

All Products, One Specification Set

Every product in the range compared side by side — dimensions, physical and mechanical properties, third-party verified results, packaging and selection.

14

Products

5

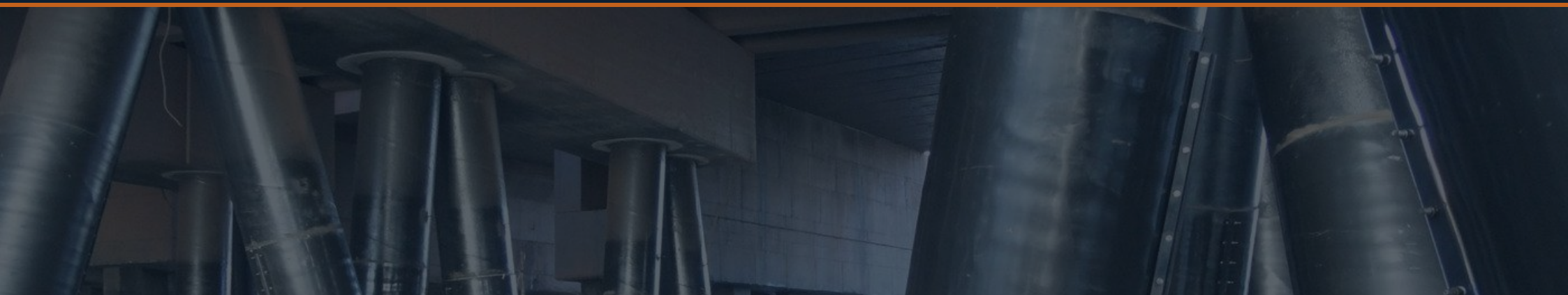
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01 Product Range Overview

Fourteen products, five product systems, four functional roles

Every product below belongs to one company and one portfolio. Products are selected by system and application. The functional role states what the product does inside a build-up: a complete system normally uses one product from each role.

Product	Ref.	Functional role	Product form	Model ref.	Third-party tested
PETROLATUM CORROSION PROTECTION SYSTEM					
Petrolatum Anti-Corrosion Tape — Marine Grade	TDS 01	Primary wrap	Impregnated synthetic fibre tape	—	—
Petrolatum Anti-Corrosion Tape — Industrial Grade	TDS 02	Primary wrap	Impregnated synthetic fibre tape	—	—
Petrolatum Anti-Corrosion Tape — Seawater Grade	TDS 03	Primary wrap	Non-woven fabric, both faces impregnated	—	—
Anti-Corrosion Tape Primer	TDS 04	Primer	Soft brown semi-solid	P100	—
High-Tack Anti-Corrosion Primer	TDS 05	Primer	—	P200	—
Lightweight Sealing Mastic	TDS 06	Filling / profiling	Matt cream-yellow	M100	—
High-Performance Elastic Mastic	TDS 07	Filling / profiling	Olive green	HD01	—
VISCOELASTIC CORROSION PROTECTION SYSTEM					
Viscoelastic Anti-Corrosion Tape	TDS 08	Primary wrap	—	S1108	Yes
Viscoelastic Anti-Corrosion Paste	TDS 09	Filling / profiling	Viscoelastic paste / block compound	—	—
PE / PP CORROSION PROTECTION AND WRAPPING SYSTEM					
PE Anti-Corrosion Tape	TDS 10	Primary wrap + Outer wrap	Roughened HDPE film	—	Yes
PP Fibre-Reinforced Anti-Corrosion Tape	TDS 11	Primary wrap + Outer wrap	PP mesh-reinforced woven fibre	—	Yes
MICROCRYSTALLINE WAX PROTECTION SYSTEM					
Microcrystalline Wax Anti-Corrosion Tape	TDS 12	Primary wrap	Wax-impregnated polyester non-woven tape	—	Yes
Wax Corrosion-Inhibiting Primer	TDS 13	Primer	—	—	—
PROTECTIVE OUTER WRAP SYSTEMS					
Aluminium Foil Outer Wrap Tape	TDS 14	Outer wrap	Aluminium-plastic composite tape	LW109B	Yes

Functional roles — **Primer** wets the steel and inhibits corrosion · **Filling / profiling** compound fills gaps and builds a smooth shape · **Primary wrap** is the barrier that excludes water, vapour and oxygen · **Outer wrap** resists ultraviolet, weather, soil stress and handling damage. PE and PP tape hold two roles: they are used both as a primary wrap and as a protective outer wrap.

MODULAR CONFIGURATION

Zhuohuang supplies modular corrosion protection systems. Primers, filling and profiling compounds, corrosion protection tapes and protective outer wraps are selected and combined according to substrate condition, geometry, operating environment and project requirements. Not every system uses every component: some viscoelastic configurations require no primer, mastic is used where the geometry is irregular, and the outer wrap — PE, PP fibre-reinforced or aluminium foil — is chosen for the exposure rather than fixed in advance.

