

T-Grip

PERFECT LINING SOLUTIONS



EXCELLENT PIPES CO. L.L.C.

EPC T-Grip PE Linings For Pipes, Structures And Landfill

EPC T-Grip range of products

- EPC **T-Grip** lining for concrete structures, pipes, sewer, tunnels, manholes and other masonry work requiring protection.

The current production covers linings of thickness 1.0 to 3.0 mm, other thickness could be supplied upon demand.



EPC **T-Grip** Profile

EPC **T-Grip** profile has been adopted due to the superior properties it can provide, especially for anchoring (Pull off Test), for controlling damaged area in case of infiltration, since liquid will be streamlined between 2 EPC **T-Grip** and for its easy handling and even surfaces, unlike other systems.



Thick necked 'T'

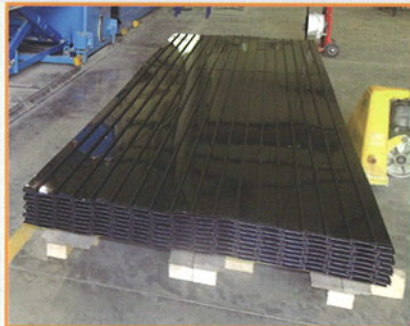
EPC T-Grip Physical & Chemical Characteristics

EPC T-Grip polyethylene linings are manufactured from selected PE raw materials in order to ensure flexibility while achieving excellent physical and chemical properties.

All EPC T-Grip linings can be easily cut and hot air welded due to their excellent thermo-plastic properties.

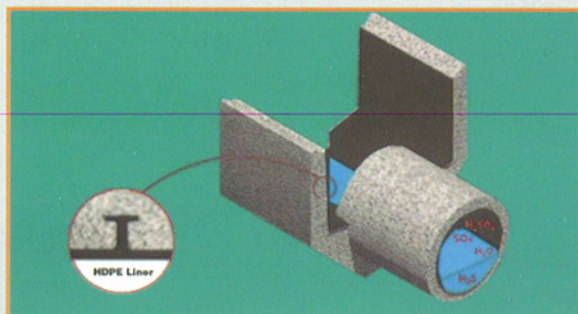
EPC T-Grip Physical & Chemical characteristics

- Ideal protection for concrete against corrosive mediums in structures and transmission pipeline systems.
- Suitable for lining potable water systems such as tanks and pipelines.
- Perfect solution for storage tanks, treatment plants, industrial structures and utility networks.
- Temperature resistance exceeding 60 °C making the linings suitable for use in hot environment and heat generating systems.
- Low coefficient of friction and high resistance to abrasion.
- Excellent retention of flexibility throughout its lifetime and suits complex Shapes.
- Resistance to fuels and other petroleum products.
- Ultimate sealing property ensuring zero penetration of highly corrosive hydrogen sulphide gas, in sewerage concrete pipelines and structures.
- Designed to withstand hydrostatic back pressure of 4 bar or ground water head of 40 meters.
- Perfectly weldable at all times making it the optimal solution for an economic installation.
- Overall chemical resistance against acids, alkalis, salts etc.



Other properties unique to EPC T-Grip polyethylene lining sheets

Compared to PVC, polyethylene is proved to be physically stronger and with higher chemical resistance against a broader range of exposure. Polyethylene provides unbreachable isolation for concrete in the face of sewer streams confluent with petroleum waste products because of its resistance to petroleum and its derivatives. EPC T-Grip linings are the culmination of EPC accumulated expertise in manufacturing and innovative field service, making them the best solution to the problem of concrete protection.



