

JINING QIANGKE PIPE ANTICORROSION MATERIALS CO.,LTD

PIPELINE COATINGS

The World Leader in Technology,

Quality and Service



POLYKEN Coating System



POLYKEN Line Travel Coating System



POLYKEN Reconditioning coatings



POLYKEN Plant Coating System



POLYKEN Pipeline accessory products

THE HIGHEST QUALITY ANTI-CORROSION COATING SYSTEMS FOR UNDERGROUND PIPELINES

Company Profile**About Us**

- *We are the most largest manufacturers of Polyethylene Tape in China for the Corrosion Control of pipelines and specialty applications .*
- *A company supplying Polyethylene Coating Systems to the corrosion industry within the oil, gas and water pipeline construction industry for both onshore and offshore applications.*
- *A manufacturer of standard and specialty products.*
- *High-quality anti-corrosion systems providing anti-corrosion solutions for oil pipelines, natural gas, chemicals and water transmission and distribution pipelines, etc.*
- *Global supplier of PE corrosion system for metallic pipelines*

**Industries that We Serve**

- *Oil, Gas and Water Transmission pipeline market ,Oil and Gas distribution and utility markets*
- *New pipeline construction markets*
- *Rehabilitation and Reconditioning market*
- *Offshore Industry*
- *Refinery and Petrochemical Plant Industry*
- *Manufacture of Polyethylene coatings utilizing Butyl based elastomeric adhesives, Polyethylene films and liquid adhesives for corrosion protection of steel pipe.*
- *Provides corrosion protection with the inherent chemistry of Polyethylene and Butyl Adhesive for resistance to water and oxygen penetration. Oxygen and Water are prevented from reaching the metal substrate, which are necessary and sufficient conditions for corrosion.*
- *Manufacture of conventional and specialty Polyethylene, Polypropylene and Polymeric Alloys and coating systems for pipe corrosion protection.*
- *Manufactures PE coatings systems for applications for New Pipe Construction and Rehabilitation and Reconditioning*
- *Approved to ISO 9001 and to other good manufacturing and technical standards and norms governed within the energy and pipeline industry.*
- *Coating systems that have a broad range of temperature and shear resistance properties to meet the requirements of the pipeline and end-user.*

Key Advantages

- *Global presence in oil, gas and water industries*
- *Innovative coatings, high temperature systems and niche coatings with first quality products*
- *Multiple coating systems to meet end-user applications and requirements*
- *Broad range of products to meet pipeline requirements*
- *Tailor made products to specific application on demand by the end-user*
- *High Quality products through innovative technology, manufacturing methodologies and first quality raw materials*
- *ISO approved manufacturing protocol*
- *Qualified to [ASTM test methods](#), [DIN 30672](#), [EN 12068 Standards](#), [American Water Standards \(AWWA\) C 209 & 214](#), [Indonesian Standards \(PERTAMINA\)](#), [Iran Standards-NIGC & IGS](#), [China Standards](#)*
- *Technology/R&D programs for new products and new processes*
- *Proven long-term performance and corrosion protection on operating pipelines*
- *Coating applied in plant and over-the-ditch*
- *Easy of application, consistent application and lower costs*
- *Compatible with traditional and current corrosion coatings*
- *Just-in-Time delivery on a global basis*
- *Achieving and exceeding Client requirements for products, packaging and shipment expectations*
- *Meetings all International and In-Country transportation requirements*
- *Girth weld coating applied in Bell-hole or out of the ditch*

Type of Products/ Services Offered

- *Anticorrosion and Mechanical Protection Tape(2ply)*
- *Primers*
- *3ply double sided coating system(3ply+2ply)*
- *Wrapping Machines*
- *Joint tape-with or without release liner*
- *Special repair products & heavy duty tape*
- *High temperate tape*

Tape Coating Systems

- *Line travel, over-the-ditch coatings and application*
- *Can be applied with a powered wrappers*
- *Can be used for new pipeline construction*
- *Can be used for pipeline rehabilitation/reconditionin*
- *Used in the oil, gas and water pipeline industry*
- *Offshore and Refinery coatings*

Functionality to a Coating System

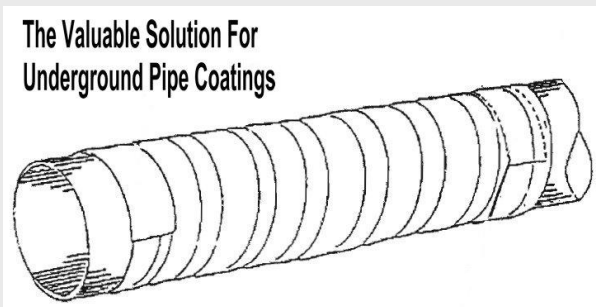
- *High adhesion strength*
- *High shear resistance and shear strength*
- *Cathodic disbonding resistance*
- *Dielectric strength and electrical resistance*
- *Resistance to impact and penetration forces and stresses*
- *Stable to thermal and hydrolytic environments*
- *Long term performance stability*
- *Compatible with cathodic protection*
- *(Resistant to UV radiation*
- *Mechanical protection*

Technology

- *Calendering process for the lamination of the tape and outer-wrap produce*
- *Calenering 2 Ply and 3 Ply Polyethylene tape systems within manufacturing facility using vertical integration of resources*
- *Slitting on site for the various sizes of products to meet application requirements*
- *Packaging on site with specified packaging specification*
- *Polyethylene blending of Polyolefin resins to meet client and end-user requirements*