02

Wrapping Tapes – Form and Dimensions

Eight tape products compared

Property	Petrolatum Tape (Marine)	Petrolatum Tape (Industrial)	Petrolatum Tape (Seawater)	Viscoelastic Tape	PE Tape	PP Tape	Wax Tape	Aluminium Foil Outer Wrap
System	Petrolatum	Petrolatum	Petrolatum	Viscoelastic	PE / PP Corrosion Protection and Wrapping System	PE / PP Corrosion Protection and Wrapping System	Microcrystalline Wax	Protective Outer Wrap Systems
Product form / backing	Impregnated synthetic fibre tape	Impregnated synthetic fibre tape	Non-woven fabric, both faces impregnated	—	Roughened HDPE film	PP mesh-reinforced woven fibre	Wax-impregnated polyester non-woven tape	Aluminium-plastic composite tape
Adhesive / impregnation	Petrolatum compound	Inert petrolatum, silica fillers, corrosion inhibitors	Inert oily petrolatum, inhibitors, antimicrobial agents	Non-curing viscoelastic polymer (no separate adhesive)	Modified bituminous rubber	Butyl rubber / PIB-modified bitumen	Microcrystalline wax blend and petroleum hydrocarbons	PIB-modified butyl rubber
Thickness	1.1 mm	1.2 mm	1.3 mm	1.8 mm	0.4–2.0 mm	1.0–2.0 mm	2.0 mm	1.0–2.0 mm
Widths	—	—	—	50 / 100 / 150 / 200 / 300 mm	50–300 mm	50–300 mm	50 / 100 / 150 / 200 / 300 mm	100 / 150 / 200 mm
Roll length	—	—	—	10 m	15 / 20 / 50 / 60 m	15 / 20 m	3 m	10 m
Surface density	1.1 kg/m ²	1.3 kg/m ²	1.6 kg/m ²	—	—	—	—	—
Primer required	Yes — tape primer	Yes — tape primer	Yes — tape primer	Not required	Modified bitumen primer	Modified bitumen primer	Yes — wax primer	—
Minimum overlap	55 %	55 %	55 %	Per specification	Per specification	Per specification	Per specification	Per specification
Model reference	—	—	—	S1108	—	—	—	LW109B

Values are typical or standard configurations for the grade described and are not universal acceptance limits. Confirm the applicable grade, current packaging and project acceptance criteria before order.

03 Wrapping Tapes — Consolidated Properties

Manufacturer declared values and third-party verified results

Property	Petrolatum Tape (Marine)	Petrolatum Tape (Industrial)	Petrolatum Tape (Seawater)	Viscoelastic Tape	PE Tape	PP Tape	Wax Tape	Aluminium Foil Outer Wrap
MECHANICAL								
Breaking strength	200 N/50 mm	230 N/50 mm	240 N/50 mm	—	—	—	≥3 940 N/m (verified) †	—
Backing tensile strength	—	—	—	—	26.9 MPa †	77.6 MPa †	—	62 MPa †
Elongation at break	10 %	15 %	20 %	—	479 % †	—	8 % †	21 % †
Peel strength to primed steel, 23 °C	—	—	100 N/m	4 N/cm 9.9 N/cm †	34.06 N/cm †	42.8 N/cm †	—	35 N/cm †
Peel strength to backing, 23 °C	—	—	—	—	33.08 N/cm †	46.4 N/cm †	—	30 N/cm †
Shear strength 23 °C	—	—	—	0.04 MPa	—	—	—	—
ELECTRICAL								
Breakdown voltage, 55 % overlap	15.2 kV	15.6 kV	—	—	—	—	—	—
Breakdown voltage, single layer	12 kV	13 kV	—	—	—	—	—	—
Electric / dielectric strength	—	—	—	—	70.8 MV/m †	16.4 kV/mm †	≥170 V/mil (verified) †	—
Volume resistivity	—	—	—	—	$5.60 \times 10^{13} \Omega \cdot m$ †	$1.3 \times 10^{13} \Omega \cdot m$ †	—	—
Insulation resistance / resistivity	—	—	$5.0 \times 10^2 M\Omega \cdot m^2$	$1 \times 10^8 \Omega \cdot m^2$	—	—	—	—
BARRIER, CHEMICAL AND DURABILITY								
Water vapour transmission	2.4 g/(m ² ·24 h)	1.9 g/(m ² ·24 h)	0.165 g/(m ² ·24 h)	—	0.180 mg/24 h·cm ² †	0.082 mg/(24 h·cm ²) †	≤0.25 perms (verified) †	0.166 mg/cm ² ·24 h †
Water absorption	—	—	—	0.03 0.018 % †	0.067 % †	0.34 % †	3 % †	0.2 % †
Neutral salt spray	—	—	—	—	—	—	> 3 000 h (verified) †	Rust grade A, rust degree 0 % †
Ultraviolet ageing	—	—	—	—	—	—	> 3 000 h (verified) †	No abnormality, 3 000 h †
Alkali / salt-water resistance	No blistering, cracking or peeling	No blistering, cracking or peeling	Rust grade A	—	—	—	—	—
Acid resistance	—	—	Rust grade A	—	—	—	—	—
Corrosivity to steel	—	—	-0.2 to +0.2 mg/cm ²	—	—	—	—	—
Petrolatum / wax content	—	—	—	—	—	—	90 % †	—
High-temperature, non-dripping	55 °C	70 °C	70 °C	—	—	—	—	—
Drop melting point / drip temperature	—	—	—	—	—	—	75 °C †	—

Property	Petrolatum Tape (Marine)	Petrolatum Tape (Industrial)	Petrolatum Tape (Seawater)	Viscoelastic Tape	PE Tape	PP Tape	Wax Tape	Aluminium Foil Outer Wrap
Flash point	—	—	—	—	—	—	> 150 °C 160 °C †	—
Flame retardant rating	—	—	—	B †	—	—	—	—
Cathodic disbondment 23 °C / 24 h	—	—	—	1.00 mm	—	—	—	—

† Result measured by an independent CMA / CNAS accredited laboratory and transcribed from the original report; see Section 06 for the full result set, requirement and test method. Values without a dagger are declared by the manufacturer. A dash means the property is not declared or not tested for that product — it is not a zero or a failure.

