

Jining City Huayi Industry and Trade Co.,Ltd.



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Company Profile

Jining City Huayi Industry and Trade Co., Ltd. is located in the Economic Development Zone of Jining City, Shandong Province. It specializes in the research, production and sales of pipeline anticorrosive heat-shrinkable materials, and is in line with the industrial policy of energy and high-tech industries supported by the state. The company has a group of professionals who have been engaged in the development and research of heat-shrinkable material formulations and processes for many years, as well as a group of sales personnel with strong business capabilities, which constitute the company's strong R&D, production and sales one-stop guarantee system.

The company's leading products are heat shrinkable materials for steel pipelines. The main products are: heat shrinkable tape, heat shrinkable sleeve, heat shrinkable winding tape, heat shrinkable waterproof cap, patch, epoxy coating and other six series of products. The product is mainly used for anti-corrosion of buried and overhead steel pipeline welds, elbows, joints, flange locks and other pipeline parts. It can also be used for the anti-corrosion treatment of the entire steel pipe and the external protection of the insulation pipeline. It is suitable for 2PE, 3PE, FBE, epoxy coal tar pitch and coal tar enamel as the main body of anti-corrosion pipeline weld joint anti-corrosion, anti-corrosion of elbow area, and external anti-sealing joint of crude oil and heat pipeline.

Advanced products, mature technology, sophisticated production, standardized testing, and create perfect quality anticorrosive products.

Huayi culture is the sum of the company's mission, management, quality, service and development concepts, a high-level summary and summary of the spirit of Huayi employees, and a long-term accumulation and precipitation in the development process of Huayi. The corporate culture with "Huayi" characteristics is constantly enhancing the cohesion, centripetal force, enthusiasm, initiative and creativity of the company's employees!

The construction of corporate culture has promoted the rapid development of production and operation of the company. The scale of the company continues to expand. The sincere unity and unremitting efforts of all employees will push the company's construction to a new climax!

Innovation and development are our eternal pursuit. According to the actual needs of users, the company can provide users with professional, safe, and simple solutions from program to product, and provide users with high-quality products and services. The company occupies the market with leading technology and high-quality service, and cooperates with customers to create a win-win situation and create brilliant achievements.



Polyethylene Anti-corrosion Tapes /Inner tape (JH 100)

□ System description:

The HUAYI-T-100 series is Cold applied tape coating system for corrosion protection of Oil, Gas, Petrochemical, and Waste Water underground or overhead pipelines.

The **inner-layer tape** shall be applied after the Liquid adhesive and before the outer-layer tape by hand or with a wrapping machine

□ Structure:

The specification of the tape consists of two layers, adhesive layer and film backing

Adhesive: Butyl rubber

Film backing: Special blend of stabilized polyethylene



III Features:

Excellent adhesion to pipe and self

Can be applied over a wide temperature range

Good conformability and consistent uniform thickness

Easily applied with no special equipment

Compatible with common pipe coatings

Excellent resistance to cathodic disbonding

Meets ASTM D 1000 Standard

Cold applied



IV Physical Properties

INNER-LAYER TAPE: HUAYI-JHT 100 Series

Item	JHT-150	JHT-165	JHT-180
Total thickness	0.51 mm	0.65 mm	0.80 mm
Polyethylene Film	0.31 mm	0.34 mm	0.39 mm
Synthetic Adhesive	0.20 mm	0.31 mm	0.41 mm
Elongation at Break	≥ 400%		
Tensile Strength	55 N/cm	60 N/cm	63 N/cm
Yield Strength	35.5 N/cm	42.3 N/cm	45.5 N/cm
Peel Adhesion to Primed Pipe	25 N/cm	30 N/cm	33 N/cm
Dielectric Strength	35 KV/mm	45.8 KV/mm	48 KV/mm
Cathodic Disbandment	0.24 in radius 6.4 mm		
Volume Resistivity	2.5×10^{12} ohm.m		
Water Vapor Transmission Rate	$\leq 0.1\text{gm/M}^2/24\text{h}$		
Water Absorption Rate	< 0.10%		
Recommended Application Temperature	-5 to +60 ⁰ C		
Max Serve Temperature	-40 to + 85 ⁰ C		
Color	Black		
Available Roll Size (width x length)	2" to 32" X 50' to 800'		



Polyethylene Protective Tapes/ Outer tape (JHT 200)

□ System description:

The HUAYI-T200 series is Cold applied tape coating system for corrosion protection of Oil, Gas, Petrochemical, and Waste Water underground or overhead pipelines. The outer-layer tape backing shall be compounded so that it will be resistance to outdoor weathering.

The **outer-layer tape** shall be applied after the inner-layer tape by hand or with a wrapping machine

□ Structure:

The specification of the tape consists of two layers, adhesive layer and film backing

Adhesive: butyl rubber

Film backing: Special blend of stabilized polyethylene

□ Features:

Excellent adhesion to inner-layer tape and self

Resistant to UV

Can be applied over a wide temperature range

Good conformability and consistent uniform thickness

Easily applied with no special equipment

Compatible with common pipe coatings

Excellent resistance to cathodic disbonding

Meets ASTM D 1000 Standard

Cold applied

□ Physical Properties



OUTER-LAYER TAPE: HUAYI-JHT200 Series

Item	JHT 250	JHT 265	JHT 280
Total thickness	0.51 mm	0.65 mm	0.80 mm
Film	0.38 mm	0.51 mm	0.63 mm
Adhesive	0.13 mm	0.14 mm	0.17 mm
Elongation at Break	≥ 400%		
Tensile Strength	58 N/cm	63 N/cm	65 N/cm
Yield Strength	35.9 N/cm	43.4 N/cm	45.8 N/cm
Dielectric Breakdown	32.9 KV/mm	43.5 KV/mm	45.2 KV/mm
Cathodic Disbandment	0.24 in radius 6.4 mm		
Volume Resistivity	2.5×10^{12} ohm.m		
Water Vapor Transmission Rate	≤ 0.1 gm/M ² /24h		
Water Absorption Rate	< 0.10%		
Recommended Application Temperature	-5 ⁰ to +60 ⁰ C		
Color	White		
Available Roll Size (width x length)	2" to 32" X 50 to 800'		

Polyethylene Joint Wrap Tapes (JHT 300)

□ System description:

The HUAYI-T300 series is Cold applied tape coating system for anti corrosion of field joints, fittings, and specifically piping. The adhesive is a key in ground performance characteristic coupled with the low and high density polyethylene backing.

The **Joint wrap tape** shall be applied by hand or with a wrapping machine.

II Structure:

The specification of the tape consists of two or three layers, adhesive layer and film backin, some customer like add one layer release paper.

Adhesive: butyl rubber

Film backing: Special blend of stabilized polyethylene

III Features:

Heavy duty adhesive

Resistant to UV

Can be applied over a wide temperature range

Good conformability and consistent uniform thickness

Easily applied with no special equipment

Conformable to irregular shapes.

Meets ASTM D 1000 Standard

Cold applied



□ Physical Properties

JOINT WRAP TAPE: HUAYI-JHT 300 Series

Item	JHT-380	JHT-390	JHT-3100	JHT-3130
Total thickness (mm)	0.76	0.89	1.02	1.27
Backing thickness (mm)	0.28	0.30	0.35	0.50
Adhesive thickness (mm)	0.48	0.59	0.67	0.77
Tensile strength (N/ cm)	50	55	60	63
Elongation (%)	≥450	≥450	≥450	≥500
Adhesion to Primed Pipe (N/cm)	28	30	32	35
Dielectric Strength (KV/cm)	42	43	42.5	45
Volume Resistivity (Ω.m)	≥2.5x10 ¹²	≥2.5x10 ¹²	≥2.5x10 ¹²	≥2.5x10 ¹²
Water Vapor Transmission Rate (24h) g/m ²	≤0.1	≤0.1	≤0.1	≤0.1
Water Absorptivity (%)	≤0.1	≤0.1	≤0.1	≤0.1
UV Resistance 600h	≥80 %	≥80 %	≥80 %	≥80 %
Application Temperature	-5 to 60 C			
Max Serve Temperature	-40 to 85 C			

Polyethylene 3 ply Inner Tapes (JHT 400)

I System description:

The HUAYI-T400 series is Cold applied tape coating system for corrosion protection of Oil, Gas, Petrochemical, and Waste Water underground or overhead pipelines.

It is a three-ply cold applied tape with stabilised polyethylene backing and butyl rubber adhesive layers on both sides. It is also used as inner-layer tape. It shall be applied by hand or with a wrapping machine

The **3 Ply tape** shall be applied after the Liquid adhesive and before the outer-layer tape by hand or with a wrapping machine

II Structure

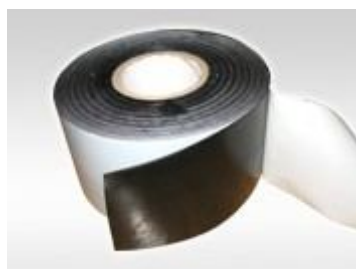
The specification of the tape consists of four layers,

Internal Adhesive layer: Butyl rubber

External Adhesive layer: Butyl rubber

Film backing: Special blend of stabilized polyolefines

Interleaf: Antiadhesive Film Treated with Silicone



□ Features:

Excellent bonding between adhesive and carrier film via co-extruded intermediate layer.

Mechanically highly resistant tape system.

Practically impermeable to water vapour and oxygen.

Resistant to soil bacterial and soil electrolyte.

Compatible with coating from PE, PP, FBE, PU, CTE and Bitumen and ext... .

A Total Coating System with:

High adhesion and shear resistance

Resistance to corrosion disbondment

High electrical resistance

High dielectric strength

High corrosion protection for steel substrates

□ Physical Properties

PLY INNER TAPE HUAYI- JHT 400 series

PROPERTIES	UNIT	T 480	T 4100	TEST METHOD
Color Carrier film	--	black(grey/green)	black(grey/green)	--
Adhesive inner layer		black	black	
Adhesive outer layer		black	black	
Thickness Carrier film	mm	0.30	0.30	ASTM D 1000
Internal Adhesive	mm	0.34	0.45	
External Adhesive	mm	0.16	0.25	
Tensile strength	N/cm	67	70	ASTMD1000
Elongation at break	%	450	500	ASTMD1000

