

Corrosion Protection Systems

A modular portfolio: primers, filling compounds, corrosion protection tapes and protective outer wraps, configured to the asset and the environment rather than sold as a fixed system.

5

Product systems

14

Products

3

Outer wrap options

8

Test reports



00

Contents

How this catalogue is organised

Ref.	Product	System role
PETROLATUM CORROSION PROTECTION SYSTEM		
TDS 01	Petrolatum Anti-Corrosion Tape — Marine Grade	Primary cold-applied wrapping layer for shipboard pipework, fittings, flanges and valves
TDS 02	Petrolatum Anti-Corrosion Tape — Industrial Grade	Primary cold-applied wrapping layer for industrial plant, tank annular plates, pipework and structural steel
TDS 03	Petrolatum Anti-Corrosion Tape — Seawater Grade	Primary corrosion protection for wet, tidal and submerged steel as part of the petrolatum corrosion protection system
TDS 04	Anti-Corrosion Tape Primer	Surface-wetting, corrosion-inhibiting foundation layer beneath petrolatum tape
TDS 05	High-Tack Anti-Corrosion Primer	High-tack foundation coating for vertical and overhead wrapping work
TDS 06	Lightweight Sealing Mastic	Lightweight profiling and void-filling compound for irregular steel details
TDS 07	High-Performance Elastic Mastic	Self-supporting elastic profiling compound for tank edges, joints and complex details
VISCOELASTIC CORROSION PROTECTION SYSTEM		
TDS 08	Viscoelastic Anti-Corrosion Tape	Permanently non-curing cold-flow barrier for pipelines and complex equipment geometry
TDS 09	Viscoelastic Anti-Corrosion Paste	Shape-forming compound for void filling, sealing and local coating repair beneath viscoelastic tape
PE / PP CORROSION PROTECTION AND WRAPPING SYSTEM		
TDS 10	PE Anti-Corrosion Tape	External wrapping system for buried steel pipelines and fittings
TDS 11	PP Fibre-Reinforced Anti-Corrosion Tape	Heavy-duty reinforced wrap for buried steel assets exposed to mechanical risk and soil stress
MICROCRYSTALLINE WAX PROTECTION SYSTEM		
TDS 12	Microcrystalline Wax Anti-Corrosion Tape	Cold-applied wax wrapping system for severe, humid, buried and submerged environments
TDS 13	Wax Corrosion-Inhibiting Primer	Corrosion-inhibiting foundation layer beneath microcrystalline wax tape
PROTECTIVE OUTER WRAP SYSTEMS		
TDS 14	Aluminium Foil Outer Wrap Tape	Reflective UV- and weather-resistant outer layer for exposed assets

How to read this catalogue

- **Product systems** group products by material technology. Choose the system from the environment and the asset, then the products from the role each one plays in the build-up.
- **Functional role** states what a product does — prepare, fill, seal or protect. A product can hold more than one role: PE and PP tape are used both as a primary wrap and as a protective outer wrap.
- **Protective outer wrap systems** are a category in their own right. PE, PP fibre-reinforced and aluminium foil outer wraps are all available; the choice follows the exposure, not the primary wrap.
- **Individual data sheets** carry the full property tables, packaging, application sequence and third-party test references.

A modular portfolio, not a fixed system

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.

Role	Product type	Function	When it is used
PREPARE	Primer	Wets the prepared steel, penetrates residual rust texture and inhibits corrosion at the interface.	Used in most systems. Some viscoelastic configurations require none.
FILL	Mastic / paste	Fills gaps, bolt recesses, weld caps and abrupt steps so the wrap makes continuous contact.	Used where the geometry is irregular; not required on plain pipe.
SEAL	Corrosion protection tape	The continuous barrier: excludes water, water vapour, oxygen and corrosive media.	Always present. The material is chosen from the environment.
PROTECT	Protective outer wrap	Resists ultraviolet, weather, soil stress, handling and mechanical damage.	PE, PP fibre-reinforced or aluminium foil, selected for the exposure. Not required where there is no mechanical or UV exposure.

This is the practical advantage of a complete portfolio: the configuration is set by the asset, and every component comes from one supplier with one set of documentation.