04

Service Conditions and Surface Preparation

All fourteen products

Product	Service temperature	Installation temperature	Surface preparation	Application / curing
PETROLATUM CORROSION PROTECTION SYSTEM				
Petrolatum Anti-Corrosion Tape — Marine Grade	–20 °C to +50 °C	–5 °C to +45 °C	Clean, dry; St2 or project requirement	Cold applied
Petrolatum Anti-Corrosion Tape — Industrial Grade	–20 °C to +55 °C	–5 °C to +45 °C	Clean, dry; St2 or project requirement	Cold applied
Petrolatum Anti-Corrosion Tape — Seawater Grade	–20 °C to +65 °C	–5 °C to +45 °C	St2 or project requirement	Cold applied
Anti-Corrosion Tape Primer	–30 °C to +55 °C	0 °C to +40 °C	St2 or better	Cold applied
High-Tack Anti-Corrosion Primer	+65 °C	0 °C to +50 °C	St2 or better	Cold applied
Lightweight Sealing Mastic	+60 °C	0 °C to +45 °C	—	Hand shaping and pressing
High-Performance Elastic Mastic	+90 °C	0 °C to +70 °C	—	Hand shaping and pressing
VISCOELASTIC CORROSION PROTECTION SYSTEM				
Viscoelastic Anti-Corrosion Tape	–45 °C to +95 °C	—	St2 hand preparation	Cold applied
Viscoelastic Anti-Corrosion Paste	—	—	—	Cold applied; no hot work
PE / PP CORROSION PROTECTION AND WRAPPING SYSTEM				
PE Anti-Corrosion Tape	—	—	—	Cold applied
PP Fibre-Reinforced Anti-Corrosion Tape	—	—	—	Single-pass where specified; hand or machine wrapping
MICROCRYSTALLINE WAX PROTECTION SYSTEM				
Microcrystalline Wax Anti-Corrosion Tape	—high-temperature grade up to 120 °C	—	—	Cold applied
Wax Corrosion-Inhibiting Primer	—	—	—	Brush or gloved-hand application
PROTECTIVE OUTER WRAP SYSTEMS				
Aluminium Foil Outer Wrap Tape	—	—	—	Cold applied; no heating

Service temperature is grade-dependent. Where a product is shown with a dash, its service limit is defined by the system it is used in. Confirm the operating temperature of the asset before selection.

05

Primers, Mastics and Pastes

Six auxiliary products compared

Property	Tape Primer (P100)	High-Tack Primer (P200)	Sealing Mastic (M100)	Elastic Mastic (HD01)	Viscoelastic Paste	Wax Primer
System	Petrolatum	Petrolatum	Petrolatum	Petrolatum	Viscoelastic	Microcrystalline Wax
Functional role	Primer	Primer	Filling / profiling	Filling / profiling	Filling / profiling	Primer
Model reference	P100	P200	M100	HD01	—	—
Product form	Soft brown semi-solid	—	—	—	Viscoelastic paste / block compound	—
Colour	—	—	Matt cream-yellow	Olive green	—	—
Specific gravity	1.08 kg/L	0.91 kg/L	0.605 kg/dm³	1.39 kg/dm³	—	—
Coverage	2–5 m²/kg	5 m²/kg	—	—	—	—
Solids content	> 98 %	> 70 %	—	—	—	—
Volume yield	—	—	1 653 cm³/kg	—	—	—
Flash point	—	—	> +185 °C	—	—	—
Installation temperature	0 °C to +40 °C	0 °C to +50 °C	0 °C to +45 °C	0 °C to +70 °C	—	—
Service temperature	–30 °C to +55 °C	+65 °C	+60 °C	+90 °C	—	—
Typical drying time	—	Approx. 60 minutes	—	—	—	—
Surface preparation	St2 or better	St2 or better	—	—	—	—
Curing behaviour	Non-curing	Non-curing	Non-curing	Permanently non-curing	Permanently non-curing	Non-curing
Solvent content	Solvent-free	—	—	Solvent-free	Zero VOC, solvent-free	—
Application	—	—	Hand shaping and pressing	Hand shaping and pressing	Cold applied; no hot work	Brush or gloved-hand application

06 Third-Party Verified Results

Transcribed from independent laboratory reports

The figures below are results measured by CMA / CNAS accredited laboratories in China and are transcribed exactly from the original Chinese reports. They are shown separately from the manufacturer's declared values because the test methods differ. Full reports and a complete English transcription are supplied on request.

