

DESCRIPTION

TamSeal 2200 is a homogenous unreinforced synthetic membrane. It is produced by co-extrusion process from polyvinylchloride (PVC), plasticisers and additives. It is twin coloured membrane, one side is light green or grey, another side is black. The signal layer allows detection of damages of waterproofing in the process of application. The product is not UV-resistant.

KEY BENEFITS

- › High dimensional stability, puncture and tear resistance.
- › Multiple accessories available for securements, compartment creation, injection and termination.
- › Suitable for use in tunnelling, deep basements, cut and cover, foundations and retaining scenarios.
- › Strong resistant to industrial chemicals, microbiological activity, roots.
- › Loosely laid which allows to act independently of structural movement.
- › Outstanding weldability through hot air, to become monolithic. No extrusion welding required.
- › Suitable for >120 year design life requirements and proven in service for >50 years.
- › Long life expectancy due to great chemical and mechanical properties.

TYPICAL APPLICATIONS

- › Tunnels
- › Underground structures, shafts, Cut and Cover.
- › Retaining walls
- › Deep basements

TECHNICAL DATA

TamSeal 2200	
Thickness EN1849-2	2.0 mm ± 5%
Tensile strength EN 12311-2	≥ 17 N/mm ²
Appearance EN 1850-2 (DIN16726)	No blisters / cracks / deformation
Straightness / flatness EN1848-2	6 mm < 1 mm
Elongation at break EN 12311-2	≥ 300%
Aeric mass EN1849-2	2.70 kg/m ² ± 0.05
Resistance to impact EN 12691	≥ 2000 mm

Puncture Static Test EN 12730	20 kg
Puncture Static Test (CBR) EN ISO 12236	3.12 kN
Resistance to tearing EN 12310-2	≥ 150 N
Peel resistance of joint EN 12316-2	≥ 400 N/50mm
Shear resistance of joints EN 12317-2	≥ 700 N/50mm
Shear resistance of joints, N/50mm Cold bending EN 495-5	≤ -35°C
Watertightness (10 bar for 24 h) EN 1928	Pass
Water Absorption BS EN ISO 62	< 0.5%
Heat distortion/dimensional stability (6h 80°C) Behaviour after heat exposure. EN 1107-2 (DIN 16726)	≤ 2.0% No Blisters
Behaviour after storage in aqueous solution 28d/23°C Change Tensile Change elongation at break No cracks -20°C	EN1847 H ₂ SO ₃ 5-6% ≤15% Ca(OH) ₂ (sat.) ≤15% NaCl(10%) ≤15% Pass.
Elastic Modulus: UNI EN ISO 527-3 Type 5	MD: 11.5 N/mm ² CMD: 11.8 N/mm ²
Resistance to continuous pressure: (SIA 280-14)	Watertight 48 hours at 7 N/mm ²
Change of Dimensioning 70°C / 2 hours (UNI EN 1110)	No Change
Root resistance UNI CEI/TS 14416	Conform
Micro-organism change of tensile strength and elongation ISO527-3/5	< 10%
Welding Behaviour -Tensile strength of welded seam EN12317-2 -Short-term-jointing-factor fz DVS2225-2/5 -behaviour at the welding seam at peeling EN12317-2	Break outside seam 0.6 13.3 N/mm ²
Behaviour after storage in warm water 8 months @ 50°C UNI EN 14415	< 5% Tensile < 5% Elongation < 1% Weight -20°C Fold - PASS

Whilst any information and/or specification contained herein is to the best of our knowledge, true and accurate, we always recommend that a trial be carried out to confirm suitability of the product. Please note regional climatic conditions may cause a variation in the performance of the product. No warranty is given or implied in connection with any recommendations or suggestions made by us or our representatives, agents or distributors. The information in this data sheet is effective from the date shown and supersedes all previous data. Please check with your local Normet office to confirm that this is current issue.

Thermal Ageing 70d at 70°C UNI EN 1296 – EN 14575	< 5% Tensile < 5% Elongation < 1% Weight -20°C Fold - PASS
Fire resistance EN ISO 11925-2	E Class
Design life suitability	120 years

All technical data stated herein is based on tests carried out under laboratory conditions.

APPLICATION GUIDELINES

TamSeal 2200 is loosely laid membrane, overlap seams are welded by hot air welding equipment, and pressure rollers or automatic hot air welding machines with temperature control. Under no circumstances should extrusion welders be used on TamSeal 2200 PVC sheet membrane, it is not required due to perfect compatibility. Compartmentalization can be done by using PVC rearguard waterstops with specialist welding flange. Terminations and transitions should use TamSeal Connection Tape PVC for perfect compatibility. On the walls and tunnel arc/mm²hes, the material is fixed mechanically with TamSeal PVC rondels.

BONDED APPLICATION

TamSeal 2200 is also available in Fleece Back for bonded scenarios for Cutt and Cover structures where concrete overlays are standard for long term design life. 180gm Geotextile is laminated to the underside of membrane in production.

Apply TamSeal GTA (Geotextile Adhesive), to prepared concrete substrate at 0.3 kg per m² by roller evenly without gaps. Pre-positioned membrane is rolled out into contact with the adhesive, and pressure with roller to obtain full surface contact bonding and wetting through of fleece back. (mist spray of water into the fleece prior to laying into adhesive can increase bonding performance and curing time.)

Specialized contractors are required to perform these waterproofing applications. Please contact local Normet representative to provide you with accredited, trained TamSeal 2200 applicators.

Detailing of specific interactions with penetrations, connections to tension macro and micro piles, and terminations must be approved by Normet Asia Pacific representative. See method statement for further information and installation guidelines. Custom detailing of complex interactions available on request.

PACKAGING & STORAGE

TamSeal 2200 are delivered on wooden pallets. Every roll is wrapped in non-transparent polyethylene film, which protects them from UV radiation. It comes in Length 20 m x Width 2.10 m, but can be made available in various lengths depending upon specific requirement. Available in various thicknesses like 1.5 mm, 2 mm, 2.5 mm & 3 mm.

TamSeal 2200 rolls should be kept in dry enclosed space, placed horizontally, no more than three rows in height, in original package.

HEALTH & SAFETY

TamSeal 2200 should only be used as directed. We always recommend that the Safety Data Sheet (SDS) is carefully read prior to application of the material. Our recommendations for protective equipment should be strictly adhered to for your personal protection. The Safety Data Sheet is available upon request from your local Normet representative.