

# DUALPROOF T COMPOSITE WATERPROOFING MEMBRANE

Waterproofing sealing system based on PVC

## PRODUCT DESCRIPTION

The DualProof T Membrane System consists of a special non-woven PP-Fleece, which is co-extruded with a highly flexible, water and gas resistant, transparent PVC membrane. The fresh concrete forms a mechanical bond with the PP-Fleece and prevents water tracking between the membrane and the concrete. The DualProof T Membrane System is new generation technology, it is specifically designed for the waterproofing and protection of below ground reinforced concrete.



## APPLICATIONS

DualProof T may be used in all applications, where reinforced concrete structures must be protected against groundwater and contaminants. It is suitable for waterproofing of foundations, basements, tunnels, garages and all other concrete constructions below grade.

## HOW DOES DUALPROOF WORK?

The fresh concrete mechanical bonds to the PP-fleece of the DualProof System creating a full and durable bond with the cured concrete. This self-adhesive bonding prevents any lateral water migration between the membrane and the cured concrete. DualProof T is installed before the steel reinforcement is fixed and the concrete is poured.

## FEATURES AND BENEFITS OF THE DUALPROOF T MEMBRANE SYSTEM

- ☞ DualProof T Membrane System is proprietary, highly-flexible PVC composite waterproofing membrane which forms a permanent mechanical bond with freshly poured concrete
- ☞ May be used in salt-water areas to protect the concrete structure.
- ☞ May be used as a supplementary method for high-quality use (A + to A +++) in WU constructions
- ☞ Used for water pressure-tight surface sealing of (WU) concrete structures
- ☞ External barrier, for the waterproofing and protection of floor slabs and exterior concrete wall surfaces against soil moisture.
- ☞ Barrier against radon or radon gas
- ☞ Tough and resistant - fast and easy to install
- ☞ High compound shear strength
- ☞ Quality control (CE-Certification) / Several independent test reports
- ☞ Crack bridging in case of concrete cracks caused by strength and shrinkage
- ☞ Tested up to 6.9 bar
- ☞ May be installed in all weather conditions / Working temperature between -5°C and +50°C
- ☞ No requirements for complicated welding equipment
- ☞ Lightweight and versatile- Easy on-site handling
- ☞ Transparent edge for overlapping
- ☞ Protects concrete against salt and sulphate attack



**APPROVALS**

- 🔗 CE Marking DIN EN 13967
- 🔗 German DIN 18195 Standard - new DIN 18533
- 🔗 German DIN SPEC 20000-202 approved
- 🔗 General German Test Report PG-ÜBB / abP
- 🔗 CPR Certificate (the Construction Products Regulation) - EN 13967:2004 + A1:200
- 🔗 British standard BS 8102:2009 and Kiwa Certificate
- 🔗 BDA Agrément Certification according to British standard BS 8102:2009 and NHBC

**FORM OF DELIVERY**

DualProof T Membrane rolls are individually wrapped in foil.

DualProof T Membrane should be stored in its original packaging. They should be kept dry and protected from direct sunlight, snow, ice, water, heat or heat sources. The storage temperature should be between + 5 ° C and + 30 ° C.

Do not stack any sharp items or additional pallets on top the DualProof T Membrane during transport and storage.

Please refer to the product label for production date and identification number.

	ARTICLE- NO.	WIDTH	LENGHTS	UNITS	OVERLAPPINGS	
<b>DUALPROOF T 1,0</b>	25-104	1,50	20	15 ROLLS/ PALLET	PVC-EDGE	50 MM
<b>DUALPROOF T 1,2</b>	25-121	1,08	20	9 ROLLS / PALLET	PVC-EDGE	50 MM
	25-125	2,16	25	9 ROLLS / PALLET		100 MM
<b>DUALPROOF T 2,0</b>	25-146	2,16	25	9 ROLLS / PALLET	PVC-EDGE	100 MM

	CERTIFICATION	DESIGNATION ACCORDING TO DIN SPEC 20000-202
<b>DUALPROOF T 1,0</b>	ABP* / NO STANDARD SEALING ACCORDING TO EN13967 AND DIN SPEC 20000-202	NOT RELEVANT
<b>DUALPROOF T 1,2</b>	STANDARD SEALING	BA PVC-P-1,2-BV-K-PPV-200
<b>DUALPROOF T 2,0</b>	STANDARD SEALING	BA PVC-P-2,0-BV-K-PPV-200