Test item	Unit	Requirement	Result	Test method
PETROLATUM (ESTER) OIL-BASED ANTI-CORROSION TAPE · REPORT CTICAQ4512401550823164BR · CTIC TESTING TECHNOLOGY · ISSUED 18 JULY 2024 · GENERAL PETROLATUM ANTI-CORROSION TAPE — NOT SPECIFIC TO AN INDIVIDUAL GRADE				
Colour	/	Yellow	Yellow	Visual
Breakdown voltage (55 % overlap)	kV	≥ 15	18.2	GB/T 1408.1-2006
Breakdown voltage (single layer)	kV	> 12	13.2	GB/T 1408.1-2006
Breaking strength	N/50 mm	≥ 100	200	GB/T 3923.1
Elongation at break	%	≥ 10	30	GB/T 1040
Weight	kg/m ²	≥ 1.30	1.875	Measured
Thickness	mm	≥ 1.10	1.33	Measured
Petrolatum or paraffin content (mass fraction)	%	≥ 50	60	GB/T 30788-2014 Annex 1
Flame retardant rating (China)	/	—	B	GB/T 8624-2006
Water vapour transmission	mg/cm ² ·24 h	—	≤ 0.165	GB/T 1037
Flash point	°C	≥ 150	180	GB/T 3536
Resistance to 10 % hydrochloric acid (7 d)	/	No abnormality	No abnormality	SY/T 0315-2005 Annex 1
Resistance to 10 % sodium hydroxide (7 d)	/	No abnormality	No abnormality	SY/T 0315-2005 Annex 1
Resistance to 20 % sodium chloride (7 d)	/	No abnormality	No abnormality	SY/T 0315-2005 Annex 1
Drop melting point	°C	≥ 55	90	GB/T 8026
Neutral salt spray (1 000 h)	/	No rust	No rust	GB/T 10125
PETROLATUM TAPE PRIMER · REPORT CTG2410221378A_SR178AC · SHENZHEN THIRD-PARTY TESTING TECHNOLOGY CO., LTD. · ISSUED 11 OCTOBER 2024 · SAMPLE SUBMITTED AS “PETROLATUM TAPE PRIMER”; THE REPORT DOES NOT STATE A PRODUCT MODEL				
Colour	/	Brown	Brown	Visual
Density	g/cm ³	≥ 1.0	1.2	GB/T 4472
High-temperature flow resistance	—	90 °C oven, panel suspended 24 h: no dripping, no running, no sagging	No dripping, no running, no sagging	Measured
Non-volatile content	%	≥ 70	75	GB/T 1725
Drop melting point	°C	≥ 90	93	GB/T 8026
Flash point	°C	≥ 70	78	GB/T 3536

Test item	Unit	Requirement	Result	Test method
PETROLATUM SEALING MASTIC · REPORT CTG2410221378A_SR179AC · SHENZHEN THIRD-PARTY TESTING TECHNOLOGY CO., LTD. · ISSUED 11 OCTOBER 2024 · SAMPLE SUBMITTED AS “PETROLATUM SEALING MASTIC”; THE REPORT DOES NOT STATE A PRODUCT MODEL				
Colour	/	Yellow	Yellow	Visual
Density	g/cm ³	0.8–1.0	0.89	GB/T 4472
High-temperature flow resistance	/	90 °C oven, column specimen 24 h: no running, no slumping	No slumping	Measured
Water absorption	g/cm ³	$\leq 6 \times 10^{-1}$	$\leq 5 \times 10^{-1}$	SY/T 0415-1996 Annex B
Chemical resistance, 10 % HCl (ambient, 7 d)	/	No discolouration, blistering, softening, cracking, peeling or loss of adhesion	Complies	SY/T 0315-2005 Annex I
Chemical resistance, 10 % NaOH (ambient, 7 d)	/	No discolouration, blistering, softening, cracking, peeling or loss of adhesion	Complies	SY/T 0315-2005 Annex I
Chemical resistance, 3 % NaCl (ambient, 7 d)	/	No discolouration, blistering, softening, cracking, peeling or loss of adhesion	Complies	SY/T 0315-2005 Annex I
VISCOELASTIC ANTI-CORROSION TAPE · REPORT CTG2410221378A_SR180AC · SHENZHEN THIRD-PARTY TESTING TECHNOLOGY CO., LTD. · ISSUED 11 OCTOBER 2024				
Appearance	/	Straight edges; flat, clean surface	Straight edges; flat, clean surface	Visual
Tape thickness	mm	≥ 1.8	1.85	GB/T 6672-2001
Sag (90 °C, 48 h)	/	No sag	No sag	GB/T 51241-2017 Annex A
Peel strength to steel, –45 °C	N/cm	≥ 50	84.5	GB/T 2792-2014 (180°)
Peel strength to steel, 23 °C	N/cm	≥ 2	9.9	GB/T 2792-2014 (180°)
Peel strength to steel, 70 °C	N/cm	≥ 0.2	2.0	GB/T 2792-2014 (180°)
Adhesive coverage on steel, –45 / 23 / 70 °C	%	≥ 95	100 / 100 / 100	GB/T 2792-2014 (180°)
Peel strength to PE, –45 °C	N/cm	≥ 50	82.8	GB/T 2792-2014 (180°)
Peel strength to PE, 23 °C	N/cm	≥ 2	9.7	GB/T 2792-2014 (180°)
Peel strength to PE, 70 °C	N/cm	≥ 0.2	1.9	GB/T 2792-2014 (180°)
Adhesive coverage on PE, –45 / 23 / 70 °C	%	≥ 95	100 / 100 / 100	GB/T 2792-2014 (180°)
Lap shear strength, –45 °C	MPa	≥ 1.0	1.2	GB/T 7124-2008
Lap shear strength, 23 °C	MPa	≥ 0.02	0.03	GB/T 7124-2008
Flame retardant rating	/	B	B	GB/T 8624-2006
Water absorption	%	≤ 0.03	0.018	SY/T 0414-2017 Annex B
Installed system — viscoelastic tape + PVC cold-wrap outer tape (pipe specimen)				
Impact resistance 23 °C (holiday detection 15 kV)	J	3 J impact, no holiday	≥ 3	GB/T 23257-2017 Annex L
Indentation hardness 23 °C — residual thickness at 1 MPa	mm	≥ 0.6	1.16	GB/T 23257-2017 Annex H
Indentation hardness 23 °C — spark test (5 kV/mm + 5 kV)	/	No holiday	No holiday	GB/T 23257-2017 Annex H

