TPO MEMBRANE SYSTEMS



Heatshielding & Waterproofing Your Roof

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GreenShield[™] TPO membrane is India's first and only locally manufactured TPO roofing membrane system, servicing India's growing need for building insulation while also protecting from water leakages with a long service life.

With over 35 years of experience in manufacturing innovative polymer compounds for automotive, wire & cable, medical & healthcare, construction, agriculture, appliances and FMCG; Zylog forward integrated into manufacturing these membranes to meet India's requirements of sustainable building materials, building and energy conservation codes.



Localizing this globally tested and proven waterproofing and heat insulating system, GreenShield[™] is Zylog's promise of helping enhance quality & speed of construction in India.

TPO (Thermoplastic Polyolefin) membrane is the world's fastest growing roofing system. It has consistently continued to outperform other materials due to its ease of installation, durability, superior performance, competitive costs, environmental sustainability, while being the only system to provide protection from water and heat simultaneously.

GreenShield[™] TPO membrane is suitable for new as well as refurbished buildings, offering the following key benefits:

Heat Shielding

- High Solar Reflective Index: 100
- High Solar Direct Reflectance: 0.7961
- High Emissivity: 0.909

Together, these properties reflect sun's energy and heat back into the atmosphere, thus insulating the roof below

- Exceeds EPA's ENERGY STAR[®] requirements
- Complies to Cool Roof Rating Council (CRRC)
- Complies to new ECBC of India
- Can be used to gain points against IGBC, GRIHA, GBCI, LEEDS[®]





Waterproofing

- Solid, impermeable, flexible membrane, acts as a barrier, draining the water off the roof
- It is non-porous with excellent weathering properties and protects the roof / slab below from direct leakages as well as capillary effects through water percolation – effectively rain-coating the roof
- Heat welded seam joints overlapped over fasteners, makes the system monolithic, without concerns of leakages through the fasteners.

Besides heat shielding and waterproofing, GreenShield[™] TPO membrane offers the benefits of:

Fire Safety

- EN 13501-1 Fire Class E
- EN 13501-5 External Fire Rating Resistance of B_{ROOF}(t1)
- No need for naked flame during installation

Ease of Installation

- 10,000 sq ft of area is completed within a week
- 2 mtr width ensures less seam joints, fast and economical coverage
- Hot air welding provides fast and consistent installation quality, with little manual intervention
- Wide range of accessories, speeds up termination and completion of installation

Superior Long-Lasting Performance

- Contains no plasticizers, no halogens
- Outstanding resistance to UV, Ozone and weathering
- Strong resistance to algae, fungi, acids, alkalis and chemicals
- Resistance to root penetration ideal for green roofs



15 YEARS GUARANTEE

GreenShield[™] approved applicators are trained to carry out installation and repair works, backed by company guarantee of 15+ years.



To meet the diverse needs across India, GreenShield[™] has developed a wide variety of membranes, suitable for various roof substrates.

Product nomenclature guide: **GS**: GreenShield[™] | **TPO**: Thermoplastic Polyolefin material **RF**: Reinforced with scrim or backing | **BG**: NW Fleece Backing S: Single Sided Backing | D: Double Sided Backing FR: Fire Safety Compliance

GS TPO RF & GS TPO RF FR

These membranes come in thickness of 1.2 & 1.5mm, are scrim reinforced, fully encapsulated, complying to global standard of ASTM 6878. FR grades are specifically designed to meet Fire Safety EN class norms. These are suitable for installation over PEB roofs, & non-accessible concrete roofs.

GS TPO SP,& GS TPO SP FR

These membranes come in thickness of 1.2 & 1.5mm, are single ply, complying to global standard of ASTM D131-95. FR grades are specifically designed to meet Fire Safety EN class norms. These are suitable for installation over PEB roofs, nonaccessible concrete roofs & green roofs. Also, since these membranes are more flexible, it is used for corner & edge joints.

GS TPO RF BG S & GS TPO RF FR BG S

These membranes come in thickness of 1.2 & 1.5 mm and are reinforced with an external backing of non-woven polyester, offering superior puncture resistance, enabling adhered installation system using hot asphalt or GS adhesives. FR grades are specifically designed to meet Fire Safety EN class norms. These membranes are suitable for exposed non accessible concrete roofs, bonded to substrate

GS TPO RF BG D

These membranes come in thickness of 1.2 & 1.5 mm, where TPO is sandwiched between layers of non-woven polyester enabling fully embedded waterproofing installation system using GS adhesives. It enables installation of tiles on exposed surface. These membranes are suitable for accessible concrete roofs, podiums, balconies, bonded to substrate.