Peel strength to pipe surface at 23 ⁰ C at 50 ⁰ C	N/cm	18 1.3	20 1.5	EN 12068 Annex C
Peel strength tape to tape at 23 ⁰ C at 50 ⁰ C	N/cm	25 3.5	30 4.0	EN 12068 Annex B
Dielectric strength	Kv/mm	32	33.8	ASTMD149
Insulation Resistance	Ohm.m ²	10 ¹²	10 ¹²	EN 12068
Water Vapor Transmission	g/ m2 /24h	0.1	0.1	ASTM E 96
Brittleness temperature	⁰ C	-46±4	-46±4	DIN53372
Water Absorption	%	0.1 max	0.1 max	ASTM D 570
Impact resistance at 23°	J	18	18	EN 12068
Cathodic disbandment at 23°c at 50°c	mm	15 30	15 30	EN 12068
Lap shear strength at 50 ⁰ C	N/mm2	0.05	0.05	EN 12068

□.TAPE - INNERWRAP - CORROSION PROTECTION TAPE

Asymmetrically structured three-ply plastics tape consisting of a stabilized polyethylene backing with plastic butyl rubber on **both** sides. The consistency of the butyl rubber on the **one** side facing the pipe surface should be formulated in such a way that, under tension, it flows on uneven steel surfaces. To facilitate correct application this butyl layer should be of a **black color**. The grey butyl layer of the tape must face the steel and this should always be the thicker layer of butyl rubber.

In order to avoid delaminating tape must contain co-extruded intermediate layers.

The tape must be fully compatible with the properties of the primer. The tape must be self-amalgamating between the layers and at the overlaps and must have a release paper or film.

□.TAPE ROLL SIZES

a) Hand application roll core diameter 41 mm

Tape length 15 m
Tape widths 50 and 100 mm

b) Application with hand wrapping machine, roll core diameter 41 mm

Tape length 15 m
Tape widths 50 and 100 mm

c) Application with hand wrapping machine, roll core diameter 78 mm

Tape length depending on pipe diameter
Tape widths 100 and 150 mm

d) Application with motor driven wrapping machine, roll core diameter 78 mm

Tape length depending on pipe diameter
Tape widths 100 and 150 mm

□.TAPE - OUTERWRAP - MECHANICAL PROTECTION TAPE

Two-ply plastics tape consisting of a stabilized high density polyethylene backing with plastic butyl rubber on **one** side. The outer wrap tape must be fully compatible with the properties of the inner wrap. The outer wrap must fully self-amalgamate with the inner wrap tape at contact areas.

In order to avoid delaminating between carrier film and butyl rubber, tape should contain co-extruded intermediate layers.

□.TAPE SYSTEM

Tape system shall comply with EN 12068 (stress-class C-50) and DIN 30672 (stress-class C-50).

Structure:

primer	compatible with inner wrap
inner wrap	2 layers (min. 50% overlap)
outer wrap	2 layers (min. 50% overlap)

Properties:

electrical insulation resistance $> 10^{10} \text{ Ohm} \cdot \text{m}^2$
(DIN 30672)

volume resistivity (ASTM-D 257) $> 10^{15} \text{ Ohm} \cdot \text{cm}$

adhesion strength to steel (EN 12068, ASTM-D 1000)

23°C, peel speed 10 mm/min $\geq 20 \text{ N/cm}$

50°C, peel speed 10 mm/min $\geq 2.0 \text{ N/cm}$

23°C, peel speed 100 mm/min $\geq 40 \text{ N/cm}$

50°C, peel speed 100 mm/min $\geq 4.0 \text{ N/cm}$

adhesion strength tape-to-tape (EN 12068, ASTM-D 1000)

23°C, peel speed 100 mm/min $\geq 40 \text{ N/cm}$

50°C, peel speed 100 mm/min $\geq 4.0 \text{ N/cm}$

Indentation resistance (EN 12068) at 50°C $\geq 1.0 \text{ mm}$

residual thickness at rod load

10 N/mm^2 (Rod- \varnothing 1,8 mm)

impact resistance

EN 12068 $\geq 15 \text{ J}$

ASTM-G 14 $\geq 9 \text{ J}$

lap shear resistance at 50°C (EN 12068) $\geq 5 \text{ N} / \text{cm}^2$

WRAPPING MACHINES

To apply hand rolls with a 41 mm core diameter. - as per a), the hand wrapping machines must be able to automatically remove the release film from the three - ply tape during application, maintain constant overlap and tape tension.

To apply rolls with **78 mm plastics roll core** diameter - as per c) and d) a sufficient quantity of wrapping machines must be quoted. These machines must be able to automatically remove the release film from the inner wrap tape, maintain constant overlap and give the necessary tape tension.

Polypropylene Mesh Membrane Tapes (JHT 500)

□System description:

The HUAYI-T 500 series is cold applied tape for both metallic pipelines and waterproofing works against outdoor bad weathers .

The **PP fiber woven tape** shall be applied after the Liquid adhesive by hand or with a wrapping machine.

Waterproofing-	Pipelines protection
-Waterproofing membrane for basements,substructures and flat deck applications. plazas, bridge, vehicular traffic structures, or parking decks overlaid with an asphalt concrete wearing course. -Tough, high performance waterproof membrane for critical substructures and civil engineering works. -Provides a vapor and waterproof membrane to water excluding structures and protects concrete from attack by aggressive ground salts. -Protection for wall ,floor, roof, corner, basement etc. to against from attack by bad weather, rain, acid alkaline salt	_ Weld joints _ Bends _ Fittings _ Bare pipe lengths _ Pipe rehab and repair -Bare pipe length