Test item	Unit	Requirement	Result	Test method
Peel strength to steel, 23 °C	N/cm	≥ 4	8.7	GB/T 23257-2017 Annex K
Adhesive coverage on steel, 23 °C	%	≥ 95	100	GB/T 23257-2017 Annex K
Peel strength to PE, 23 °C	N/cm	≥ 4	8.8	GB/T 23257-2017 Annex K
Adhesive coverage on PE, 23 °C	%	≥ 95	100	GB/T 23257-2017 Annex K
Peel strength to steel, 70 °C	N/cm	≥ 0.4	0.9	GB/T 23257-2017 Annex K
Peel strength to PE, 70 °C	N/cm	≥ 0.4	0.8	GB/T 23257-2017 Annex K
Installed system — viscoelastic tape + pressure-sensitive heat-shrink outer sleeve (pipe specimen)				
Impact resistance 23 °C (holiday detection 15 kV)	J	≥ 15	15 J impact, no holiday	GB/T 23257-2017 Annex L
Peel strength to steel, 23 °C	N/cm	≥ 4	10.3	GB/T 23257-2017 Annex K
Adhesive coverage on steel, 23 °C	%	≥ 95	100	GB/T 23257-2017 Annex K
Peel strength to PE, 23 °C	N/cm	≥ 4	10.2	GB/T 23257-2017 Annex K
Adhesive coverage on PE, 23 °C	%	≥ 95	100	GB/T 23257-2017 Annex K
Peel strength to steel, 70 °C	N/cm	≥ 0.4	1.4	GB/T 23257-2017 Annex K
Peel strength to PE, 70 °C	N/cm	≥ 0.4	1.3	GB/T 23257-2017 Annex K
REFINED WAX ANTI-CORROSION TAPE · REPORT J25C12220188BR · SHENZHEN JINGLIAN TESTING CO., LTD. · ISSUED 3 JANUARY 2025				
Thickness	mm	2 mm	2 mm	—
Dielectric strength	V/mil	≥ 170	Complies	ASTM D149
Breaking strength	N/m	≥ 3 940	Complies	ASTM D1000
Elongation at break	%	≥ 6	8	ASTM D1000
Flash point	°C	≥ 150	160	ASTM D92
Water vapour permeability	perms	≤ 0.25	Complies	ASTM E96
Petrolatum or petroleum wax content	%	≥ 80	90	AWWA C217
Drip temperature	°C	≥ 60	75	ASTM D127
Penetration (25 °C, 100 g, 5 s)	mm	6.1–12.7	Complies	ASTM D937
Water absorption	%	< 5	3	ASTM D570
Water resistance (38 °C, 24 h)	/	No visible change of colour, blistering or gloss	Complies	ASTM D870
Burning rate	mm/min	0	Complies	ASTM D635-10
Salt spray	h	> 3 000	Complies	ASTM B117
Ultraviolet resistance	h	> 3 000	Complies	ASTM B154 *
Chemical resistance	h	> 3 000	Complies	ASTM G20

Test item	Unit	Requirement	Result	Test method
PE ANTI-CORROSION TAPE (INCLUDING MATCHING PRIMER) · REPORT CTG2409251378A_SR177AC · SHENZHEN THIRD-PARTY TESTING TECHNOLOGY CO., LTD. · ISSUED 11 OCTOBER 2024				
Thickness	mm	Per manufacturer specification, deviation $\leq \pm 5\%$	1.05	GB/T 6672-2001
Backing tensile strength	MPa	≥ 18	26.9	GB/T 1040.3-2006
Backing tensile strain at break	%	≥ 200	479	GB/T 1040.3-2006
Peel strength to primed steel (300 mm/min, 180°, 23 °C)	N/cm	≥ 30	34.06	GB/T 2792-2014
Peel strength to backing (300 mm/min, 180°, 23 °C)	N/cm	≥ 25	33.08	GB/T 2792-2014
Backing electric strength	MV/m	≥ 30	70.8	GB/T 1408.1-2006
Volume resistivity	$\Omega \cdot m$	$\geq 1 \times 10^{13}$	5.60×10^{13}	GB/T 31838.2-2019
Water absorption	%	≤ 0.20	0.067	SY/T 0414-2017 Annex B
Water vapour permeability	mg/24 h·cm ²	≤ 0.25	0.180	GB/T 1037-2021
Matching primer				
Non-volatile content	%	≥ 15	31.5	GB/T 1725-2007
Surface drying time	min	≤ 5	4	GB/T 1728-2020
Viscosity (flow cup No. 4)	s	10–30	26.5	GB/T 1723-1993
PP ANTI-CORROSION TAPE AND PRIMER · REPORT CTG2410221378A_SR176AC · SHENZHEN THIRD-PARTY TESTING TECHNOLOGY CO., LTD. · ISSUED 11 OCTOBER 2024				
Backing thickness	mm	/	0.32	GB/T 6672-2001
Total thickness	mm	/	1.13	GB/T 6672-2001
Backing tensile strength	MPa	≥ 60	77.6	GB/T 1040.3-2006
Peel strength to backing, 23 °C	N/cm	≥ 25	46.4	GB/T 2792-2014 (180°)
Peel strength to primed steel, 23 °C	N/cm	≥ 30	42.8	GB/T 2792-2014 (180°)
Water absorption	%	≤ 0.35	0.34	SY/T 0414-2017 Annex B
Volume resistivity	$\Omega \cdot m$	$\geq 1 \times 10^{12}$	1.3×10^{13}	GB/T 31838.2-2019
Electric strength	kV/mm	≥ 15	16.4	GB/T 1408.1-2016
Water vapour permeability	mg/(24 h·cm ²)	≤ 0.45	0.082	GB/T 1037-1988
Primer performance				
Non-volatile content	%	≥ 15	31.1	GB/T 1725-2007
Surface drying time, 23 °C	min	≤ 5	3	GB/T 1728-1979 (1989)
Viscosity (flow cup No. 4), 23 °C	s	10–30	16	GB/T 1723-1993
UV-RESISTANT SEALING ANTI-CORROSION TAPE (ALUMINIUM FOIL OUTER WRAP) · REPORT CBT30406071071 · GUANGDONG BAOTONG QUALITY TESTING CO., LTD. · ISSUED 30 MARCH 2026				
Colour	/	Silver	Silver	Visual

