



SELF-ADHERING POLYMER MODIFIED BITUMINOUS WATERPROOFING MEMBRANE

Cold-applied sheet for concealed waterproofing systems

PRODUCT OVERVIEW

DESCRIPTION

Tianyuan Self-Adhering Polymer Modified Bituminous Waterproofing Membrane is a factory-produced sheet incorporating a polymer-modified bituminous waterproofing compound and a pressure-sensitive self-adhesive layer protected by a removable release liner. The membrane is intended for concealed waterproofing and cold application without routine use of an open flame.

Typical applications

- Roofs, basements and foundations
- Tunnels, subways and utility structures
- Podiums, retaining walls and wet areas
- Metal and timber substrates where technically approved



SELF-ADHERED BITUMINOUS MEMBRANE



COLD-APPLIED WATERPROOFING

Product images extracted from supplied Tianyuan catalog material.

PRODUCT CONFIGURATION

Parameter	Available configuration
Product family	N: non-reinforced / PY: polyester reinforced
Top surface	PE film / PET film / aluminum foil / fine sand / double-sided self-adhered option
Lower surface	Self-adhering polymer-modified bitumen with release liner
Nominal thickness	N: 1.2, 1.5, 2.0 mm; PY: 2.0, 3.0, 4.0 mm
Standard width	1,000 mm
Typical roll area	10, 15, 20 or 30 m ² , subject to thickness and configuration
Application	Cold applied; primer and accessories according to substrate and approved method statement
Reference standard	GB 23441-2009, current at the document issue date

DOCUMENT STATUS

The configuration and performance tables in this TDS are normalized from the supplied Tianyuan catalog. Confirm the final product code, declared grade and test values against the latest signed factory test report before external issue.



PRODUCT STRUCTURE AND SELECTION GUIDE

Generic system information for N and PY self-adhering membrane configurations

MEMBRANE STRUCTURE

SELF-ADHERED MEMBRANE STRUCTURE

Protective surface	PE / PET film, aluminum foil or fine sand
Carrier / reinforcement	High-strength film or polyester reinforcement
Waterproofing compound	Polymer-modified bitumen compound
Pressure-sensitive adhesive	Self-adhering modified bitumen layer
Release liner	Silicone-coated release film or paper

THICKNESS 1.2-4.0 mm Configuration dependent	LOW-TEMPERATURE FLEXIBILITY to -30°C Grade and surface dependent	WATERTIGHTNESS 0.2-0.3 MPa 120 min, no leakage	APPLICATION Cold-applied No routine open flame
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PRODUCT SELECTION GUIDE

Selection factor	Type N	Type PY	Technical note
Reinforcement	Non-reinforced flexible sheet	Polyester-reinforced sheet	Select according to movement, handling and project design.
Typical thickness	1.2 / 1.5 / 2.0 mm	2.0 / 3.0 / 4.0 mm	Final thickness must match the approved waterproofing system.
Surface options	PE / PET / double-sided self-adhered	PE / fine sand / double-sided self-adhered	Surface code affects bonding sequence and overlayer compatibility.
Typical use	Complex details and concealed fully bonded work	Robust field membrane and higher tensile demand	Project design and substrate condition take precedence.

KEY PRODUCT CHARACTERISTICS

- Cold-applied installation without routine torching
- Full-surface bonding helps limit lateral water migration
- Flexible adhesive layer accommodates minor substrate movement
- Release-liner controlled application and clean handling
- Compatible with horizontal and vertical concealed waterproofing
- Multiple surface and reinforcement configurations

SELECTION NOTE

This TDS does not replace project system design. Confirm substrate, exposure, drainage, protection layer, movement joints, primer and accessory compatibility before specifying the membrane.



TECHNICAL PERFORMANCE - NON-REINFORCED TYPE N

Typical reference values based on the supplied catalog and GB 23441-2009 classification

CLASSIFICATION

Base material	Top surface	Grade	Thickness	Width	Typical roll area
N	PE	I / II	1.2 / 1.5 / 2.0 mm	1000 mm	10 / 15 / 20 / 30 m ²
N	PET	I / II	1.2 / 1.5 / 2.0 mm	1000 mm	10 / 15 / 20 / 30 m ²
N	D	Project selection	1.2 / 1.5 / 2.0 mm	1000 mm	10 / 15 / 20 / 30 m ²

