TDS 08 · VISCOELASTIC CORROSION PROTECTION SYSTEM

Viscoelastic Anti-Corrosion Tape

Viscoelastic tape · pipeline repair tape

SYSTEM ROLE · PRIMARY WRAP

Permanently non-curing cold-flow barrier for pipelines and complex equipment geometry.

Product description

A permanently non-curing viscoelastic polymer with a characteristic cold-flow behaviour. The material flows into surface irregularities and re-seals itself during service, giving full contact without voids. No primer is required, and the tape shows no disbondment, cracking or hardening. It has good chemical resistance, does not suffer cathodic disbondment in service and completely excludes water ingress and microbiologically influenced corrosion.

Typical system configuration

Surface preparation › Viscoelastic paste where required › Viscoelastic tape › Mechanical / UV outer wrap

Zhuohuang systems are modular. The configuration above is typical for this product; components are added or omitted according to substrate condition, geometry, operating environment and project specification.

CHOOSING THE PROTECTIVE OUTER WRAP

Three outer wrap materials are available and the choice follows the exposure, not the primary tape: **aluminium foil** for above-ground and sunlit assets, **PE tape** for buried service with normal backfill, and **PP fibre-reinforced tape** where soil stress, rocky backfill or handling damage govern. Where there is no ultraviolet or mechanical exposure, an outer wrap may not be required at all.

KEY CHARACTERISTICS

- Cold-flow and self-sealing behaviour
- No primer required
- Zero VOC, solvent-free, odourless
- No hot work — suitable for ATEX / explosion-risk areas

TYPICAL APPLICATIONS

- Rehabilitation of damaged 3PE / FBE pipeline coatings
- Buried pipeline field joints and repairs
- Flanges, valves, pumps and irregular equipment
- Hazardous-area maintenance where hot work is not permitted

WHY IT MATTERS

Feature	What it means on site
Cold-flow and self-sealing	The polymer keeps filling minor surface irregularities in service, so a small installation imperfection does not become a holiday.
No primer required	One fewer material, one fewer process step and no primer condition to judge in trench conditions.
Bonds to steel, PE and FBE	The same tape handles the cutback, the parent coating and the transition between them.
Zero VOC, no hot work	Usable in confined spaces, fuel terminals and ATEX-classified areas where a torch or a solvent primer is not permitted.

TYPICAL APPLICATIONS — FIELD PHOTOGRAPHS


Buried pipeline field joint


Valves, pumps and fittings


Coating repair on buried lines

Technical properties

Property	Typical / standard value	Test method
Model reference	S1108	—
Thickness	1.8 mm	GB/T 6672
Widths	50 / 100 / 150 / 200 / 300 mm	—
Roll length	10 m	—
Service temperature range	−45 °C to +95 °C	—
Surface preparation	St2 hand preparation	—
Primer	Not required	—
Density	1.41 g/cm³	GB/T 472-84
Insulation resistivity (100 d)	1×10^8 Ω·m²	DIN 30670-91
Water absorption	0.03	SY/T 0414-2007 Annex B
Shear strength, 23 °C, tape/steel	0.04 MPa	ISO 21809-3 Annex L
Impact strength with outer wrap	15 J, no holiday	GB/T 23257-2009 Annex K
Peel strength 23 °C to steel	4 N/cm	ISO 21809-3 Annex D
Peel strength 23 °C to PE	5 N/cm	ISO 21809-3 Annex D
Peel strength 23 °C to FBE	6 N/cm	ISO 21809-3 Annex D
Cathodic disbondment 23 °C, 24 h, −3.5 V	1.00 mm	GB/T 23257-2009 Annex D
Cathodic disbondment 65 °C, 30 d, −1.5 V	4.00 mm	GB/T 23257-2009 Annex D
Peel after hot-water immersion (70 °C, 120 d), 23 °C, to steel	3 N/cm	ISO 21809-3 Annex I
Peel after hot-water immersion (70 °C, 120 d), 23 °C, to PE	3 N/cm	ISO 21809-3 Annex I

Values are typical or standard configurations for the grade described and are not universal acceptance limits. Where a property is not listed, it is not declared for this grade in the source technical documentation. Confirm the applicable grade and project acceptance criteria before order.

Sizes and packaging

Size	Reference	Packing
100 mm × 10 m	1.8 mm	6 m² / carton
200 mm × 10 m	1.8 mm	8 m² / carton

Supplied and invoiced by square metre. Other widths to order.

Third-party verification

INDEPENDENT LABORATORY TEST

Report number	CTG2410221378A_SR180AC
Laboratory	Shenzhen Third-Party Testing Technology Co., Ltd. (CTG)
Accreditation	CMA / CNAS accredited laboratory
Sample tested	Viscoelastic Anti-Corrosion Tape
Test basis	GB/T 7124-2008, GB/T 23257-2017, GB/T 2792-2014
Date of issue	11 October 2024
Conclusion	All tested items assessed as Pass.

This report was issued on this product.

The full report is available on request. A faithful English transcription is issued as a separate single-product file and in the compilation Zhuohuang Test Reports — English Compilation. A test report records the properties measured on the sample submitted; it is a test result, not a system certification.

Application

Step	Procedure
01	Remove loose contamination, unstable coating edges and sharp projections. Prepare the substrate to St2 or the project-required level.
02	Profile voids, weld caps and irregular details with viscoelastic paste.
03	Apply the viscoelastic tape with the specified overlap and firm, even pressure. No primer is required.
04	Consolidate the tape by hand or roller so that the polymer flows into the surface profile.
05	Install the mechanical or ultraviolet outer protection appropriate to the service condition.

STORAGE

Store sealed in the original packaging in a cool, dry, ventilated place, away from direct sunlight, open flame, strong heat, strong oxidising agents and sources of ignition. Keep clear of contamination. Unopened material can be stored long-term at ambient temperature.

HEALTH AND SAFETY

The products in this range are not classified as dangerous goods for supply. Wear grease-resistant gloves and avoid contact with the eyes. Wash hands with soap and water after handling. Combustion releases carbon monoxide and hydrocarbon by-products. Consult the product safety data sheet before use; it is supplied on request.

WASTE

Avoid or minimise waste wherever possible. Do not discard waste material, including packaging, in the surrounding environment. Follow all applicable disposal legislation.

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.

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