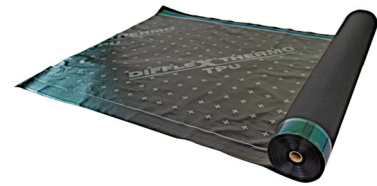


Technical Data Sheet

DIFFLEX THERMO TPU ND®



Description/ Application

Breathable roofing membrane consisting of PES non-woven fabric with one-sided, monolithic TPU-copolymer special coating with anti-slip and sealing properties. Due to its excellent heat resistance and coating, it is also suitable as a breathable underlay for slate roofs, as a formwork membrane/separation layer under metal sheet roofing, for use as an additional measure according to ZVDH guidelines (UDB/USB A - Class 6-3), for creating a rainproof underroof (Class 2-ZVDH1), and for creating an increased rainproof underroof (Ö-Norm). The membrane is also suitable for direct installation on timber boarding or insulation. Available with double self-adhesive edges.

Technical Data

Property	Test	Unit	Value
Application:	-	-	Roofing Membrane
Functional layer:	-	-	Special Coating - polyurethane copolymer
Carrier material:	-	-	Specially laid polyester non-woven fabric
Weight:	EN 1849-2	g/m ²	210
Dimensional Stability:	EN 1107-2	%	< 1
Thickness:	EN 1849-2	mm	0,6
Reaction to fire:	EN 13501-1	Class	E
Resistance to water penetration:	EN 1928	Class	W 1
After artificial ageing (80°C):	EN 1297/ 1296	Class	W 1
Tensile strength MD:	EN 12311-1	N	380
Tensile strength CD:	EN 12311-1	N	400
Tensile strength after artificial ageing:	EN 1297/ 1296	%	> 85 of its original value
Elongation MD:	EN 12311-1	%	40
Elongation CD:	EN 12311-1	%	40
Elongation after artificial ageing:	EN 1297/ 1296	%	> 85 of its original value
Tear resistance MD:	EN 12310-1	N	250
Tear resistance CD:	EN 12310-1	N	200
Flexibility at low temperature:	EN 1109	°C	-30
Equivalent diffusion air layer thickness:	EN ISO 12572	s _d -value-m	0,15
Resistance to air permeability :	EN 12114	m ³ /(m ² /h/50Pa)	0
Temperature resistance:	EN13859-1	°C	-40 bis +100
UV-Resistance:	-	Months	> 3
Ö-Norm: B3661 - Table 5 / 4119 - Section 6.1.2:	-	-	UD Type II/ US
Switzerland - SIA 232:	-	-	for all stress classes.
Resistance to driving rain:	TU-Berlin	-	Passed
Suitability as a material for temporary coverings.	-	Months	3
ZVDH product data sheet - Class:	-	-	UDB-A/ USB-A
Roll width:	EN 1848-2	m	1,50
Roll length:	EN 1848-2	m	50
Roll weight:	-	kg	16
Packaging:	Roll/ m ² / Palett		20 Rolls/ 1500m ²
Art.-Nr.:	100000 7262		



Installation instructions

DIFFLEX THERMO TPU ND®

Installation

DIFFLEX THERMO TPU ND® is a breathable underlay / roofing membrane that can be directly installed on insulation or timber boarding. The seam and joint formation can be either bonded or loosely overlapped, depending on the application. Start from the bottom with approximately a 10 cm overlap (SK - overlap marking), directly on the wooden sheathing or parallel to the eaves, ensuring it is tension-free and without or with minimal sagging between the rafter sections, in accordance with the professional guidelines, and lay it smoothly without folds. The underlay membrane is fixed sequentially using a staple clips/nail and counter batten. Secure the counter battens (30/50) with nails of at least 3.1 mm or 2.8 mm (with groove). Process dry counter battens (S10, <20% moisture content). In the overlapping area, DIFFLEX THERMO® is to be securely fastened in a concealed manner. Any fixations in the exposed area should be covered or sealed with suitable tape. Suitable for creating temporary coverings and for seam- and perforation-secure underlay and under-roofing. The underlay membrane should be laid over the ridge with a 30 cm overlap. For uninsulated attics/lofts, adequate ventilation should be ensured, and in such cases, DIFFLEX THERMO® should not be extended over the ridge. Small damages are repaired using system accessory adhesive tapes. Overlapping joints are sealed with the SK self-adhesive equipment*, with both strips aligned in the middle and firmly pressed together to ensure water and wind resistance. Remove release liners immediately before installation, and ensure the processing temperature of the SK self-adhesive edge is $\geq 5^{\circ}\text{C}$. Large-scale damages and the taping of the joints on the underlay membrane must be repaired using special adhesives* and original film patches.