□Structures

The specification of the tape consists of three layers,

Adhesive layer: Butyl rubber Bituminous Compound

Backing : PP woven fabric cloth

Interleaf:Antiadhesive Film Treated with Silicone



□ Features

Waterproofing-	Pipes protection
-Cold applied. -High resistance to bad weather environment -Good performance itself to keep dry -Easily application & installation. -Suitable for a wide range of temperatures - Compatible primers -Safe, clean	_ Cold applied _ Excellent self adhesion to pipe _ Flexibility provides extra protection at vulnerable areas _ Excellent conformability and consistent uniform thickness _ Easily applied with no special equipment _ Compatible with common pipe coatings _ Excellent resistance to cathodic disbonding _ Wider service temperature range

□ Physical Properties

POLYPROPYLENE MESH MEMBRANE TAPES HUAYI-JHT 500 Series

Item	JHT 5100	JHT 5130	JHT 5150	JHT 5165
Total thickness (mil)	40mils	50mils	60mils	65mils
Tensile Strength (lb/in)	30(5kg/cm)	35(6.3kg/cm)	39(7kg/cm)	42(7.5kg/cm)
Elongation (%)	400	400	450	500
Length	25mtrs	20mtrs	15mtrs	10mtrs
Width	2", 4", 6", 9"			
Peel adhesion To primed pipe (oz/in)	269(3kg/cm)	296(3.3kg/cm)	314 (3.5kg/cm)	340(3.8kg/cm)
To backing (oz/in)	90(1kg/cm)	90(1kg/cm)	117(1.3kg/cm)	135(1.5kg/cm)
Dielectric Strength (KV/mm)	42	42.6	43	43.8
Volume Resistivity (ohm·m)	2.5×10^{12}	2.5×10^{12}	2.5×10^{12}	2.5×10^{12}
Water Vapor Transmission Rate (g/ m ² /24h)	0.06	0.05	0.03	0.02
Water Absorptivity (%)	0.1	0.1	0.1	0.1
Application Temperature (°F)	-31-+160 (-35-+70 degree C)			
Max service temperature (°F)	-40-+250 (-40-+121 degree C)			

Polyethylene Bitumen Tapes (JHT 600)

□System description:

The HUAYI-T600 series is Cold applied tape coating system for corrosion protection of Oil, Gas, Petrochemical, Waste Water underground or overhead pipelines and waterproofing.

The **Bitumen tape** shall be applied after the primer by hand or with a wrapping machine

II Structure

The specification of the tape consists of three layers,

Adhesive:Butyl rubber Bituminous Compound and Adhesion Promoting Resins

Film backing:Special blend of stabilized polyolefines

Interleaf:Antiadhesive Film Treated with Silicone

□Features:

Heavy duty butyl bitumen compound adhesive

Excellent adhesion to pipe and self

Flexibility provides extra protection at vulnerable areas

Excellent conformability and consistent uniform thickness

Easily applied with no special equipment

Compatible with common pipe coatings

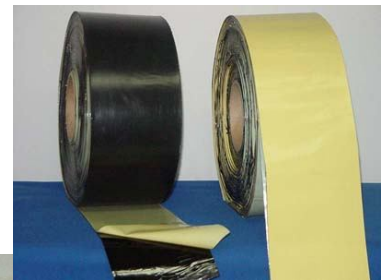
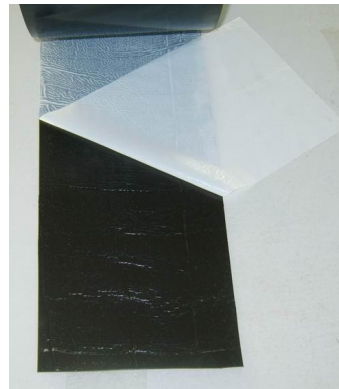
Excellent resistance to cathodic disbonding

Resistant to UV

Can be applied over a wide temperature range

Good conformability and consistent uniform thickness

Cold applied



□Physical Properties

POLYETHYLENE BITUMEN TAPE HUAYI-JHT600 Series

PHYSICAL PROPERPTIES	UNIT	TEST METHOD	TYPICAL VALUES			
Total thickness	mil	ASTM D 1000	40mils	50mils	60mils	65mils
Tensile Strength	lb/in	ASTM D 1000	30(5kg/cm)	35(6.3kg/cm)	39(7kg/cm)	42(7.5kg/cm)
Elongation	%	ASTM D 1000	400	400	450	500
Length			10 m - 100 m			
Width			50 mm-800 mm			
Peel adhesion To primed pipe	oz/in	ASTM D 1000	269(3kg/cm))	296(3.3kg/cm)	314 (3.5kg/cm)	340(3.8kg/cm)
To backing	oz/in	ASTM D 1000	90(1kg/cm)	90(1kg/cm)	117(1.3kg/cm)	135(1.5kg/cm)
Dielectric Strength	KV/m m	ASTM D 1000	42	42.6	43	43.8

Volume Resistivity	ohm·m	ASTM D 257	2.5 X 10 ¹²	2.5 X 10 ¹²	2.5 X 10 ¹²	2.5 X 10 ¹²
Water Vapor Transmission Rate	g/ m ² /24h	ASTM E 96	0.06	0.05	0.03	0.02
Water Absorptivity	%	ASTM D 570	0.1	0.1	0.1	0.1
Application Temperature	F		-31-+160 (-35-+70C)			
Max service temperature	F		-40-+176 (-40-+80C)			

Alu Flashing Tapes (JHT 700)

□ Description:

ALUMINUM FOIL TAPE, FLASHING TAPE, PEEL/STICK ROOF TAPE, Alu bitumen tape, Alu waterproof tape, Sealing tape has a heavy aluminum facing together with an extra thick rubberized asphalt based adhesive system.