01

Petrolatum Corrosion Protection System

7 products

The reference cold-applied system for tank bases, valves, flanges and complex steel. Non-curing petrolatum compounds displace moisture, wet the steel and remain plastic for the life of the system. Three tape grades cover shipboard, industrial and continuously wet or submerged service.

SYSTEM BUILD-UP

Surface preparation

>

Tape primer (P100)

>

Mastic profiling

>

Petrolatum tape

>

Outer protection



TDS 01

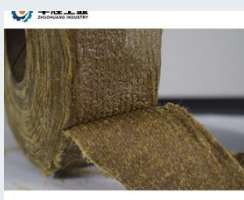
Petrolatum Anti-Corrosion Tape – Marine Grade

A polyester-reinforced synthetic fibre fabric impregnated and coated with a petrolatum compound, corrosion inhibitors and inert fillers.

Product form Impregnated synthetic fibre tape · Thickness 1.1 mm · Operating temperature -20 °C to +50 °C

Used for Shipboard pipework and fittings · Flanges, valves and couplings on board · Regular and irregular metal shapes

Role in the system Primary wrap



TDS 02

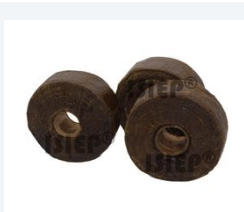
Petrolatum Anti-Corrosion Tape – Industrial Grade

A durable synthetic fibre fabric impregnated and coated with an inert petrolatum compound containing silica fillers, corrosion inhibitors and self-healing additives.

Product form Impregnated synthetic fibre tape · Thickness 1.2 mm · Operating temperature -20 °C to +55 °C

Used for Storage tank annular plates and chime edges · Metal pipelines and pipe fittings · Flanges, valves, bolts and steel structures

Role in the system Primary wrap



TDS 03

Petrolatum Anti-Corrosion Tape – Seawater Grade

A specially formulated three-layer thickened petrolatum tape.

Product form Non-woven fabric, both faces impregnated · Thickness 1.3 mm · Operating temperature -20 °C to +65 °C

Used for Jetty and quay steel pipe piles · Splash-zone and tidal-zone steel · Submerged marine structures and pipework

Role in the system Primary wrap



TDS 04

Anti-Corrosion Tape Primer

A soft brown semi-solid petrolatum-based primer applied before petrolatum wrapping tape.

Product form Soft brown semi-solid · Specific gravity 1.08 kg/L · Coverage 2–5 m²/kg

Used for Beneath petrolatum tape on all substrates · Bolts, valve stems, wire ropes and small metal parts · Welds, fittings, flanges and valves

Role in the system Primer



TDS 05

High-Tack Anti-Corrosion Primer

A hydrocarbon-based primer formulated to develop a higher initial tack than the standard grade.

Specific gravity 0.91 kg/L · Coverage 5 m²/kg · Maximum service temperature +65 °C

Used for Vertical steel details and tank shell transitions · Tank annular plate and chime systems · Flanges, fittings and overhead pipework

Role in the system Primer

**TDS 06****Lightweight Sealing Mastic**

A hand-applied lightweight petrolatum mastic formulated from petroleum hydrocarbons, porous polymers and flow-control additives.

Colour Matt cream-yellow · Specific gravity 0.605 kg/dm³ · Maximum service temperature +60 °C

Used for Flange gaps and bolt clusters · Tank edge transitions · Buried or exposed pipeline fittings

Role in the system Filling / profiling

**TDS 07****High-Performance Elastic Mastic**

A cold-applied, self-supporting elastic mastic based on saturated petrolatum hydrocarbon compounds, inert silica fillers, neutral polymers and plant fibres.

Colour Olive green · Specific gravity 1.39 kg/dm³ · Maximum service temperature +90 °C

Used for Tank annular plate edges and chime details · Large cavities and irregular steel transitions · Higher-temperature detailing up to +90 °C

Role in the system Filling / profiling

TYPICAL APPLICATIONS – FIELD PHOTOGRAPHS

Tank annular plate and chime edge



Buried valve chamber



Pipe-rack utility lines

02

Viscoelastic Corrosion Protection System

2 products

A permanently non-curing viscoelastic polymer that cold-flows into surface irregularities and re-seals itself. Selected where the asset geometry is complex, where an existing 3PE or FBE coating has failed locally, or where cathodic protection compatibility and zero VOC are required.