View of concrete structure and pipe system protected with EPC T-Grip Liner

General Properties of EPC T-Grip PE Sheet Material

Property	Test Method	Typical Value
• Density, g/cc	ASTM D 792/ISO 1183	≥ 0.94
• Tensile Strength at Yield, N/mm ²	ASTM D 638	≥ 15
• Tensile Strength at Break, N/mm ²	ASTM D 638	≥ 24
• Elongation at Yield, %	ASTM D 638	≥ 14
• Elongation at Break, %	ASTM D 638	≥ 600
• Melt Flow Index, gm/10 Minute (@2.16 kg, 190°C)	ASTM D 1238/ISO 1133	≤ 1.0
• Carbon Black Content %	ASTM D 1603	2.0 - 3.0
• Water Absorption, % (24 hrs in distilled water at 23°C)	ASTM D 570	≤ 0.02
• Durometer Hardness	ASTM D 2240	1sec ≥ 50 10sec ≥ 40
• Tear Resistance, N	ASTM D 1004	≥ 120
• Puncture Resistance, N	ASTM D 4833	≥ 176

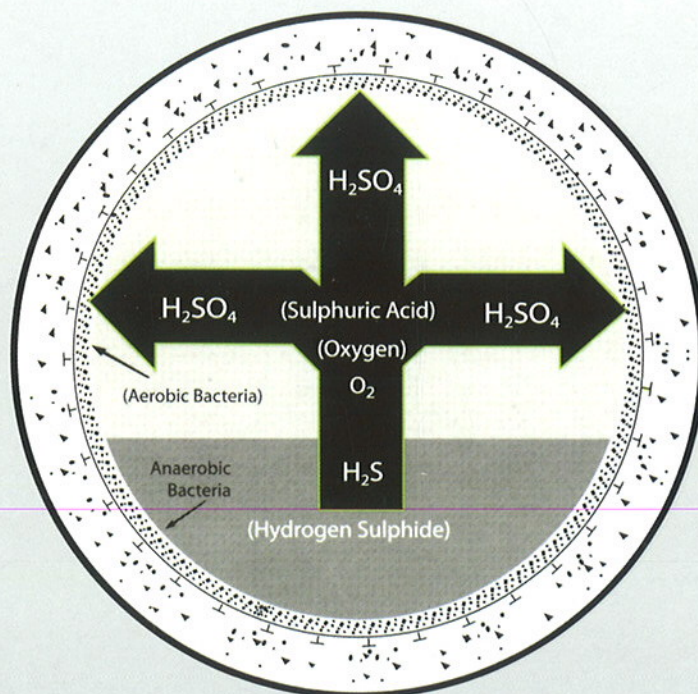


Diagram shows EPC T-Grip Liner protecting concrete pipe against H₂S attack

EPC T-Grip Ultra Long-Term Protection For Concrete

EXCELLENT PIPES CO. L.L.C. (EPC) is a leading manufacturer of protective linings using polyethylene resins to provide an effective isolating barrier against concrete corrosion, all under the quality and design requirements of **ISO 9001:2008**; **ISO14001:2004**; and **OHSAS 18001:2007**. Concrete, the world's most commonly used construction material, requires protection from aggressive media, whether it is used to construct a sewer pipe, a tunnel, a wall in sewerage installations or civil foundations in corrosive conditions.

In Sewer Systems, the culprit is hydrogen sulphide attack and in civil foundations, saline soils containing chlorides and sulphates are the main agents of breakdown through infiltration and crystallization.

EPC **T-Grip** linings protect concrete by isolating it in the long term from the insidious and continuous threat posed by these agents.

EPC **T-Grip** lining system is a continuous, extruded and homogeneous plastic sheet membrane of flexible Polyethylene that is especially compounded to provide maximum resistance against chemical attack.

The lining is extruded with T-ribs spaced 64 mm apart on one side of the sheet. The Tees anchor the lining into the concrete, thus making it integral to the structure. Whether it is concrete pipe or wall; during construction the lining is attached to the forms and secured in place. The T-ribs are always in contact with the poured concrete which flows around them and is then vibrated to ensure a dense, void-free structure with the EPC **T-Grip** secured to its face.

The EPC **T-Grip** lining isolates and protects the concrete against most severe exposures whilst being unaffected by immersion in water or when subjected to high humidity. Furthermore, it exhibits excellent weathering and aging. EPC **T-Grip** plastic linings remain flexible and extensible enough to withstand even abnormal movements in the concrete, so they easily bridge any cracks that occur.

EPC **T-Grip** linings ensure concrete protection for over 100 years.





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