The **HUAYI-T 700 series** is recommended for most types of roofs, windows and flashing problems including:

- Trailers
- RV's
- Mobile homes
- Industrial buildings
- Roof awnings
- Truck Trailers
- Chimney Flashing
- Roof to Wall Flashing
- Ridge Flashing
- Window frames of glass, metal, plastic
- Wood including OSB
- Clay and Cement Roof Tiles



□ Application:

The surfaces to be sealed must be clean, dry and free of loose rust, scale, dust, talc and dirt. All oil, grease, silicone or other contaminants should be first removed with a suitable solvent/cleaner.

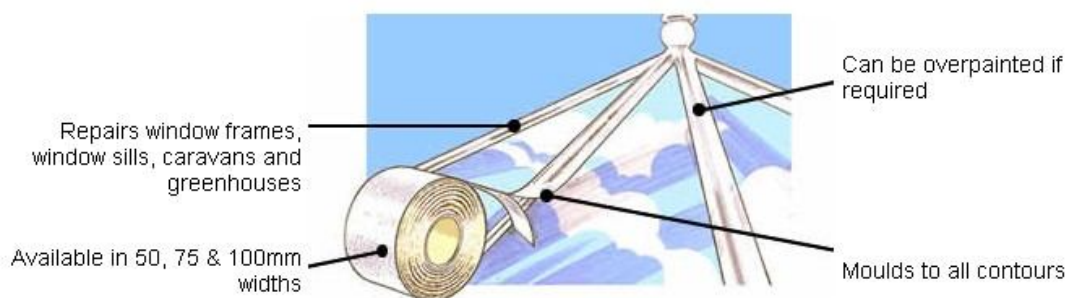
For older roofs use a stiff brush to remove all loose granules and surface elements.

Porous surfaces should be primed with a common asphalt based primer and allowed to dry before HUAYI-T 700 is applied.

Install HUAYI-T 700 by gradually peeling away the plastic release liner while rubbing the HUAYI-T 700 to the surface.

Hint: prevent bubbles under the product by using your hand to squeegee out air by wiping your hand towards the roll as you set the tape to the surface.

Overlap seams or sealing are of application by 3 inches.





Primer Coating/Liquid adhesive (P 19& P 27)

□ System description:

The **Liquid adhesive** are recommended for use with only Huayi coating systems. The Liquid adhesive is quickly drying applied to the appropriately prepared pipe surface before application of inner layer tape. The function of Liquid adhesive is to provide a bonding medium between the pipe surface and the inner layer tape. It's suitable for hand brush or machine spray application. It can be applied by hand or machine.

Hand-application :app. 0,2 litre/m² pipe surface Machine application: app. 0,1 litre/m² pipe surface

□ Structure

The liquid adhesive consists of butyl rubber and synthetic compound and a solvent-gasoline.

□ Features:

Heavy duty adhesive

Quick dry

Conformable to irregular pipe

Compatible with general coating system



□ Physical Properties

Properties	Unit	P19	P27
Solid content	%	19	27
Density	Kg/liter	0.77	0.88
Drying thickness	mils	2-3	2-3
Viscosity+23℃ (out flow time,4mm nozzle)	sec	40±5	40±5
Flash point	℃	14	26
Drying time	min	5-10	10-15
Color		black	black
Application temperature	℃	5 to 50	5 to 50
Maximum temperature	℃	-40 to 80	-40 to 80
Package	3.8/15/20/200Liter per drum		

Heat Shrinkable Sleeve



Heat shrinkable sleeve (HHTS) is mainly applied to pipe joint corrosion protection, reducer, and seal of valve.

Features & Benefits:

1. Mainly applied to pipe joint corrosion protection, reducer, and seal of valve;
2. A high-performance heat sensitive adhesive effectively bonds to steel substrates enamel to form a reliable seal protection;
3. Hot melt adhesive has shear strength and peel strength, adhesion strong to the steel pipes, epoxy and PE coating, and good sealing;
4. Excellent resistance against chemical corrosion, good water immersion, water vapor penetration prevention and other performances.
5. Service life is the same age with pipelines.

Common HHTS Specifications (Unit: mm)

product specifications	applicable tube's diameter	product specifications	applicable tube's diameter
HHTSΦ159×500—1.2/0.8	Φ159	HHTSΦ630×500—1.5/0.8	Φ630
HHTSΦ219×500—1.2/0.8	Φ219	HHTSΦ720×500—1.5/0.8	Φ720
HHTSΦ273×500—1.2/0.8	Φ273	HHTSΦ813×500—1.5/0.8	Φ813
HHTSΦ325×500—1.2/0.8	Φ325	HHTSΦ920×500—1.5/0.8	Φ920
HHTSΦ377×500—1.2/0.8	Φ377	HHTSΦ1016×500—1.5/0.8	Φ1016
HHTSΦ426×500—1.5/0.8	Φ426	HHTSΦ1220×500—1.5/0.8	Φ1220
HHTSΦ529×500—1.5/0.8	Φ529	HHTSΦ1350×500—1.5/0.8	Φ1350

Annotation: The above data is normal size. Produce certain size of products according to the customers' demand.



Heat Shrinkable Tape

Heat Shrinkable Tape is mainly used for bends, elbows, tee, insulating flanges and other irregular configurations and pipe-layer anti-corrosion damage repairs, can also be used for anti-corrosion treatment of the entire pipelines.