\*ABP = General building test certificate



TECHNICAL DATA

Produkt type	DualProof T				<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: 0 auto;"> <p style="font-size: 24px; margin: 0;"><b>CE</b></p> <p style="margin: 0;">0799-CPR-146</p> </div>
Type	DualProof T 1,0; DualProof T 1,2; DualProof T 2,0				
Intended use	EN 13967 – Flexible membrane for waterproofing (Building)				
Intended use	<p><b>Type A and Type T</b></p> <p>Waterproofing membrane with moisture barrier and groundwater barrier</p>				
Material	DualProof T				
Visible defects	DualProof T 1,0 DualProof T 1,2 DualProof T 2,0	no visible defects	✓		EN 1850-2
Straightness	DualProof T 1,0 DualProof T 1,2 DualProof T 2,0	≤ 75 mm / 10 m	✓	passed	EN 1848-2
Mass	DualProof T 1,0 DualProof T 1,2 DualProof T 2,0	1,420 1,660 2,620	kg/m <sup>2</sup> kg/m <sup>2</sup> kg/m <sup>2</sup>	(+ 10% / - 5%) (+ 10% / - 5%) (+ 10% / - 5%)	EN 1849-2
Thickness		<b>Membrane</b>	<b>DualProof</b>		
	DualProof T 1,0	1,0 mm PVC-P	1,7	mm	(+ 10% / - 5%)
	DualProof T 1,2	1,2 mm PVC-P	1,9		(+ 10% / - 5%)
	DualProof T 2,0	2,0 mm PVC-P	2,7	mm	(+ 10% / - 5%)
Watertightness against water	DualProof T 1,0	690 kPa			ASTM D 5385
	DualProof T 1,2	60 kPa / 24h	✓		EN 1928 (B)
	DualProof T 2,0	500 kPa / 72h	tight		EN 1928 (B)



	DualProof T 1,0 DualProof T 1,2 DualProof T 2,0	12 Wochen / 70 °C; 500 kPa / 72h	✓ tight	EN 1296 EN 1928 (B)	
	DualProof T 1,0 DualProof T 1,2 DualProof T 2,0	28 d / +23 °C; 500 kPa / 72h  Ca(OH) <sub>2</sub> / H <sub>2</sub> SO <sub>3</sub> / NaCl	✓ tight	EN 1847	
Compatibility with bitumen	DualProof T 1,0 DualProof T 1,2 DualProof T 2,0	28 d / +70 °C; 500 kPa / 72h	✓ Tight	EN 1548 EN 1928 (B)	
Watertightness in case of subsequent cracks	DualProof T 1,0 DualProof T 1,2 DualProof T 2,0	DualProof mechanical bond with freshly poured concrete 6,9 bar / ≥ 3,2 mm	✓ tight	ASTM D 5385	
Resistance to root penetration	DualProof T 1,0 DualProof T 1,2 DualProof T 2,0	Membrane and Joint	✓ passed	DIN CEN/TS 14416	
Water vapour diffusion resistance		<b>g</b>	<b>Sd</b>	<b>μ</b>	
	DualProof T 1,0	1,41E-08	28,9 m	12391	EN 1931
	DualProof T 1,2	1,41E-08	28,9 m	12391	
DualProof T 2,0	1,06E-08	38,5 m	13653		
Tensile strength MD / CMD	DualProof T 1,0	≥ 970 / 970	N/50mm		EN ISO 12311-2 (A)
	DualProof T 1,2	≥ 980 / 980	N/50mm		
	DualProof T 2,0	≥ 1300 / 1300	N/50mm		
Elongation at break MD / CMD	DualProof T 1,0	≥ 60 / 60	%		EN ISO 12311-2 (A)
	DualProof T 1,2	≥ 68 / 68	%		
	DualProof T 2,0	≥ 240 / 240	%		