PHYSICAL PROPERTIES

Property	PE-I	PE-II	PET-I	PET-II	D
Tensile force, N/50 mm, ≥	150	200	150	200	-
Elongation at maximum force, %, ≥	200	200	30	30	-
Asphalt fracture elongation, %, ≥	250	250	150	150	450
Stretch behavior	No separation of coating and film before membrane fracture	No separation of coating and film before membrane fracture	No separation of coating and film before membrane fracture	No separation of coating and film before membrane fracture	-
Nail tear strength, N, ≥	60	110	30	40	-
Heat resistance	70°C, sliding ≤2 mm	70°C, sliding ≤2 mm	70°C, sliding ≤2 mm	70°C, sliding ≤2 mm	70°C, sliding ≤2 mm
Low-temperature flexibility	-20°C, no crack	-30°C, no crack	-20°C, no crack	-30°C, no crack	-20°C, no crack
Watertightness	0.2 MPa / 120 min, no leakage	0.2 MPa / 120 min, no leakage	0.2 MPa / 120 min, no leakage	0.2 MPa / 120 min, no leakage	0.2 MPa / 120 min, no leakage
Peel strength, membrane to membrane, N/mm, ≥	1.0	1.0	1.0	1.0	1.0
Peel strength, membrane to aluminum, N/mm, ≥	1.5	1.5	1.5	1.5	1.5
Nail-shank watertightness	Pass	Pass	Pass	Pass	Pass
Oil impermeability, sheets, ≤	2	2	2	2	2
Holding time / viscosity, min, ≥	20	20	20	20	20

THERMAL AGEING AND STABILITY

Property	Typical requirement
Tensile force retention, %, ≥	80
Elongation after ageing, %	PE: ≥200; PET: ≥30; D: ≥400
Low-temperature flexibility after ageing	Grade I: -18°C; Grade II: -28°C; D: -18°C; no crack
Peel strength to aluminum after ageing, N/mm, ≥	1.5
Appearance after thermal stability test	No bulging, folding, sliding or flow
Dimensional change rate, %, ≤	2.0

DATA STATUS

The values above reproduce and normalize the technical data in the supplied Tianyuan catalog. Confirm the declared product grade, test method, surface code and final value against the latest factory type-test report and batch Certificate of Analysis before issuing this TDS externally.



TECHNICAL PERFORMANCE - POLYESTER REINFORCED TYPE PY

Typical reference values based on the supplied catalog and GB 23441-2009 classification

CLASSIFICATION

Base material	Top surface	Grade	Thickness	Width	Typical roll area
PY	PE / S / D	I	2.0 mm	1000 mm	10 / 15 / 20 / 30 m ²
PY	PE / S / D	I / II	3.0 / 4.0 mm	1000 mm	10 / 15 / 20 / 30 m ²

PHYSICAL PROPERTIES

Property	Grade I	Grade II
Soluble content, g/m ² , ≥	2.0 mm: 1300; 3.0 mm: 2100; 4.0 mm: 2900	3.0 mm: 2100; 4.0 mm: 2900
Tensile force, N/50 mm, ≥	2.0 mm: 350; 3.0/4.0 mm: 450	3.0 mm: 600; 4.0 mm: 800
Elongation at maximum force, %, ≥	30	40
Heat resistance	70°C, no sliding, flowing or dripping	70°C, no sliding, flowing or dripping
Low-temperature flexibility	-20°C, no crack	-30°C, no crack
Watertightness	0.3 MPa / 120 min, no leakage	0.3 MPa / 120 min, no leakage
Peel strength, membrane to membrane, N/mm, ≥	1.0	1.0
Peel strength, membrane to aluminum, N/mm, ≥	1.5	1.5
Nail-shank watertightness	Pass	Pass
Oil impermeability, sheets, ≤	2	2
Holding time / viscosity, min, ≥	15	15
Elongation after thermal ageing, %, ≥	30	40
Low-temperature flexibility after ageing	-18°C, no crack	-28°C, no crack
Peel strength after ageing, N/mm, ≥	1.5	1.5
Dimensional stability, %, ≤	1.5	1.0
Self-adhered bitumen peel strength, N/mm, ≥	1.5	1.5

PACKAGING, STORAGE AND INSTALLATION NOTES

PACKAGING AND STORAGE

- Rolls individually wrapped and labeled.
- Store upright in a dry, ventilated, shaded area.
- Protect the release liner from sunlight, heat and contamination.
- Do not stack or transport in a manner that deforms the rolls.

APPLICATION LIMITATIONS

- Use on clean, dry, stable and compatible substrates.
- Primer may be required according to substrate porosity and project method statement.
- Do not apply during rain, snow, standing water or strong wind.
- This product is intended for concealed use unless the selected finish and design expressly permit exposure.

TECHNICAL DISCLAIMER

This document is prepared from the supplied Tianyuan catalog data and publicly available installation principles. Product suitability, declared performance, system design and compliance shall be verified for each project. The latest signed factory TDS, test report, method statement and local regulations take precedence.