Test item	Unit	Requirement	Result	Test method
Backing thickness	mm	≥ 0.07	0.07	GB/T 6672-2001
Total thickness	mm	≥ 1.0	1.05	GB/T 6672-2001
Backing tensile strength	MPa	≥ 60	62	GB/T 1040.3-2006
Backing elongation	%	≥ 10	21	GB/T 1040.3-2006
Water absorption	%	≤ 0.35	0.2	SY/T 0414-2017 Annex B
Peel strength to backing, 23 °C	N/cm	≥ 25	30	GB/T 2792-2014
Peel strength to primed steel, 23 °C	N/cm	≥ 30	35	GB/T 2792-2014
Water vapour transmission	mg/cm²·24 h	≤ 0.24	0.166	GB/T 1037
Neutral salt spray (3 000 h)	/	Rust grade A, rust degree 0 %	Rust grade A, rust degree 0 %	GB/T 10125
Ultraviolet ageing (3 000 h)	/	No abnormality	No abnormality	GB/T 14522-2008

Results are valid only for the samples submitted to the laboratory. A test report is a test result on a sample; it is not a system certification. Where a report does not state a product model, the sample name is kept as submitted. The standard number ASTM B154 in the wax tape report is reproduced exactly as printed in the original.

07 Protective Outer Wrap Options

Three outer wrap materials — selected for the exposure

An outer wrap is not a single product. Zhuohuang manufactures three outer wrap materials, so the outer layer can be specified for the actual exposure instead of defaulting to a metal foil.

Outer wrap material	Ref.	Select it when	Third-party evidence
PE Anti-Corrosion Tape	TDS 10	Buried service where an additional continuous, moisture-excluding and electrically insulating outer layer is specified.	Backing tensile strength 26.9 MPa; peel to primed steel 34.06 N/cm; volume resistivity $5.60 \times 10^{13} \Omega \cdot m$ (report CTG2409251378A_SR177AC).
PP Fibre-Reinforced Anti-Corrosion Tape	TDS 11	Rocky or stony backfill, mechanical handling risk, road and rail crossings, directional drilling pull-in, and any section where installation damage is the governing risk.	Backing tensile strength 77.6 MPa; peel to primed steel 42.8 N/cm; electric strength 16.4 kV/mm (report CTG2410221378A_SR176AC).
Aluminium Foil Outer Wrap Tape	TDS 14	Above-ground pipework, exposed valves and flanges, tank shells, process equipment and any asset in direct sunlight.	3 000 h ultraviolet ageing with no abnormality (GB/T 14522-2008); 3 000 h neutral salt spray, rust grade A, rust degree 0 % (report CBT30406071071).

Selection by service condition

Service condition	Outer wrap normally selected
Above ground, direct sunlight, UV exposure	Aluminium foil outer wrap
Above ground, no significant UV, appearance not critical	Aluminium foil outer wrap or PE outer wrap
Buried, normal backfill	PE outer wrap
Buried, rocky or stony backfill, high soil stress	PP fibre-reinforced outer wrap
Directional drilling, pull-in, road or rail crossing	PP fibre-reinforced outer wrap
Tidal, splash and submerged zone	Protective armour or jacket, project-specified
Valve chambers and confined details	Aluminium foil outer wrap or mechanical cover
Where no mechanical or UV exposure applies	Outer wrap may not be required

Where there is no ultraviolet or mechanical exposure, an outer wrap may not be required at all. Final selection depends on the project specification, the installation method and the mechanical exposure the asset will actually see.

