maintenance manual will be provided at the completion of each project and shall be followed by the building owner to uphold the warranty.

5. Execution & Guide Specifications

5.1 Co-ordinate with related trades.

5.2 Qualifications of Contractor
Mastic Asphalt shall be installed by a Contractor with minimum 5 years' experience and who has the required equipment and skill to perform the work.

5.3 Product Delivery, Storage and Handling:
If membrane and mastic is being shipped to the jobsite in block form, products shall be stored in a convenient location for site operation. If delivered in hot molten state, position within 100m of the work area.

5.4 Substrate shall be prepared as required in order to ensure a clean, dry and acceptable surface to the manufacture.

5.5 Environmental Requirements:
Work shall commence only if the Mastic

Ventilation shall be adequate to remove smoke and fumes to allow safe work conditions. Lighting shall be adequate to allow for proper installation of traffic deck system.

5.6 Power Requirements: Provide 110/220v power and standard grounded fixtures at work area.

5.6 Protect finished installation from other trades until handed over to Owner.

5.7 Installation:

5.71 Primer: Apply asphaltic based primer

5.72 Membrane: When primer is dry to the touch apply 1/16” to 1/8” (1.6mm to 3.2mm) of hot applied elastomeric membrane.

5.73 Bond Sheet: Install overlay of asphalt saturated fiberglass bond sheet.

5.74 Duromastic: Apply Duromastic hot process mastic asphalt traffic system as per the system thicknesses recommended within 3.24.

5.75 All bay and end joints shall be butted.

5.76 Fill all joints with filling compound recommended by Duron.

5.77 Quality Control: The Duromastic System shall be tested periodically to determine if it complies with specified thicknesses.

5.78 Samples, when requested, shall be submitted for testing. Method of testing, payment and responsibility for same to be agreed upon in advance between Duron and Architect/Engineer.

Contractor is prepared to accept ambient temperature conditions.

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