

TechnoSeal[®] FlexiGard EPDM 45/60

High Performance Non-Reinforced EPDM Membrane for Structural Waterproofing

Description:

TechnoSeal[®] FlexiGard EPDM 45/60 is an Ethylen-Propylen-Dien Terpolymer (EPDM) rubber based prefabricated, light weight, durable and weather-proof single-ply waterproofing membrane ideal for a wide variety of waterproofing & lining application for underground & above concrete structures. TechnoSeal[®] FlexiGard EPDM 45/60 is an economical solutions for lining of lakes, ponds, artificial streams in parks, gardens and all kind of roofing structures, for waterproofing applications in new construction and renovation projects because it exhibit high degree of resistance to water, ozone, UV, weathering, abrasion, extreme temperatures, acids, alkalis and oxygenated solvents.

Application:

- Basements, Foundations, RCC Roof & Podium slab coverings.
- Geosynthetic liner for lakes, ponds, reservoirs, irrigation systems canal and tunnel etc.
- Large commercial roofs of concrete, wood, asbestos & metal sheets.
- Terrace Gardens/Swimming pools / fish pond liners & Expansion Joints.

Features:

- Impermeable -to water & easy to install.
- Strength-High tensile strength and tear resistance provides protection from damage due to structural movements.
- Weathering durability – Excellent resistance to UV & ozone, hence perform well on exposure.
- Longevity - Durable lasts for more than 20 years.
- Eco-friendly - Safe and environment friendly.
- Chemical resistant – Resistance to common chemicals solutions.
- Load bearing – Minimum extra load on the roof.
- Movement accommodation - Withstands the movement in the structure due to its higher elongation property.
- Biodegradation– Resistance to biodegradation.
- Service temperature-Retains its elasticity at low temperatures and the resistant to temperature shock from- 200C to + 800C.

Method of Application:

Surface Preparation

Substrate needs to be sound, smooth, dry and free of sharp edges, loose or foreign materials, oil, grease and laitance, etc. Mechanical surface preparation methods are strongly suggested to ensure proper adhesion of the membrane. The expansion joints need to be properly attended prior to fixing of TechnoSeal[®] FlexiGard EPDM 45/60. For further details contact Techno Builders Solution[®] Technical representative. Before lying the sheets, mark out datum lines with chalk, etc., so that the membranes can be arranged properly and parallel with reference to the edges of roof area. Then first arrange to lay the membrane according to datum line from one side of the roof, and fold back to half its Length.

Cracks

Hairline cracks up to 1 mm wide, which experience no movement, may be duly filled up with repair mortar. Structural cracks which experience movement must be filled with TechnoSeal[®] PU 300- Flexible PU material.

Product selector

- TechnoSeal[®] FlexiGard EPDM 45 Mills (1.14mm)
- Roofs of all kind, basements, terrace garden, swimming pools, fish pond liners, terrace gardens etc.
- TechnoSeal[®] FlexiGard EPDM 60 Mills (1.5mm)
- Lakes, canal, pond with high water column etc.

Procedure

Apply bonding adhesive, TechnoSeal[®] FlexiGard EPDM 45/60 Adhesive on to the clean and prepared substrate, and also, on to the back of the membrane that has been folded. Before applying TechnoFix[®] FlexiGard Splice Bonding Adhesive, stir it in the container to achieve a uniform mix with no sediment at the bottom. Adhesive must be then trowel applied in a thin even coat on membrane and the substrate. An excess of adhesive will prolong the drying time.

Care must be taken not to apply TechnoSeal[®] FlexiGard EPDM 45/60 Bonding Adhesive over an area that is to be cleaned later and overlapped to the adjacent membrane (from its underside). This is to be done also at the peripheries of the membranes or their termination (from the underside). Use a chalk line mark or a masking tape on the area to be overlapped (Splicing Area) and the ends of the membrane (for 50-70 mm) that has to remain clean. Let the solvent evaporate naturally until the adhesive attains a tacky condition. Drying time will defer depending upon the climatic conditions and coverage rate. Never use a hot air dryer to accelerate the process.

In temperatures of 30 to 35°C, the drying time is approximately 5 to 10 minutes. Refer data sheet of TechnoFix[®] FlexiGard Splice Bonding Adhesive for more details. Unfold back the first half of TechnoSeal[®] FlexiGard EPDM 45/60 membranes carefully to ensure that there are no wrinkles during the sticking process. The sticking process can be done with a roller. Since TechnoSeal[®] FlexiGard EPDM 45/60 comes in a size of 20/25 m long & 1.2/3 m wide, maintaining the parallel position w.r.t to the datum lines, spread and sticking, is very important.

Repeat the bonding procedure for other half of TechnoSeal[®] FlexiGard EPDM 45/60 membranes. Keep repeating this procedure for every roll to complete the laying of TechnoSeal[®] FlexiGard EPDM 45/60 for the entire area. An overlap of 50–70 mm along the length or as specified is a must. A masking tape must be first stuck to the laid membrane.

Use TechnoFix® FlexiGard Splice Bonding Adhesive to adhere the overlapped membrane portions. Now, from the underside, remove the masking tape. Apply 2 coats of TechnoFix® FlexiGard Splice Adhesive wet on wet on the underside of the first membrane, and also on the topside of the adjacent overlapping membrane.