08

Sizes, Packaging and Ordering

Standard configurations; other sizes to order

Product	Size	Reference	Packing
PETROLATUM CORROSION PROTECTION SYSTEM			
Petrolatum Anti-Corrosion Tape — Marine Grade	50 mm × 10 m	IMPA 812471	36 rolls / carton
	100 mm × 10 m	IMPA 812472	18 rolls / carton
	150 mm × 10 m	IMPA 812473	12 rolls / carton
	200 mm × 10 m	IMPA 812474	8 rolls / carton
Petrolatum Anti-Corrosion Tape — Industrial Grade	50 mm × 10 m	—	36 rolls / carton
	75 mm × 10 m	—	24 rolls / carton
	100 mm × 10 m	—	18 rolls / carton
	150 mm × 10 m	—	12 rolls / carton
	200 mm × 10 m	—	8 rolls / carton
	300 mm × 10 m	—	6 rolls / carton
Petrolatum Anti-Corrosion Tape — Seawater Grade	200 mm × 10 m	—	8 rolls / carton
	300 mm × 10 m	—	6 rolls / carton
Anti-Corrosion Tape Primer	4 kg pail	—	4 pails / carton
	2.5 kg pail	—	4 pails / carton
High-Tack Anti-Corrosion Primer	2.5 L tin	—	—
Lightweight Sealing Mastic	3 kg block	—	8 blocks / carton
High-Performance Elastic Mastic	3 kg block	—	9 blocks / carton
VISCOELASTIC CORROSION PROTECTION SYSTEM			
Viscoelastic Anti-Corrosion Tape	100 mm × 10 m	1.8 mm	6 m ² / carton
	200 mm × 10 m	1.8 mm	8 m ² / carton
Viscoelastic Anti-Corrosion Paste	4 kg tin	—	—
	2 kg block	—	—
PE / PP CORROSION PROTECTION AND WRAPPING SYSTEM			
PE Anti-Corrosion Tape	300 / 150 / 100 / 75 / 50 mm	carton 420×420×320	36–72 m ² / carton by gauge
	200 mm	carton 410×210×420	24–48 m ² / carton by gauge
	230 mm	carton 420×420×260	27.6–55.2 m ² / carton

Product	Size	Reference	Packing
PP Fibre-Reinforced Anti-Corrosion Tape	250 mm	carton 420×420×260	30–60 m ² / carton
	300 / 150 / 100 / 75 / 50 mm	carton 510×260×320	15–24 m ² / carton by gauge
	200 mm	carton 510×260×420	20–32 m ² / carton by gauge
	230 mm	carton 510×260×260	11.5–18.4 m ² / carton
	250 mm	carton 510×260×260	12.5–20 m ² / carton
MICROCRYSTALLINE WAX PROTECTION SYSTEM			
Microcrystalline Wax Anti-Corrosion Tape	50 mm × 3 m	—	36 rolls / carton
	100 mm × 3 m	—	18 rolls / carton
	150 mm × 3 m	—	12 rolls / carton
	200 mm × 3 m	—	9 rolls / carton
	300 mm × 3 m	—	6 rolls / carton
Wax Corrosion-Inhibiting Primer	Confirmed at order stage	—	—
PROTECTIVE OUTER WRAP SYSTEMS			
Aluminium Foil Outer Wrap Tape	Confirmed at order stage	—	—

Roll widths, roll lengths, carton quantities and private-label packaging are configured to order. Carton content for polyolefin tapes depends on the ordered thickness and roll length combination.

09 Standards and Test Methods Index

Every standard referenced in this document set

Standard / test method	Applied to
CHINESE NATIONAL STANDARDS (GB / GB-T)	
GB/T 10125	Petrolatum, Petrolatum Tape (Industrial), Petrolatum Tape (Seawater), UV-Resistant Sealing Anti-Corrosion Tape
GB/T 1037	Petrolatum, Petrolatum Tape (Industrial), Petrolatum Tape (Marine), Petrolatum Tape (Seawater), UV-Resistant Sealing Anti-Corrosion Tape
GB/T 1037-1988	PP Anti-Corrosion Tape and Primer
GB/T 1037-2021	PE Anti-Corrosion Tape
GB/T 1040	Petrolatum
GB/T 1040.3-2006	PE Anti-Corrosion Tape, PP Anti-Corrosion Tape and Primer, UV-Resistant Sealing Anti-Corrosion Tape
GB/T 1408.1	Petrolatum Tape (Industrial), Petrolatum Tape (Marine)
GB/T 1408.1-2006	PE Anti-Corrosion Tape, Petrolatum
GB/T 1408.1-2016	PP Anti-Corrosion Tape and Primer
GB/T 14522-2008	UV-Resistant Sealing Anti-Corrosion Tape
GB/T 1723-1993	PE Anti-Corrosion Tape, PP Anti-Corrosion Tape and Primer
GB/T 1725	Petrolatum Tape Primer
GB/T 1725-2007	PE Anti-Corrosion Tape, PP Anti-Corrosion Tape and Primer
GB/T 1728-1979 (1989)	PP Anti-Corrosion Tape and Primer
GB/T 1728-2020	PE Anti-Corrosion Tape
GB/T 23257-2009 Annex D	Viscoelastic Tape
GB/T 23257-2009 Annex K	Viscoelastic Tape
GB/T 23257-2017 Annex H	Viscoelastic Anti-Corrosion Tape
GB/T 23257-2017 Annex K	Viscoelastic Anti-Corrosion Tape
GB/T 23257-2017 Annex L	Viscoelastic Anti-Corrosion Tape
GB/T 2792-2014	PE Anti-Corrosion Tape, UV-Resistant Sealing Anti-Corrosion Tape
GB/T 2792-2014 (180°)	PP Anti-Corrosion Tape and Primer, Viscoelastic Anti-Corrosion Tape
GB/T 30650	Petrolatum Tape (Seawater)
GB/T 30651	Petrolatum Tape (Industrial), Petrolatum Tape (Marine), Petrolatum Tape (Seawater)
GB/T 30788-2014 Annex 1	Petrolatum
GB/T 31838.2-2019	PE Anti-Corrosion Tape, PP Anti-Corrosion Tape and Primer
GB/T 32119 Annex H	Petrolatum Tape (Seawater)