Shear resistance in the overlapping		Collapse outside of the overlapping:			
	DualProof T 1,0	≥ 300	N/50mm		
	DualProof T 1,2	≥ 300	N/50mm	EN 12317-2	
	DualProof T 2,0	≥ 300	N/50mm		
Resistance to impact	DualProof T 1,0	≥ 600	mm		
	DualProof T 1,2	≥ 600	mm	EN 12691 (A)	
	DualProof T 2,0	≥ 1250	mm		
Tear resistance MD / CMD	DualProof T 1,0	≥ 500 / 500	N		
	DualProof T 1,2	≥ 500 / 500	N	(nailshank) EN 12310-1	
	DualProof T 2,0	≥ 625 / 625	N		
Resistance to static load		up to 20kg / 24h		EN 12730 (A) + (B)	
	DualProof T 1,0	up to 35kg / 72h; soft pad	✓ passed	EN 12730 (A) + (C) modifi.	
	DualProof T 1,2				
DualProof T 2,0	up to 65kg / 72h; rigid pad		EN 12730 (B) modifi.		
Crack bridging ability	DualProof T 1,0	≥ 3,2	mm	✓ passed	ASTM D 5385
	DualProof T 1,2				
	DualProof T 2,0				
Reaction to fire	DualProof T 1,0	Klasse E Class E			EN ISO 11925-2 EN 13501-1
	DualProof T 1,2				
	DualProof T 2,0				
Radon gas impenetrability	DualProof T 1,2			✓ dicht	certificat
	DualProof T 2,0				



## **ADDITIONAL INFORMATION**

DualProof T can be used in saline or alkaline environments due to its chemical resistance. In addition, the raw material PVC has a very slow decomposition time. The basic materials PP and PVC are thermoplastics known for their recyclability. Please see the DualProof installation guideline for detailed application instructions.

### **Substrate pretreatment**

All surfaces onto which the DualProof T Membrane is to be applied should be sound, solid and free from gaps or voids that are greater than 12mm. All corners, up-stands, pipe / service penetrations, etc. must be detailed correctly (please consult our Technical Department for further advice) prior to the application of the membrane.

DualProof T Membrane is designed for use with structural reinforced concrete. The concrete should be designed by a Structural Engineer to EN 1992. Please ensure that the concrete is placed and cured correctly, and that all non- movement construction joints are detailed with CEMflex Active Waterstop.

### **Application of DualProof T Membrane**

DualProof T should be placed onto the properly prepared substrate, with the PP-Fleece facing towards the concrete which is to be waterproofed. The edges of the membrane should be overlapped by a minimum of 50mm and the ends of the rolls staggered by a minimum of 300mm. All overlaps should be sealed using either DualProof CEM 805 Adhesive, or by using suitable heat-welding equipment. The installed membrane should be inspected for damages prior to the placement of the concrete. In the unlikely event of damage occurring to the membrane, repairs may be completed by simply placing a patch of membrane over the damaged area and bonding with DualProof CEM 805 Adhesive.

The installed membrane may be cleaned using a soft -brush or a low-pressure system using cold water if required.

All standing water or any construction debris must be removed from the membrane prior to placing the concrete.

### **General Advice**

Application temperature: -5°C - +50°C The above-mentioned temperatures constitute the generally valid area in which no additional measures need to be taken during application.

### **Environment and Health**

This product does not represent a hazardous substance within the meaning of the EU Hazardous Substances Regulation. A safety data sheet for transport, placing on the market and use is available on the request.

### **Dangers and Safety**

The essential safety, toxicological, physical and ecological data for the handling of DualProof T can be taken from the product-specific safety data sheets.

### **Data**

All technical data stated in this product data sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Datasheet is only valid for the original transparent PVC-P based  
BPA - DualProof T 1,0 BPA - DualProof T 1,2 and BPA - DualProof T 2,0  
**Not part of this datasheet is the TPO/FPO based DualProof systems**



**Disclaimer**

All above mentioned Information concerning BPA products, especially any recommendations and advices relating to the application and use of BPA products are given in good faith based on BPA's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with BPA's recommendations.

In practice, the differences in materials, actual site conditions and other factors outside are such that no warranty nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose before proceeding with the full application of the products. BPA reserves the right to change the properties of its products without notice. Users must always refer to the most recent issue of the Data Sheet for the product concerned, copies of which will be supplied on request. All sales of BPA products are subject to our current terms and conditions.

**Local Restrictions**

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local product data sheet for the exact description of the application fields.

**Certifications**