SYSTEM BUILD-UP

Surface preparation

Viscoelastic paste where required

Viscoelastic tape

Mechanical / UV outer wrap



TDS 08

Viscoelastic Anti-Corrosion Tape

A permanently non-curing viscoelastic polymer with a characteristic cold-flow behaviour.

Thickness 1.8 mm · Widths 50 / 100 / 150 / 200 / 300 mm · Roll length 10 m · Service temperature range -45 °C to +95 °C

Used for Rehabilitation of damaged 3PE / FBE pipeline coatings · Buried pipeline field joints and repairs · Flanges, valves, pumps and irregular equipment

Role in the system Primary wrap



TDS 09

Viscoelastic Anti-Corrosion Paste

A high-performance viscoelastic polyolefin compound that combines the handling of a solid adhesive with the flow behaviour of a liquid one.

Product form Viscoelastic paste / block compound

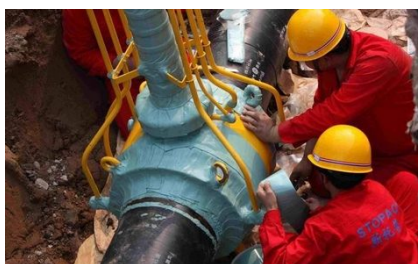
Used for Flanges, valves and pump bodies · 3PE coating repair and field joints · Complex pipeline joints and penetrations

Role in the system Filling / profiling

TYPICAL APPLICATIONS — FIELD PHOTOGRAPHS



Buried pipeline field joint



Valves, pumps and fittings



Coating repair on buried lines

03

PE / PP Corrosion Protection and Wrapping System

2 products

Bitumen-adhesive polyolefin tapes for buried steel pipelines and fittings. Both products work in two roles: as the primary corrosion protection wrap, and as a protective outer wrap over another system. PE tape is the standard configuration; PP mesh-reinforced tape is selected where soil stress, backfill and handling damage are the governing risks. Both are supplied with the matching modified bitumen primer.

SYSTEM BUILD-UP

Prepared steel

Modified bitumen primer

PE anti-corrosion tape

Project-specific outer protection



TDS 10

PE Anti-Corrosion Tape

A pipeline wrapping tape manufactured from a roughened low-pressure high-density polyethylene film backing and a modified bituminous rubber adhesive, combined by a solvent-free co-extrusion hot-lamination process.

Thickness range 0.4–2.0 mm · Widths 50–300 mm · Roll lengths 15 / 20 / 50 / 60 m

Used for Buried steel pipelines in oil, gas and chemical service · Municipal gas and water networks · Steel fittings and field joints

Role in the system Primary wrap · Outer wrap



TDS 11

PP Fibre-Reinforced Anti-Corrosion Tape

A mechanically reinforced tape using a modified polypropylene mesh-reinforced woven fibre backing and a high-tack butyl rubber / polyisobutylene-modified bitumen adhesive, combined by hot lamination.

Thickness range 1.0–2.0 mm · Widths 50–300 mm · Roll lengths 15 / 20 m

Used for New buried steel pipelines and storage tank shells · Natural gas and town gas distribution mains · Repair of aged corrosion protection coatings

Role in the system Primary wrap · Outer wrap

TYPICAL APPLICATIONS — FIELD PHOTOGRAPHS



Buried pipeline construction



Gas distribution main



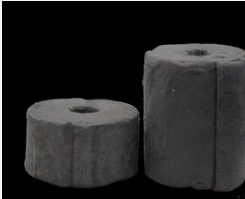
Field joints and fittings

04 Microcrystalline Wax Protection System

2 products

A microcrystalline wax system for severe, humid, buried and immersed service. Tested against the ASTM / AWWA C217 method set used internationally for wax tape wrapping, with general and high-temperature grades.

SYSTEM BUILD-UP



TDS 12

Microcrystalline Wax Anti-Corrosion Tape

A soft cold-applied wrapping material based on petroleum hydrocarbon compounds, a microcrystalline wax blend, a polyester non-woven carrier and flame-retardant additives.

