

# DUAL SEAL TS<sup>®</sup>

**A resealable sheet waterproofing membrane based on high density polyethylene and sodium bentonite**

**Tech. Sh. IMP06**

technologies  
and materials  
for waterproofing

CE

EN 13491:2004/  
A1:2006



## Description

Dual Seal TS is a self swelling, self healing sheet waterproofing membrane manufactured to a controlled thickness of 6 mm. It consists of high grade Sodium Bentonite bonded to a sheet of extremely tough High Density Polyethylene HDPE and TNT.

This sheet membrane provides a superior waterproofing system offering double security and a totally watertight barrier for application to horizontal and vertical concrete and masonry surfaces. The membrane is manufactured in Standard and Saltwater versions. Dual Seal TS is marked CE according with EN 13491: 2004/A1:2006.



## Uses

Dual Seal TS is a waterproofing membrane designed for use on structures above and below grade. It is excellent for use on split slab parking, plaza decks, poured and block foundation walls, metro station, tunnel, earth covered roofs.

It has outstanding performance when used under conditions of high water head and when installed prior to the concrete pour such as retaining walls, elevator pits, etc.

## Advantages

- Provides total watertight barrier, offering double security
- Resealable and self-healing
- Has resistance to hydrostatic waterheads up to 50 metres
- Prevents tracking of water between membrane and concrete surface
- Can be applied on green concrete surfaces
- Can be installed onto damp substrates and conditions and at temperatures down to -20°C
- Does not require welding: simply overlapped
- Eliminates need for separate protection board
- Combines a high elongation, tensile strength and puncture resistance



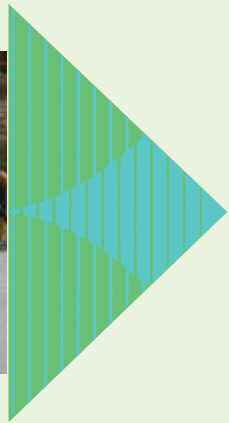
Do not install over ponded water, or if free snow or ice are on the surface. If groundwater is brackish, Saltwater Grade Dual Seal TS SW may be required. Consult G&P intech for any additional request.

## Technical data

Colour	grey/black
Tensile strength membrane	28 N/mm <sup>2</sup>
Hardness Shore A	90
Resistance to micro-organisms	unaffected
Free swelling bentonite	36 ml/2g
Elongation at ultimate failure of membrane	535%
Maximum swelling pressure in water	0.08 N/mm <sup>2</sup>
Water capacity absorption on wt	618%
Puncture resistance	40 kg
Resistance to hydro-static head	50 m
Water migration at or through joint	instant seal/no penetration
Water permeability	2.7 x 10 <sup>-13</sup> cm/sec
Methane gas permeability, VLP version	1.26 x 10 <sup>-10</sup> m/sec
Radon gas permeability, VLP version	3.82 x 10 <sup>-9</sup> m/sec
Installation temperature	-30°C to +55°C
Freeze/thaw cycles	No effect before or after installation
Resistance to chemicals and gasses	Extremely high resistance

Many independent test reports and certificates available from G&P intech on request .





## Instructions for uses

### **Preparatory work:**

Examine all surfaces prior to starting application. Dust may be present, however all debris must be removed. Standing water and sharp protrusions over 10 mm must be removed. Installation may proceed on uncured, damp or surfaces below 0°C. Dual Seal TS is compatible with all currently used formwork release agents.

### **Vertical walls**

Dual Seal TS rolls are installed vertically or horizontally with HDPE side internal or external according with type of work to be done, by nailing across the overlapping of the membrane with the edges 7-10 cm minimum and nailing the vertical seam every 30-40 cm with nails.

Apply a temporary tape or permanent VLP tape to all seams HDPE face. Pour a 4 cm coat of bentonite granular at the intersection of a wall and footing prior to Dual Seal TS installation. Compact backfill to a minimum 85% modified proctor. In case of application against piles, diafram, etc. apply before a TNT of 400-500 g/m<sup>2</sup>.

### **Under Ground Slab (membrane in direct contact with sub-base/Bentonite side-up)**

Ensure that substrate is level and compact. Substrate may consist of soils, sand, gravel or crushed stone provided they are 12 mm or smaller in diameter. Normally 8-10 cm of concrete low cement content is required to compact the soil. Ensure that temporary cover is provided to the bentonite to prevent premature expansion. Unroll the Dual Seal TS fully and lay the membrane over the prepared sub-base surface HDPE down according with the type of work. Install Dual Seal TS with edges overlapped by 7-8 cm minimum. Joints may be stapled every 30-40 cm. Extend the Dual Seal TS membrane 30 cm up or beyond the perimeter slab. This will be used later to tie in to a vertical membrane. Fit closely around pipe penetrations as recommended using also Mastic and Granular.

Inspect and repair any damaged material before placing the concrete to protect the membrane. Bentonite side is protected by TNT. In any case avoid to leave membrane without protection for long time (by concrete, polyethylene, etc.).

### **Under Ground Slab (membrane on top of sub-base of blinding concrete/Bentonite side down).**

With HDPE side up, roll out Standard Dual Seal TS, lapping seams a minimum of 7-8 cm. Tape all seams with VLP tape. Pour 4 cm covers of Granular around penetrations or use Mastic. Prior to concrete pour inspect and patch.

### **Parking and roof decks**

Remove debris, lap edges a minimum of 8-10 cm in shingle fashion working from lower to higher elevation. Staple at 40 cm centres and tape all seams by VLP tape.

### **Blind side/Lagging applications**

Contact G&P intech for all necessary details and application instructions.

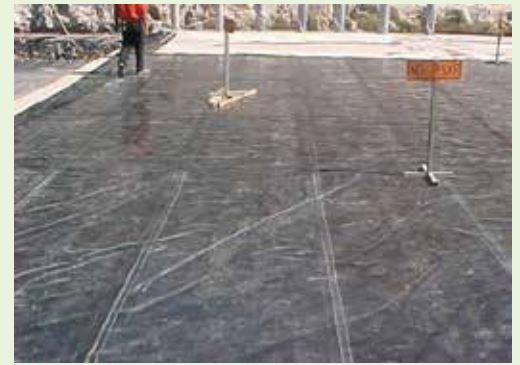
## Packaging

Roll 6 m<sup>2</sup> (1,2x5 m) pallet 30 roll and 50 m<sup>2</sup> (2,5 x20 m) .

## Storage

Unlimited in the original sealed packaging. Protect from rain. Store on skid or pallet, cover with polyethylene. Protect from direct sun.





G&P Intech is active in the market with a consulting international service for engineering and architecture, particularly for the structural rehabilitation, waterproofing in the construction and road industry.



G&P intech s.r.l  
Via Retrone 39 - 36077 Altavilla Vicentina (VI) - ITALY  
Tel. +39 (0)444.522797 - Fax +39 (0)444.349110  
E mail: info@gpintech.com - www.gpintech.com



Copyright 2020 - All rights reserved

The information given here are based on our best knowledge and believe into be true and accurate. We assume no responsibility for the use of these statements, recommendation or suggestions, nor do we intend them as a recommendation for any use which would infrige any patent or copyright.

Rev. Tech. Sh. IMP06/01/20