Features & Benefits:

1. Mainly used for bends, elbows, tee, insulating flanges and other irregular configurations and pipe-layer anti-corrosion damage repairs, can also be used for anti-corrosion treatment of the entire pipelines;

2. Easy to install and use, reliable performance;

3. Good resistance upon mechanical damage and liquid pressure. Excellent sealing property.

4. Excellent resistance against bacteria (mold) and chemical corrosion.



Common Heat Shrinkable Wraparound Tape Specifications

id	product specifications	Length(m)		
		A	B	C
1	*×100-1.2/0.8	10	15	20
2	*×150-1.2/0.8	10	15	20
3	*×200-1.2/0.8	10	15	20
4	*×250-1.2/0.8	10	15	20

Annotation: 1. * represents A/B/C three types;

2. Specifications in the table are for common use.

waterproof heat shrinkable end cap



Heat Shrinkable End Cap (HEC) is mainly used for heat-insulation anti-corrosion pipes' end seal, which can effectively prevent the anti-corrosion layer and the heat-insulation layer of the pipeline ends damage or water seepage.

Features & Benefits:

- 1.Special designed for waterproof of anti-corrosion heat-insulation pipelines' insulation layer, applies to waterproof and protection of insulation layer terminations;
- 2.Operating speed, shrink rapidly, strong weather proofing and seal performance;
- 3.Excellent resistance against chemical corrosion, good water immersion, water vapor penetration prevention.
- 4.Service life is the same age with pipelines.

Common HEC Specifications (Unit: mm)

No.	Diameter of steel pipe insulation pipe	Product specifications	Short diameter	Diameter at butt end
1	Φ76	HEC 86/166	86	166
2	Φ114	HEC 124/204	124	204
3	Φ159	HEC 168/249	168	249
4	Φ219	HEC 229/309	229	309
5	Φ325	HEC 335/415	335	415
6	Φ377	HEC 387/467	387	467

Annotation: The above data is normal size. Produce certain size of products according to the customers' demand.



Heat shrinkable wraparound sleeve

Heat shrinkable wraparound sleeves HHWS is “three layer constructions”:

First layer: two components Epoxy Primer; Second layer: hot-melt adhesive;

Third layer: radiant cross linked polyethylene substrates.



Features & Benefits:

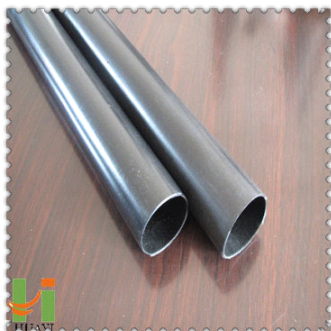
1. Epoxy Primer is used to form a good corrosion protection layer in the steel pipe surface;
2. Hot melt adhesive on the second layer has good adhesion to epoxy primer on the first layer.
3. radiation cross-linked polyethylene has high impact strength and friction resistance, which can effectively protect the anti-corrosion layer of the inner layer not destroyed.

Common HHWS Specifications (Unit: mm)

No.	Size	Length	Width of stator
1	HHWSΦ159×500—1.5/1.0	680	100
2	HHWSΦ219×500—1.5/1.0	900	120
3	HHWSΦ273×500—1.5/1.0	1070	120
4	HHWSΦ325×500—1.5/1.0	1260	120
6	HHWSΦ406×500—1.5/1.0	1520	150
7	HHWSΦ426×500—1.5/1.0	1600	150
8	HHWSΦ508×500—1.5/1.0	1900	150

Annotation: Manufacturing or Packing as per customers' request!

heat shrinkable tubing



Product name : Medium wall polyolefin tubing with hot melting adhesive

Order Ref.	Diameter(mm)		Recovered Thickness(mm)	Standard length(mm)
	As supplied	After recovery		
Φ8/2	8.0	2.0	1.8	1000-1500
Φ9/3	9.0	3.0	1.8	1000-1500
Φ12/4	12	4.0	2.0	1000-1500
Φ16/5	16	5.0	2.2	1000-1500
Φ19/5	19	5.0	2.5	1000-1500
Φ22/6	22	6.0	2.5	1000-1500
Φ28/6	28	6.0	2.5	1000-1500
Φ33/8	33	8.0	2.5	1000-1500
Φ40/12	40	12	2.5	1000-1500
Φ55/16	55	16	2.7	1000-1500
Φ65/19	65	19	2.8	1000-1500
Φ75/22	75	22	3.0	1000-1500
Φ85/25	85	25	3.0	1000-1500
Φ95/25	95	25	3.0	1000-1500
Φ115/34	115	34	3.0	1000-1500
Φ140/42	140	42	3.0	1000-1500
Φ160/50	160	50	3.0	1000-1500
Φ180/58	175	58	3.5	1000-1500
Φ205/65	210	65	3.5	1000-1500
Φ235/65	230	75	3.5	1000-1500



Pipeline Repair Products

(一) repair patch

Product profiles:

Repair Patch is designed for repairing damaged PE-coating on steel pipe and the amendment of the holes or crack which the diameter smaller than 100mm on the backing layer of Heat Shrinkable Tape/Sleeve. If damage area of coating pipeline greater than 100mm. Heat Shrinkable Wraparound Sleeve (or Heat Shrinkable Wraparound Tape) is recommended.