Product form Wax-impregnated polyester non-woven tape · **Thickness** 2.0 mm · **Widths** 50 / 100 / 150 / 200 / 300 mm · **Roll length** 3 m

Used for Storage tank annular plates · Above-ground and buried pipelines · Marine steel, piles and structural steel

Role in the system Primary wrap



TDS 13

Wax Corrosion-Inhibiting Primer

A wax-system primer based on petroleum hydrocarbon compounds, a microcrystalline wax blend, titanium dioxide and rust inhibitors.

Used for Beneath microcrystalline wax tape on all substrates · Tank edge details · Pipelines and fittings

Role in the system Primer

TYPICAL APPLICATIONS — FIELD PHOTOGRAPHS



Storage tank base



Marine steel and piles



Bridges and exposed structures

05 Protective Outer Wrap Systems

1 products · plus PE and PP tape used as outer wraps

Protective outer wraps are applied over a completed primary corrosion protection system to carry the ultraviolet, weather, soil-stress and handling loads. Zhuohuang manufactures three outer wrap materials — aluminium foil, PE and PP fibre-reinforced — so the outer layer is specified for the actual exposure. Aluminium foil is the reflective option for above-ground and sunlit assets; the PE and PP tapes from the polyolefin system serve as buried and mechanically loaded outer wraps.

SYSTEM BUILD-UP



TDS 14

Aluminium Foil Outer Wrap Tape

A cold-applied outer wrap built on a toughened aluminium-plastic composite foil backing with a mesh damping fabric interlayer, coated with a polyisobutylene-modified butyl rubber adhesive and protected by a release film.

Product form Aluminium-plastic composite tape · **Colour** Silver · **Thickness range** 1.0–2.0 mm · **Widths** 100 / 150 / 200 mm

Used for Above-ground pipelines, fittings and tower shells · Exposed valves, flanges and process equipment · Industrial steel assets in direct sunlight

Role in the system Outer wrap

ALSO AVAILABLE AS PROTECTIVE OUTER WRAPS



TDS 10 · ALSO IN THE PE / PP SYSTEM

PE Anti-Corrosion Tape

Economical outer wrapping layer over a completed primary corrosion protection system on buried pipework.

Supplied in thin- and thick-adhesive configurations, so the outer layer can be specified independently of the primary wrap.

Select it when: Buried service where an additional continuous, moisture-excluding and electrically insulating outer layer is specified.



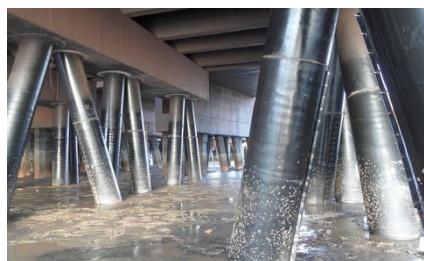
TDS 11 · ALSO IN THE PE / PP SYSTEM

PP Fibre-Reinforced Anti-Corrosion Tape

Mechanically reinforced outer wrap. The polypropylene mesh skeleton carries handling, backfill and soil-stress loads, so the primary corrosion barrier underneath is not required to resist mechanical damage.

Select it when: 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.

TYPICAL APPLICATIONS — FIELD PHOTOGRAPHS



Exposed pipe rack



Process plant in direct sun



Port and terminal equipment

06

Protective Outer Wrap Systems

Three outer wrap options — selected for the exposure

An outer wrap protects the primary corrosion barrier from ultraviolet radiation, weather, soil stress and handling damage. Zhuohuang manufactures three different outer wrap materials, so the outer layer is specified for the actual exposure rather than defaulting to whatever the primary tape supplier happens to offer. An aluminium or metal foil wrap is one option among three, not the only one.



PE ANTI-CORROSION TAPE

Economical outer wrapping layer over a completed primary corrosion protection system on buried pipework. Supplied in thin- and thick-adhesive configurations, so the outer layer can be specified independently of the primary wrap.

Select it when: Buried service where an additional continuous, moisture-excluding and electrically insulating outer layer is specified.