GS TPO SP FDA

This is a special membrane, FDA approved for potable water tank lining application, providing anti-microbial & anti-fungal properties. The membrane has been tested for compliance to FDA Potable Water regulation as well as microbial and fungal attack resistance.

www.greenshield.co.in









APPLICATION AREAS GREENSHIELD™ TPO Membrane

LOW SLOPE PEB ROOFS:

- Factory Buildings
- Warehouses & Cold Storages
- Toll Booths
- Airports, Metro, Bus & Railway Stations
- Showrooms

FLAT CONCRETE ROOFS: (Limited access)

- Commercial Buildings
- Hospitals
- Schools, Colleges
- Malls, Hotels, Resorts
- Residential Buildings
- Green Roofs





PODIUM WATERPROOFING:

- Podium Dry & Wet Areas, Vegetation Areas
- Multi-level car parking
- Basements Positive Side, embedded within substructure



- Drinking Water tanks FDA Compliant special grade
- Overhead concrete water tanks
- Underground concrete water tanks
- Chemical storage tanks



PIPE PROTECTION WRAPPING:

- Onshore & offshore pipelines carrying gas, oil, petroleum
- Pipes extending into the sea on jetty
- Pipes used in refineries, chemical handling & mining application
- Underground buried pipes in lying / high ground water areas



INSTALLATION METHODS





FULLY ADHERED, EMBEDDED SYSTEM



GREEN ROOF SYSTEM



FAST INSTALLATION

Around 10,000 sq.ft of roof, can be completed within 7 working days by GreenShield[™] approved applicators who use high mechanization and automation.





OUTER CORNER

DRAIN

PIPE

WRAP

ROOF

WASHERS

TERMINATION FASTENERS **STRIPS**



GREENSHIELD™ TPO ROOFING MEMBRANE HELPS REDUCE URBAN HEAT ISLAND EFFECT



Increasing urbanization is resulting in dramatic micro-climatic changes within and around our cities. Coupled with impacts of climate change, these cities are becoming difficult to live in. High levels of concretization, impermeable surfaces, reduced evapotranspiration, reduced vegetation is causing our cities to absorb & retain more heat. This in turn is resulting in more need for cooling, hence more consumption of electricity and thus resources. This is known as Urban Heat Island Effect (UHIE).

GreenShield[™] TPO membrane is specially designed to reduce UHIE by increasing the albedo effect. Installed on building roofs to create *Cool Roofs*, it reflects the heat and energy of the sun, thus keeping the roof and surrounding area cooler, thus reducing the overall costs of cooling.

Installing GreenShield[™] TPO Roofing Membrane, helps reduce temperature by around 8 °C, providing peak summer cost reductions of upto 15%.

Besides this, it also 'rain coats' the roof, protecting from water leakages.

We care about the environment

Zylog is committed to operating in an environmentally responsible manner. Our facilities meet ISO 14001 environmental management system requirements, with a minimal carbon footprint, exhaustive ground water recharge systems, recycling of waste water, insulated building for reduced electricity consumption.

GreenShield™ itself is a energy efficient roofing membrane, helping conserve energy and thus reduce resource wastage.

GreenShield[™] is 100% recyclable. At the end of life of a building, the TPO roofing membrane can be removed with limited residue and sent back for recycling and reuse.

GREEN ROOFS

GreenShield[™] extensively promotes setting up Green roofs across our cities. It is an ideal membrane for creating living breathing vegetation on roof tops of buildings, thus increasing the green cover of the cities.

GS TPO Membrane has successfully passed EN 13948 Root Penetration resistance test and is an ideal membrane for creating lightweight, low maintenance vegetation. Benefits include:

- Reduces Urban Heat Island Effect
- Reduces energy costs associated with cooling, A/C
- Reduces water drain off, increases evaporation
- Improves air quality, reduces CO₂
- Reduces noise pollution





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Zylog ElastoComp Zylog House | Lane 4 | Kalyaninagar | Pune 411006 Phone: +91 20 2665 0220 | +91 77698 02777 www.greenshield.co.in | sales@greenshield.co.in