

## NBS PLUS MANUFACTURER'S PRODUCT PAGE

**Product name:** PUDLO TS, TR, TF

Currently there is no image attached to this product. If you would like to include an image please contact [nbsplusproduction@theNBS.com](mailto:nbsplusproduction@theNBS.com) for details.

### Product summary:

Thermoplastic, flexible polypropylene alloy (FPA) substructure waterproofing membranes.

### Product general description:

Thermoplastic, flexible polypropylene alloy (FPA) substructure waterproofing membranes, which provide protection for below-ground structures and podium slabs.

#### Features and benefits:

- Easy to install.
- Heat-welded to provide robust waterproofing between each membrane overlap.
- Provides a barrier to radon as well as water.
- UV resistant.
- CE marked and BBA accredited.

#### Applications:

For all aspects of waterproofing where a Grade 1 to Grade 3 environment is required as part of a single or dual system recommended in BS 8102: 2009.

#### - PUDLO TF:

For use in below-ground substructure waterproofing, including:

- Swimming pools (externally).
- Car parks.
- Habitable spaces.
- Lift pits.
- Slabs.
- Liner walls.
- Capping beams.
- Service penetrations.
- Can be installed in steel, contiguous or secant piled design.

#### - PUDLO TR and PUDLO TS:

- Podiums/ suspended slabs where exposed to foot traffic.
- Roof gardens.

Sealed through a hot air gun on the overlapping joints. Not intended for movement joints – consult manufacturer for details.

### Product specification clause

### Product reference:

**PUDLO TF** - A fleece-backed, pre-applied membrane system which bonds straight to concrete during its wet state and provides a fully welded system between membrane and concrete.

**PUDLO TR** - A reinforced loose lay membrane, manufactured with a fibreglass reinforcing mat.

**PUDLO TS** - A standard loose lay waterproofing and radon protection membrane.

**Product properties:**

- Thickness:  
1.2 mm  
1.5 mm
- Accessories/ Other requirement:  
[And]  
Not required  
Heat Weld Appliances and Ancillaries  
PS Tie Bolt Hole Tube  
Surestop Adhesive  
Surestop BWB - Sealing construction joints.  
Surestop SM  
Surestop Steel Cage Mesh  
Surestop SWB - Sealing construction joints.  
Surestop Voidformer

**End of product specification clause****As standard:****Size (w x l):**

2.1 x 25 m.

**Colour:**

Grey/ black.

**Technical characteristics:**

Density (to EN 1849-2): PUDLO TS: 1.2 mm: 1.08 kg/m<sup>2</sup>; 1.5 mm: 1.35 kg/m<sup>2</sup>; PUDLO TR: 1.2 mm: 1.1 kg/m<sup>2</sup>; 1.5 mm: 1.37 kg/m<sup>2</sup>; PUDLO TF: 1.2 mm: 1.27 kg/m<sup>2</sup>; 1.5 mm: 1.53 kg/m<sup>2</sup>.

**- Tensile properties:**

- Tensile strength (to EN 12311-2): PUDLO TS: 15–16 N/mm<sup>2</sup>; PUDLO TR: 550–650 N/50 mm; PUDLO TF: 15–16 N/mm<sup>2</sup>.
- Elongation at break (to 12311-2): 700%.
- Dimensional stability (to 1107-2): PUDLO TS: <0.5%; PUDLO TR: <0.1%; PUDLO TF: <0.5%.
- Cold flexibility (to EN 495-5): <-40°C.
- Tear resistance (to EN 12310-1): PUDLO TS: 240–330 N; PUDLO TR: 290–450 N; PUDLO TF: 400–650 N.
- Water vapour permeability (to EN 1931): 90.
- Resistance to static loading (to EN 12730-B): >25 kg.
- Resistance to impact (to EN 12691-B): >1000 mm.
- Hail resistance (to EN 13583): >30 m/s.
- Water tightness (to EN 1928): Absolute.

**- Joint strength:**

Peeling (to EN 12316-2): >580 N/mm.

**- Durability:**

Resistance to artificial UV light: No surface damage or changes to cold flexibility as per EN 495-5.

**- Heat ageing:**

- Change in tensile strength (to EN 12311-2): -5%.
- Change in elongation at break (to EN 12311-2): -5%.
- Mechanically retained system: PUDLO TS: >5500 Pa; PUDLO TR: >6000 Pa; PUDLO TF: >5000 Pa.
- Reaction to fire (to EN 13501-1): PUDLO TS and PUDLO TR: Class E; PUDLO TF: Class F.
- Resistance to algae and micro-organisms (to ISO 846): Compliant.
- Root resistance (to EN 13948): Pass.

- Contact with drinking water: Suitable.

**Options:**

No optional features

**Approvals:**

- Organisation: British Board of Agreement
  - Standard/ Certificate: Certificate: 18/5526
  - Details: