

XUNDA™ T100 + T200

Product Description

XUNDA™ T100/T200 is a **multilayer cold-applied tape system** designed for corrosion protection of steel pipelines in **oil, gas, and water applications**, both underground and aboveground.

The product is manufactured by laminating a butyl rubber adhesive layer onto a polyethylene backing film, forming a flexible and highly adhesive tape coating.

The **butyl rubber layer** provides:

- strong adhesion
- low water absorption
- excellent sealing performance

The **polyethylene backing** ensures:

- low permeability
- high tensile strength
- resistance to thermal ageing
- good impact resistance

The tape exhibits excellent adhesion to primed steel surfaces and to compatible coating systems.

Application Methods

- Manual application
- Machine wrapping application

The tape provides excellent conformability when applied to:

- longitudinal welded pipes
- spiral welded pipes
- extruded pipes
- Corrosion Protection Performance

Applications

- Pipeline body coating
- Field joints (girth welds)
- Fittings (elbows, tees, flanges, etc.)

System Features

- Cold applied without the need for heating or special equipment
- Excellent resistance to soil stress
- High adhesion to primed steel and to itself
- Suitable for application over a wide temperature range
- Excellent conformability to irregular surfaces
- Uniform and consistent coating thickness
- Compatible with common pipeline coatings (PE, FBE, etc.)
- Excellent resistance to chemical and electrochemical corrosion
- Excellent resistance to cathodic disbondment
- Low water absorption and low water vapor permeability
- Good electrical insulation properties

Benefits

- Easy and efficient installation, improving field productivity
- Suitable for a wide range of environmental conditions
- Provides reliable long-term underground corrosion protection
- Enables field-applied coating quality close to plant-applied systems
- Reduces maintenance requirements and lifecycle costs
- Enhances pipeline safety and operational reliability
- Minimizes material variety, reducing inventory and management costs

Product Construction & Dimensions

	Inner Layer			Outer Layer			
	T100-20	T100-25	T100-30	T200-15	T200-20	T200-25	T200-30
Backing	10 mils (0.254 mm)	10 mils (0.254 mm)	14 mils (0.356 mm)	10 mils (0.254 mm)	15 mils (0.381 mm)	20 mils (0.508 mm)	25 mils (0.635 mm)
Adhesive	10 mils (0.254 mm)	15 mils (0.381 mm)	16 mils (0.406 mm)	5 mils (0.127 mm)	5 mils (0.127 mm)	5 mils (0.127 mm)	5 mils (0.127 mm)
Thickness	15 mils (0.381 mm) 20 mils (0.508 mm) 25 mils (0.635 mm) 30 mils (0.762 mm) available upon request						
Width	50 mm (2 in) 100 mm (4 in) 150 mm (6 in) 225 mm (9 in) available upon request						
Length	30 m (100 ft) 60 m (200 ft) 120 m (400 ft) 180 m (600 ft) available upon request						
Backing Color	Black, Yellow, White, available upon request						

Product Properties of Xunda™ T100-25 / T200-25

Property	Test method	Typical Value		Units
		T100-25	T200-25	
Tensile Strength	ASTM D 1000	52 30	70 40	N/cm lb/in
Elongation	ASTM D 1000	>200	>400	%
System Properties 50 mils System: T100-25 + T200-25				
Peel adhesion to primed steel	ASTM D1000	30 17		N/cm lb/in
Peel adhesion to primed steel	EN12068	30		N/cm
Cathodic disbondment	ASTM G8	6.4 0.25		mm in radius
Water vapor transmission rate	ASTM F1249 (100 °F, 38 °C, 100% RH)	0.2 0.013		g/m ² ·24 h g/100 in ² ·24 h
Water absorptivity	ASTM D570	0.02		%
Volume resistivity	ASTM E257	2.5 × 10 ¹⁵		Ω·cm
Dielectric strength	ASTM D149	23 584		kV/mm V/mil
Impact resistance	ASTM G-14	5.5 48.7		Nm In lb

Pipe Coating Calculation Formulas

Calculation Item	Formula (Imperial Units)
Pipe Area A_{pipe}	$A_{pipe} (ft^2) = \frac{D_{pipe} (in)}{12} \times \pi \times L_{pipe} (ft)$
Required Coating Area	$Required\ Coating\ Area (ft^2) = \frac{W_{coat} (in) \times A_{pipe} (ft^2)}{[W_{coat} (in) - O_{coat} (in)] \times 100}$
Coating Area per Roll	$Coating\ Area\ per\ Roll (ft^2) = \frac{W_{roll} (in) \times L_{roll} (ft)}{12 \times 100}$
Rolls Required	$Rolls\ Required = \frac{Coating\ Area\ Required (ft^2)}{Coating\ Area\ per\ Roll (ft^2)}$

Application & Technical Requirements

Max. operating temperature	85 °C
Recommended primer	P17, P27, P29
Recommended pipe preparation	ISO 8501-1 Sa 2 (SSPC-SP6) ISO 8501-1 St 3 (SSPC-SP3)
Standards & Compliance	EN 12068 DIN 30672 AWWA C214 GOST R 51164
Test Method	ASTM
Certifications	DVGW Certified SGS Tested

Pipe Coating Calculation Formulas

Calculation Item	Formula (Metric Units)
Pipe Area A_{pipe}	$A_{pipe} (m^2) = \frac{D_{pipe} (mm)}{1000} \times \pi \times L_{pipe} (m)$
Required Coating Area	$Required\ Coating\ Area (m^2) = \frac{W_{coat} (mm) \times A_{pipe} (m^2)}{W_{coat} (mm) - O_{coat} (mm)}$
Coating Area per Roll	$Coating\ Area\ per\ Roll (m^2) = W_{roll} (m) \times L_{roll} (m)$
Rolls Required	$Rolls\ Required = \frac{Coating\ Area\ Required (m^2)}{Coating\ Area\ per\ Roll (m^2)}$

Application General Requirements

Environmental Conditions	<ul style="list-style-type: none"> Application shall not be performed during sandstorms, rain, or adverse weather conditions unless adequate protection is provided. Relative humidity $\leq 80\%$. Substrate temperature $\geq 3^{\circ}\text{C}$ (5°F) above the dew point to prevent condensation.
Application Sequence	1. Surface Preparation → 2. Primer Application → 3. Tape Wrapping → 4. Inspection → 5. Repair → 6. Installation
Applicable Standards	ASTM International ASTM D1000 ASTM D7091 EN ISO 8501-1 EN 12068

5. Repair

All defects shall be clearly marked and repaired immediately Minor Defects: <ul style="list-style-type: none"> Repaired using patching method with 100 × 100 mm rounded patches T300 Overlap extension: ≥ 50 mm beyond defect area Major Defects: <ul style="list-style-type: none"> Damaged coating shall be removed Area shall be re-primed and re-wrapped Insufficient Overlap: <ul style="list-style-type: none"> Additional tape (≥ 100 mm width) shall be applied All repaired areas shall be firmly pressed using appropriate tools to ensure proper adhesion
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6. Installation

<ul style="list-style-type: none"> Prior to lowering into trench, coating shall be 100% holiday tested Storage time in open environment shall not exceed 3 months Trench Requirements: <ul style="list-style-type: none"> Trench bottom shall be free of stones or hard objects A bedding layer of 300 mm fine soil or sand shall be provided Backfilling: <ul style="list-style-type: none"> Initial backfill shall cover pipe with ≥ 100 mm fine soil/sand above pipe crown Backfill material shall not contain sharp or hard objects Protective measures shall be applied in rocky areas
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Application Procedure & Quality Control