Standard / test method	Applied to
GB/T 32119 Annex I	Petrolatum Tape (Seawater)
GB/T 32119 Annex K	Petrolatum Tape (Seawater)
GB/T 3536	Petrolatum, Petrolatum Tape Primer
GB/T 3820	Petrolatum Tape (Industrial), Petrolatum Tape (Marine), Petrolatum Tape (Seawater)
GB/T 3923.1	Petrolatum, Petrolatum Tape (Industrial), Petrolatum Tape (Marine), Petrolatum Tape (Seawater)
GB/T 4472	Petrolatum Sealing Mastic, Petrolatum Tape Primer
GB/T 472-84	Viscoelastic Tape
GB/T 51241-2017 Annex A	Viscoelastic Anti-Corrosion Tape
GB/T 6672	Viscoelastic Tape
GB/T 6672-2001	PE Anti-Corrosion Tape, PP Anti-Corrosion Tape and Primer, UV-Resistant Sealing Anti-Corrosion Tape, Viscoelastic Anti-Corrosion Tape
GB/T 7124-2008	Viscoelastic Anti-Corrosion Tape
GB/T 8026	Petrolatum, Petrolatum Tape Primer
GB/T 8624-2006	Petrolatum, Viscoelastic Anti-Corrosion Tape
PETROLEUM INDUSTRY STANDARDS (SY / T)	
SY/T 0315	Petrolatum Tape (Industrial), Petrolatum Tape (Marine), Petrolatum Tape (Seawater)
SY/T 0315-2005 Annex 1	Petrolatum
SY/T 0315-2005 Annex I	Petrolatum Sealing Mastic
SY/T 0414-2007 Annex B	Viscoelastic Tape
SY/T 0414-2017 Annex B	PE Anti-Corrosion Tape, PP Anti-Corrosion Tape and Primer, UV-Resistant Sealing Anti-Corrosion Tape, Viscoelastic Anti-Corrosion Tape
SY/T 0415-1996 Annex B	Petrolatum Sealing Mastic
AVIATION INDUSTRY STANDARD (HB)	
HB 7736.2	Petrolatum Tape (Industrial), Petrolatum Tape (Seawater)
ASTM INTERNATIONAL	
ASTM B117	Refined Wax Anti-Corrosion Tape
ASTM B154 *	Refined Wax Anti-Corrosion Tape
ASTM D1000	Refined Wax Anti-Corrosion Tape
ASTM D127	Refined Wax Anti-Corrosion Tape
ASTM D149	Refined Wax Anti-Corrosion Tape
ASTM D570	Refined Wax Anti-Corrosion Tape
ASTM D635-10	Refined Wax Anti-Corrosion Tape

Standard / test method	Applied to
ASTM D870	Refined Wax Anti-Corrosion Tape
ASTM D92	Refined Wax Anti-Corrosion Tape
ASTM D937	Refined Wax Anti-Corrosion Tape
ASTM E96	Refined Wax Anti-Corrosion Tape
ASTM G20	Refined Wax Anti-Corrosion Tape
AWWA	
AWWA C217	Refined Wax Anti-Corrosion Tape
ISO	
ISO 21809-3 Annex D	Viscoelastic Tape
ISO 21809-3 Annex I	Viscoelastic Tape
ISO 21809-3 Annex L	Viscoelastic Tape
DIN	
DIN 30670-91	Viscoelastic Tape

10 System Selection Matrix

First screening by application

Application	Petrolatum	Viscoelastic	Wax	PE	PP	Aluminium
Tank annular plate / chime edge	P	S	S	–	–	O
Valve, flange and irregular detail	P	P	S	–	–	O
Buried pipeline rehabilitation	S	P	S	S	P	–
New buried steel pipeline	S	S	S	P	P	–
Above-ground exposed steel	P	S	S	–	–	P
High mechanical soil stress	A	A	A	S	P	–
Submerged, tidal and splash zone	P	S	P	–	–	–
Shipboard pipework and fittings	P	S	S	–	–	S

P Primary selection S Suitable / secondary A Use with mechanical armour O Outer protection layer – Not applicable

How to use this document

Section 01 identifies the product and its role in a build-up.
Sections 02–05 give the comparable specification: dimensions, declared properties, service conditions and auxiliary materials.
Section 06 gives the independently verified results, kept separate because the test methods differ from the declared values.

Sections 08–10 cover packaging, the standards referenced and a first screening by application.

For a single product, use the individual technical data sheet: it adds the product description, system build-up, application sequence, storage and health and safety information that a comparison table cannot carry.

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The information in this document is based on Zhuohuang product records, manufacturer data and third-party test reports available at the date of issue. Values are typical or standard configurations and are not universal acceptance limits. Product performance depends on substrate condition, surface preparation, geometry, operating temperature and exposure. Confirm the applicable grade, current packaging, project acceptance criteria and the relevant safety data sheet before order and application.