Benefits:

- 1.HRP is consists of an irradiated, cross-linked polyolefin sheet coated with a heat activated adhesive.
- 2.Mainline coating repair products including melt sticks and repair patches compatible with common pipeline coatings.
- 3.Both the stick and patch can be installed quickly with no special tools required.
- 4.The installed patch provides a barrier to moisture and corrosion and is resistant to abrasion and shear forces during pipeline installation and while in-service.



Specification of Repair Tape:

Product	Width(mm) * Length(mm)Roll
Repair Tape	150×200
	250×400

Repair patch Thickness (mm):

Apply caliber	Base material	adhesive layer
≤ 400	≥ 1.2	≥ 0.8
> 400	≥ 1.5	

Repair patches Prosperities:

	Unit	Test Standard	Technical Criteria
Softening point	°C	ASTM E28	≥90
Lap shear	N/cm ²	DIN 30 672	≥ 1.0
Tensile strength	Mpa	ASTM D638	≥ 17
Elongation	%	ASTM D638	≥ 400

Hardness	Shore D	ASTM D2240	≥ 0.60
Volume Resistivity	ohm-cm	ASTM D257	$\geq 1 \times 10^{13}$
Dielectric Voltage Breakdown	MV/mm	ASTM D149	≥ 25
Impact	J	DIN 30 672	≥ 4.9
Peel to PE or steel	N/cm	ASTM D1000	≥ 70
Cathodic Disbandment	mm	ASTM G8	≤ 10
Water Absorption	%	ASTM D570	0.05

Annotation: When ordering please specify specifications of the radiant cross linked polyethylene. Please put forward in the order if you need specifications and requirements. We can also roll supply.

(二) melt stick:



Diameter: $\phi 25$, $\phi 30$, $\phi 40$ etc.

Length: 300mm etc.

Color: black, yellow

Component: EVA, hot melt etc.

Test report



检测
CNAS L1524



中国石油



2010000746J

Report No.: F11052303

中国石油天然气股份有限公司管道分公司管道科技研究中心
试验测试技术所
PetroChina Company Limited. Pipeline Company. R&D Center. Lab

TEST REPORT

Specimens: Heat Shrinkable Sleeve
(with Primer)
Client: JINING CITY HUAYI INDUSTRY
AND TRADE CO., LTD
Type of Test: Commission



2010000746J

Report No.: F11052303

STATEMENT OF THE VALIDITY:

- The report is only responsible for the tested specimens.
- The report is valid after sealed and signed by authorizer.
- The report is invalid, if it is modified, handwritten (except signature), blank or the serials number of the report is not coincide with the contract.
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试验测试技术所
PetroChina Company Limited. Pipeline Company. R&D Center. Lab

检测报告
Test report

Customer		JINING CITY HUAYI INDUSTRY AND TRADE CO., LTD.		Type of Test	Commission		
Producer	--			Commission Date	May 23, 2011		
Receiving Date	May 23, 2011			Testing Date	May 23, 2011~Aug 18, 2011		
Reference	GJX-SPE-AC-001						
Test Item		Unit	Test Result	Requirement	Test Method		
Backing							
Tensile stress at yield	Vertical	MPa	22.9	≥17	GB/T 1040.2-2006		
	Lateral	MPa	21.7	≥17			
Elongation at break	Vertical	%	721	≥400	GB/T 1040.2-2006		
	Lateral	%	692	≥400			
Vicat softening point		℃	104.7	≥90	GB/T 1633-2000		
Brittleness temperature		℃	<-65	≤-65	GB 5470-2008		
Electric strength		MV/m	42.3	≥25	GB/T 1408.1-2006		
Volume resistivity		Ω·m	on processing	≥1×10 ¹³	GB/T 1410-2006		
Environmental stress cracking resistance condition (F50,50℃)				on processing	≥1000 GB/T 1842-2008		
Resistance of chemical (7d)	10% HCl	Vertical	Conservation rate of Tensile stress at yield	%	103	≥85	SY/T 0413-2002 Appendix D
		Lateral	Conservation rate of Elongation at break	%	102	≥85	
		Vertical	Conservation rate of Tensile stress at yield	%	99.5	≥85	
		Lateral	Conservation rate of Elongation at break	%	97.0	≥85	
	10% NaOH	Vertical	Conservation rate of Tensile stress at yield	%	102	≥85	
		Lateral	Conservation rate of Elongation at break	%	99.7	≥85	
		Vertical	Conservation rate of Tensile stress at yield	%	98.7	≥85	
		Lateral	Conservation rate of Elongation at break	%	98.2	≥85	
		Vertical	Conservation rate of Tensile stress at yield	%	98.7	≥85	
		Lateral	Conservation rate of Elongation at break	%	98.2	≥85	
		Vertical	Conservation rate of Tensile stress at yield	%	98.7	≥85	
		Lateral	Conservation rate of Elongation at break	%	98.2	≥85	