<p>1. Surface Preparation</p> <ul style="list-style-type: none"> All surfaces shall be free from oil, grease, dust, mill scale, rust, and other contaminants. Existing coatings (for rehabilitation works) shall be completely removed. Surface preparation shall be carried out as follows: <ul style="list-style-type: none"> Sa 2 (abrasive blasting) or St 3 (mechanical cleaning) Surface profile (anchor pattern): 25–75 μm (1–3 mils) The prepared surface shall be dry, clean, and free of contamination. Any flash rusting or contamination shall require re-preparation. <p>2. Primer Application</p> <ul style="list-style-type: none"> Primer shall be applied within 4 hours after surface preparation. Application methods: brush, roller, or spray. Primer shall be thoroughly mixed prior to application; suitable thinner may be added if required. <p>Requirements:</p> <ul style="list-style-type: none"> Uniform coating without runs, sags, bubbles, or holidays Minimum dry film thickness: ≥ 30 μm (refer to ASTM D7091) Special attention shall be given to weld seams and edges <p>Drying:</p> <ul style="list-style-type: none"> Primer shall be allowed to reach “dry-to-touch” condition (typically 3–5 minutes at ambient temperature) Tape wrapping shall be applied immediately after primer drying <p>Consumption:</p> <ul style="list-style-type: none"> Approximate consumption: 0.13 kg/m² <p>3. Tape Wrapping</p> <ul style="list-style-type: none"> Tape shall be applied using spiral wrapping under controlled tension. Unwinding temperature shall be $\geq 5^{\circ}\text{C}$, and application temperature shall preferably be $\geq -5^{\circ}\text{C}$. At low temperatures, preheating of the pipe surface and/or tape may be required to ensure proper adhesion. <p>Application Requirements:</p> <ul style="list-style-type: none"> Uniform tension shall be maintained to ensure tight bonding Overlap shall be ≥ 100 mm Tape edges shall be parallel without wrinkles or folds Weld seams shall be reinforced using narrower tape strips (30–50 mm width) <p>Application Method:</p> <ul style="list-style-type: none"> Mechanical wrapping is strongly recommended to ensure consistency Manual wrapping shall only be permitted where mechanical application is not feasible <p>Special Areas:</p> <ul style="list-style-type: none"> Bends, field joints, and wall penetrations shall be wrapped using narrower tape Above-ground pipelines may use aluminum foil tape where applicable <p>4. Inspection</p> <p>Visual Inspection:</p> <ul style="list-style-type: none"> Smooth, uniform surface No wrinkles, cracks, damage, or permanent air bubbles <p>Thickness Measurement:</p> <ul style="list-style-type: none"> Measured in accordance with ASTM D7091 Shall meet specified coating thickness requirements <p>Adhesion (Peel Strength):</p> <ul style="list-style-type: none"> Tested in accordance with ASTM D1000 Minimum requirement: ≥ 20 N/cm <p>Holiday Detection:</p> <ul style="list-style-type: none"> 100% inspection using a DC holiday detector Minimum test voltage: ≥ 3000 V Detector travel speed: approx. 0.3 m/s Coating surface shall be dry during testing
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Handling & Storage

<p>Handling & Stacking</p> <ul style="list-style-type: none"> Coated pipes shall be stacked in a maximum of three layers Soft padding materials (e.g., cardboard, sawdust, protective sleeves) shall be used Lifting shall be performed using nylon slings or approved lifting devices Direct contact with steel cables or chains is strictly prohibited Dropping, dragging, or impact shall be avoided <p>Storage Conditions</p> <ul style="list-style-type: none"> Materials shall be stored in a cool, dry, and well-ventilated area Protected from direct sunlight and heat sources Storage temperature range: -20°C to $+50^{\circ}\text{C}$ <p>Shelf Life</p> <p>12 months under recommended storage conditions</p>

Information

Documentation	<p>Additional Information on XUNDA products, including project references and case studies, is available on our website. Application instructions, technical datasheets, and other supporting documentation can be obtained by contacting our offices directly, through an authorized local partner, or by sending an email to info@xundaseal.com.</p>
Certified staff	<p>Application of the described coating system shall be carried out by certified personnel.</p>



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IMPORTANT: XUNDA is committed to the continuous development and improvement of all our products. The information provided in this datasheet is intended as a general guide and does not constitute a warranty of product specifications. Our sales and technical personnel are available to assist users in determining the suitability of the product for its intended application, and additional specific information can be provided upon request. XUNDA operates a Quality Management System, an Environmental Management System, and an Occupational Health & Safety Management System, certified to ISO 9001, ISO 14001, and ISO 45001.

DISCLAIMER: XUNDA warrants that its products conform to the described chemical and physical properties for their intended use. However, users assume all risks and liabilities in connection with the use of the products. Many installation and operational factors are beyond the control of XUNDA; therefore, it is the responsibility of the user to determine the suitability of the product for their specific application. Our personnel will provide guidance and assistance to support proper product use.