Temporary roof sealing:

DIFFLEX THERMO® underlay membranes are water-repellent, but they are not intended for permanent outdoor use and should be covered as soon as possible. They can be used as a temporary covering within the guidelines of TU-Berlin (ZVDH-PDB) for the specified period of time, with a minimum slope of $\geq 10^{\circ}$ (using additional nail sealing material) and ensuring wind and water tightness with seam bonding (the use of the SK self-adhesive edge is recommended). Before the roofing is installed, it is recommended to inspect the fastenings, adhesives, and the surface of the membrane for any damages that may have occurred due to external factors. If necessary, repairs and appropriate touch-ups should be carried out before proceeding with further installation.

Additional information¹:

Additional perforation protection is not necessary due to the sealing properties in processing classes 6-3 according to Table 1.1 of the ZVDH data sheet, provided that the following processing instructions are followed: The counter batten must be tightly pressed against the rafter level. If the roof slope (RDN) is less than or equal to 8° , the rafter width is ≥ 60 mm, if the roof slope (DN) is less than 10° (minimum slope of 5°), for creating a rainproof underroof (class 2 additional measures) and if perforations caused by the use of screws with shaft milling ribs are present, additional nail sealing material should be used. Mechanical overload after installation can affect the perforation protection. The execution according to Table 1.1 - ZVDH Class 2 with diffusion-open underlays or underdeckings (USB/UDB) needs to be separately agreed upon with the client or planner (special contractual arrangement), as currently diffusion-open, rainproof underroofs have not yet been approved by a ZVDH product data sheet. When installed without additional perforation protection, a minor increase in moisture ingress may occur. However, this potential increase in moisture ingress in the DIFFLEX Thermo ND system does not significantly affect the moisture balance or the functioning of the structure (Fraunhofer IBP/2022).

On UDB, there may be a risk of slipping on a damp surface. Avoid telescoping and the core of the roll slipping out. Secure any overhanging edges of the membrane to the structure (e.g., eaves, roof edge - for protective coating). The manufacturer guarantees the functionality of the membrane when it is installed according to the professional regulations and manufacturer's instructions, with the manufacturer's warranty. To ensure proper functionality of the underlay, the entire roof construction must be executed in accordance with the current professional regulations and the information contained in the fact sheets issued by the Central Association of the German Roofing Trade, Cologne.



Storage

DIFFLEX THERMO® rolls should not be exposed to direct sunlight or weather conditions for an extended period of time during storage. Stacking the pallets on top of each other should be avoided.




System accessories:

Application for:	Overlapping		Damages	Perforations	Joints
	Lengthwise	Crosswise			
SK-Self adhesive edge	X				
Thermo - Tape/ Flextape Uni		O	X		
Thermo – Nageldichtband				O	O
Thermo - Kleb + Dicht	O	X	X		X
Thermo – Flex				X	
Thermo Butyl				X	X

X = Standard application O = Optional application Application also depends on the substrate

Hinweis:

Werte/ Leistungen zu den wesentlichen Eigenschaften gemäß EN/ Verarbeitungshinweise siehe aktuelle Technische Daten/ Datenblatt/ Verarbeitungsanleitung/ -Hinweise. Die Werte können Toleranzen unterliegen. Ohne Angabe gilt die branchenübliche Toleranz gemäß Norm, Material und Eigenschaft. Sämtliche Angaben beruhen auf dem aktuellen Stand unserer Erfahrungen zum Zeitpunkt der Erstellung. Gegebenenfalls sind diese bei Bedarf/ Änderungen anzupassen. Änderungen vorbehalten. Es gelten unsere allgemeinen Verkaufs- und Lieferbedingungen.

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19 / LE-DoP 7262 NB 1390 – CPR CSI PR DIN EN 13859-1		