Report No.: F11052303

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Test Item		Unit	Test Result	Requirement	Test Method	
Backing						
Heat ageing (150℃, 168h)	Vertical	Tensile stress at yield	MPa	21.3	≥14	GB/T 1040.2-2006
		Elongation at break	%	768	≥300	
	Lateral	Tensile stress at yield	MPa	16.6	≥14	
		Elongation at break	%	737	≥300	
Hot-Melt Adhesive						
Softening point (ring-and-ball apparatus)		℃	94.5	≥90	GB/T 4507-1999	
Lap shear strength (23℃)		MPa	on processing	≥1.0	GB 7124-2008	
Brittleness temperature		℃	<-15	≤-15	SY/T 0413-2002 Appendix K	
Peel strength	23℃±2℃	For steel	N/cm	on processing	≥70	GB/T 2792-1998
		For epoxy	N/cm	on processing	≥70	
		For PE	N/cm	on processing	≥70	
Epoxy Resin Primer						
Apparent shear strength (23℃)		MPa	on processing	≥5.0	SY/T 0041-1997	
Cathodic disbondment (65℃±3℃, 48h, 1.5V)		mm	4.9	≤10	SY/T 0413-2002 Appendix B	
Remark --						
Tester Wang Chao Luo Pengfei Zhang Hua Zhang Wenming						
Editor	Liu Mengmeng Aug 26, 2011	Correct by 李萌新 2011.8.5	Checked by 2011.9.5	Approved by 2011.9.15		

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Certificate(ISO9001:2008)



CERTIFICATE OF CONFORMITY QUALITY MANAGEMENT SYSTEM CERTIFICATION

NO. 10410Q20018R0S

This is to certify that the Quality Management System of

JINING HUAYI INDUSTRY AND TRADING CO.,LTD

(Add: No.03,Jiejia Road,Rencheng Economic Development Zone,Jining City,Shandong Province)

is in conformity with:

GB/T 19001-2008 idt ISO 9001:2008

This system is valid to:

*** MANUFACTURE AND SERVICE OF RADIATION CROSSLINKED
POLYETHYLENE HEAT SHRINKABLE TAPE HEAT SHRINK
SLEEVE,POLYETHYLENE ANTICORROSION ADHESIVE TAPE;SALE;
OF EPOXY COATINGS AND AGRICULTURAL PRODUCTS ***

Further clarifications regarding the scope of this certificate and the applicability of GB/T19001-2008
ISO9001:2008 requirements may be obtained by consulting the organization.

Issue date :01-08-2010

Term of validity: 01-08-2010 TO 01-07-2013

Representative of the company (Director):

S. p. chun



first inspection second inspection third inspection
This certificate will not be legally valid unless the inspection is confirmed
Address: Floor 15, New World Mansion 9 Fuzhou Rd., Qingdao, China

Sales performance

No.	Goods Name	Country	Customer/Client Name
1	Heat shrinkable sleeve	China	Cnooc in the petrochemical Co., LTD
2	Melt stick	China	Shengli oilfield project department
3	Heat shrinkable sleeve	China	Shengli oilfield project department
4	Heat shrinkable tape	China	Langfang Petroleum Pipeline Bureau
5	Heat shrink sleeve	China	Shengli oilfield project
6	Heat shrinkable tape/sleeve	China	The daqing YouJian company three branch
7	Heat shrinkable wraparound tape	China	Chinese oil and gas pipeline
8	Heat shrinkable sleeve	China	Xuzhou pipeline operation technology branch
9	Heat shrinkable wraparound tape	China	Dandong natural gas company
10	Heat shrinkable sleeve	China	Zibo gas company
11	Heat shrinkable tape	China	Oil pipeline corrosion protection engineering Co.
12	Heat shrinkable wraparound tape	China	Oil reservoir in jintan gas branch
13	Heat shrinkable sleeve	China	Oil pipeline company
14	heat shrinkable wraparound tape	China	Henan anticorrosion company
15	Waterproof end cap	China	Beijing oil equipment Co., LTD
16	Repair patch	China	Daqing pipeline project company
17	Anti-corrosion PE tape	Iran	National Iranian Gas Co.
18	Anti-corrosion PE tape	Iran	Nia shimi Co.,Inc
19	Anti-corrosion PE tape	Poland	The Polish Oil and Gas company Ltd.
20	Anti-corrosion PE tape	UAE	Golden Crown Trading Co.
21	Anti-corrosion PE tape	Kazakhstan	ASYN GROUP
22	Anti-corrosion PE tape	Kazakhstan	Gateway Ventures(CA)Ltd.
23	Anti-corrosion PE tape	Ukraine	JSC Odessa Odeskabel
24	Anti-corrosion PE tape	Jordan	Tamdin Trading Co.
25	Anti-corrosion PE tape	Jordan	Global Trade Links
26	Anti-corrosion PE tape	Jordan	Arab Prince Co.
27	Anti-corrosion PE tape	Syria	BUTEMAC s.a.L
28	Anti-corrosion PE tape	Ethiopia	Wisdom Foreign Trade Auxiliary PLC
29	Anti-corrosion PE tape	Saudi Arabia	Rezayat Trading Company Ltd.
30	Anti-corrosion PE tape	Saudi Arabia	Middle East Trading Co.
31	Anti-corrosion PE tape	ALBANLA	GR-ENERGY sh.p.k
32	Anti-corrosion PE tape	Omen	Technical Supplies International Co.,LLC
33	Anti-corrosion PE tape	USA	Sunrise Distributors,LLC
34	Anti-corrosion PE tape	USA	21 st century Gas,LLC
35	Anti-corrosion PE tape	Lithuania	Uab'DARGESTA'
36	Anti-corrosion PE tape	Iran	Naphtha Technology Co.,Inc
37	Anti-corrosion PE tape	Iran	AKBAR MINA KHANI Co.,Inc



济宁市华奕工贸有限公司

Jining City HuaYi Industry and Trade Co.,Ltd.

Good faith foothold

Innovation sends far

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