Evidence: 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

Mechanically reinforced outer wrap. The polypropylene mesh skeleton carries handling, backfill and soil-stress loads, so the primary corrosion barrier underneath is not required to resist mechanical damage.

Select it when: 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.

Evidence: 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

Reflective outer wrap for above-ground and exposed assets. The aluminium-plastic composite backing returns solar radiation and blocks ultraviolet attack, protecting the primary layer from thermal ageing and softening.

Select it when: Above-ground pipework, exposed valves and flanges, tank shells, process equipment and any asset in direct sunlight.

Evidence: 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).

Choosing the outer wrap

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

Final selection depends on the project specification, the installation method and the mechanical exposure the asset will actually see.

07 System Selection

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

Temperature overview

Product	Service temperature	Installation temperature
Petrolatum Tape (Marine)	–20 °C to +50 °C	–5 °C to +45 °C
Petrolatum Tape (Industrial)	–20 °C to +55 °C	–5 °C to +45 °C
Petrolatum Tape (Seawater)	–20 °C to +65 °C	–5 °C to +45 °C
Tape Primer (P100)	–30 °C to +55 °C	0 °C to +40 °C
High-Tack Primer (P200)	+65 °C	0 °C to +50 °C
Sealing Mastic (M100)	+60 °C	0 °C to +45 °C
Elastic Mastic (HD01)	+90 °C	0 °C to +70 °C
Viscoelastic Tape	–45 °C to +95 °C	–
Wax Tape	up to 120 °C	–

Where a product is not listed, the service temperature is defined by the system it is used in. Confirm the operating temperature of the asset before selection.

Third-party test coverage

Report subject	Report No.	Report issued on	Related products
Petrolatum (Ester) Oil-Based Anti-Corrosion Tape	CTICAQ451240155082316 4BR	–	Petrolatum Tape (Marine), Petrolatum Tape (Industrial), Petrolatum Tape (Seawater)
Petrolatum Tape Primer	CTG2410221378A_SR178A C	–	Tape Primer (P100)
Petrolatum Sealing Mastic	CTG2410221378A_SR179A C	–	Sealing Mastic (M100)
Viscoelastic Anti-Corrosion Tape	CTG2410221378A_SR180A C	Viscoelastic Tape	–
Refined Wax Anti-Corrosion Tape	J25C12220188BR	Wax Tape	–
PE Anti-Corrosion Tape (including matching primer)	CTG2409251378A_SR177A C	PE Tape	–
PP Anti-Corrosion Tape and Primer	CTG2410221378A_SR176A C	PP Tape	–

Report subject	Report No.	Report issued on	Related products
UV-Resistant Sealing Anti-Corrosion Tape (Aluminium Foil Outer Wrap)	CBT30406071071	Aluminium Foil Outer Wrap	—

Where a report does not state a product model, the sample name is kept as submitted and the result is shown as related rather than attributed to a specific model.

08 Ordering and Support

ORDERING INFORMATION REQUIRED

- Product name and grade
- Tape width, roll length and thickness
- Quantity in square metres, rolls or kilograms
- Packaging and labelling requirement
- Destination port and required delivery date
- Documents required with the shipment

AVAILABLE ON REQUEST

- Samples for trial application
- Full third-party test reports
- Safety data sheets
- Management system certificates
- Application solutions and installation guidance
- OEM and private-label production

TECHNICAL & COMMERCIAL CONTACT

Send us your asset information

Photographs, dimensions, operating temperature, exposure conditions, existing coating condition and estimated quantity are enough for us to propose a system configuration and issue the supporting documents.

- Product and system selection
- Technical data sheets and safety data sheets
- Third-party test reports and certificates
- Installation sequence and application guidance
- Samples, packaging and private-label discussion

Company	Nanjing Zhuohuang Industrial Technology Co., Ltd.
E-mail	info@zhuohuangglobal.com
Website	www.zhuohuangglobal.com
WhatsApp	+86 183 5198 9892
Registered address	Building 201-10, Hengli Park, No. 399 Xiongzhou South Road, Liuhe District, Nanjing 211599, Jiangsu, China
Manufacturing	Manufacturing facilities in Anhui and Tianjin, China

DISCLAIMER

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.