Please note that the overlapping in case of TechnoSeal® FlexiGard EPDM 45/60 applications is done by tucking it below the earlier membrane. Thoroughly roll on the overlapped area with a 50-70 mm wide metallic roller

Coverage:

TechnoSeal® FlexiGard EPDM 45/60 Membrane widths up to 1.2 m & 3 m and lengths of 25 & 30 m seaming for large projects are available. The above mentioned coverage is without considering overlap and wastage. Approximately 10% should be considered in overlap & wastage.

Packaging:

TechnoSeal® FlexiGard EPDM 45/60 Membrane widths up to 3 m & lengths of 20, 25 & 30 m seaming for large projects are available in rolls

Storage:

TechnoSeal® FlexiGard EPDM 45/60 membranes should be stored under covered shed in ambient temperature. TechnoFix® FlexiGard Splice Bonding Adhesive should be stored under covered shed with no contact with sunlight

Shelf Life:

TechnoSeal® FlexiGard EPDM 45/60 range membranes - Life Long. TechnoFix® FlexiGard Splice Bonding Adhesive - 12 months.

Clean Up:

Excess sealant and smears adjacent to the joint interface can be carefully removed with TechnoFix® CleenzolPlus before the sealant cures. Used tools and equipment must be cleaned carefully with TechnoFix® CleenzolPlus. TechnoFix® FlexiGard Splice Bonding Adhesive once cured, residual material can only be removed mechanically.

Typical Properties at 25°C:

Physical Property	Test Method	1.14mm & 1.5mm Standard
Tensile Strength, min, psi (MPa)	ASTM D412	1650 (11.3)
Tolerance on nominal thickness, %	ASTM D412	± 10
Elongation, Ultimate, min, %	ASTM D412	>470
Resistance to Heat Aging* Properties after 4 weeks @ 240° F (116 °C)	ASTM D573	Pass
Tear Resistance, min, lbf/in (kN/m)	ASTM D624 (Die C)	200 (35.0)
Color	Visual	Black
Ozone Resistance* Condition after exposure to 100 pphm Ozone in air for 168 hours @ 104°F (40°C) Specimen is at 50% strain	ASTM D1149	No cracks
Factory Seam Strength, min.	Modified ASTM D816	Membrane Rupture
Resistance to water Absorption* After 7 days immersion @ 158°F (70°C) Change in mass, max, %	ASTM D471	+2.0
Resistance to Outdoor (Ultraviolet) Weathering* Xenon-Arc, 7560 kj/m2 total radiant exposure at .70 W/m5 irradiance 176°F (80°C) Black Panel Temp	ASTM G155	No Cracks No Cracking
Brittleness Temp., max, deg. F (deg. C)*	ASTM D746	-67 (-55)
Linear Dimensional change, max, %0 F (70 0 C) Change in mass, max, %	D 1204	+0.3

Precautions & Limitations:

- The concrete or metallic substrate must be completely dry before taking up the application. If some moisture exists, it must be expelled with a blowtorch or a flame torch.
- The roofing structure needs to be stable / sound enough to support the temporary loadings.
- All surface voids greater than 5 mm wide shall be properly filled with suitable repair materials from the Techno Builders Solutions® range.
- Use the right bonding agent for the right purpose as directed above.
- TechnoSeal® FlexiGard EPDM 45/60 membranes & adhesives are combustible materials. They must be stored in a ventilated warehouse far away from the fire.
- Handle the Activator with care; do not touch with bare hands and keep away from direct sunlight.
- Adhesives are flammable.
- Necessary precautions should be taken during installation and storage.
- Good roofing practice always includes provisions for proper drainage for any type of roof system.

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Health and Safety instructions:

TechnoFix® FlexiGard Splice Bonding Adhesive is flammable. Necessary precautions to be taken during transport /storage / use. Recommended usage / application temperature is minimum 20°C to max. 35°C for better tack and adhesion. During application / use- dew point should not be less than 3°.

It is dangerous to approach the application sites with fire. Fresh air should be circulated in the storage and the application sites. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Precautions Rules should be used. Due to the irritation effect of the uncured materials, the mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and soap; in case of swallowing, a physician should be consulted immediately. No food or beverages should be brought to the application area. Store all materials and equipment safely and out of reach of children and animals.

Observe container labels, SDS, applicable laws and regulations and all instructions before using the product and equipment. In case one of the components comes in contact with the skin, wash thoroughly with soap and water. Provide adequate ventilation in volume and pattern in working area.

Additional information:

Techno Builders Solutions® By Sterling Technotrade India Pvt.Ltd -The Specialist Construction Chemicals Company® range of associated products includes high performance concrete Admixtures, Adhesives, Protective Coatings, Concrete Repairs, Industrial Flooring, Grouts & Anchors, Joint Sealants, Surface Treatments, curing compounds, repair mortars, release agents, Grinding Aids & Waterproofing.

*Separate datasheet are available on these products.

DISCLAIMER: The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results, arising from the use of our products.

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Please note that this datasheet supersedes all previous versions.