1、POLYKEN 980 Anticorrosion Tapes(Inner Wrap)

Image



**POLYKEN 980&955
Coating System For Pipeline**

System Description

The POLYKEN 980,955 is a multilayer system used for the protection of steel pipelines. POLYKEN 1019,1027, Liquid Adhesives can be used as primers for this system. In addition to serving as primers, these liquid adhesives themselves represent an anticorrosion layer and provide a uniformly smooth contact surface to promote high adhesion of the coating system to the pipe. They are designed for machine or brush application and formulated with stress-corrosion cracking inhibitors. The Anti-Corrosion layer POLYKEN 980 is engineered to assure a high bond to the primed surface with excellent conformability characteristics. The mechanical protection layer POLYKEN 955, achieves a complete bond to the POLYKEN 980 inner layer, providing maximum handling and in-service protection for the coating system. The adhesives in these and all POLYKEN tape systems contain proven anti-microbial additives. The POLYKEN 980/955 can also be used for ductile iron pipes, in this case the use of 1027 primer is recommended.

Features

- Resistant to soil stress
- Excellent adhesion to pipe and self
- Low cathodic protection
- Long-term in-ground performance
- Serve for low-high temperatures
- Cold applied
- Uniform coating thickness
- Compatible with all pipe diameters and generic plant coating systems
- Qualified ASTM D1000,AWWA C 214,EN 12068 standards

Structure

Backing : Special blend of stabilized polyethylene
Adhesive : Butyl rubber and Adhesion Promoting Resins
Color: Black



Properties

Product Properties	Test method	Typical Value			
		POLYKEN980-15	POLYKEN980-20	POLYKEN980-25	POLYKEN980-30
Total Thickness		15mil(0.381mm)	20mil(0.508mm)	25mil(0.635mm)	30mil(0.762mm)

Backing of PE film		9 mils(0.229 mm)	12mil(0.305mm)	13mil(0.330mm)	10mil(0.254mm)
Butyl Rubber Adhesive		6 mils(0.152 mm)	8mil(0.203mm)	12mil(0.305mm)	20mil(0.508mm)
Tensile Strength	ASTM D1000	40 N/cm	55 N/cm	62 N/cm	70 N/cm
Elongation	ASTM D1000	300%	330%	350%	400%
Peel Adhesion to Primed Steel	ASTM D1000	24.5 N/cm	25 N/cm	26.5 N/cm	30 N/cm
Water Vapor Transmission Rate	ASTM E 96	0.10g/m ²	0.10g/m ²	0.09g/m ²	0.08g/m ²
Water absorption after 1 day,At+23°C	ASTM D570	0.10%	0.10%	0.08%	0.06%
Volume Resistivity	ASTM D 257	2.0 x 10 ¹⁵ ohm.cm	2.5 x 10 ¹⁵ ohm.cm	2.5 x 10 ¹⁵ ohm.cm	2.5 x 10 ¹⁵ ohm.cm
Dielectric Strength	ASTM D149	30 kV	35 kV	42kv	43kv

Ordering Information

POLYKEN 980 and 955 tape coatings are in roll form.

Eg.: **POLYKEN980-20 BLK 6"×400'**

POLYKEN 980	Product Model No.	Standard ordering options
20	Total tape thickness in mils	15mils(0.381mm),20mils(0.508mm),25mils(0.635mm),30mils(0.762mm)
BLK	Tape backing color	Black (BLK)
6	Tape width in inches	2"(50mm),,4"(100mm),6"(150mm),9"(228mm),12"(305mm)18" (457mm)
400	Tape roll length in feet	100ft(30M),200ft(61M),400ft(122M),600ft(183M),800ft(244M)

Eg.: **POLYKEN955-20 WHI 6"×400'**

POLYKEN 955	Product Model No.	Standard ordering options
20	Total tape thickness in mils	15mils(0.381mm),20mils(0.508mm),25mils(0.635mm),30mils(0.762mm)
WHI	Tape backing color	White (WHI)
6	Tape width in inches	2"(50mm),,4"(100mm),6"(150mm),9"(228mm),12"(305mm)18" (457mm)
400	Tape roll length in feet	100ft(30M),200ft(61M),400ft(122M),600ft(183M),800ft(244M)

(Width of Coating in inches) ×(Area of pipe in square feet)*

-----=Squares **of Coating Required

(Width of coating in inches-Overlap in inches) ×100

*Area of pipe in square feet=(Diameter in inches)/12×3.1416×(Length in feet)

**One square=One hundred square feet=9.29 square meters

(Width of Coating in mm) ×(Area of pipe in square meter)*

-----=Square meter of Coating Required

(Width of coating in mm-Overlap in mm)

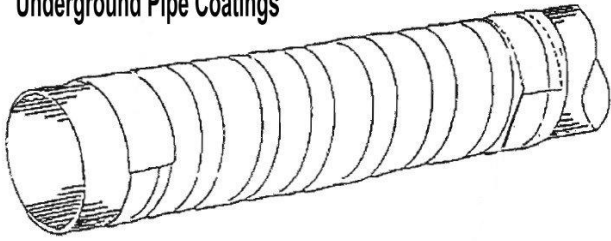
*Area of pipe in square meter=(Diameter in mm)/1000×3.1416×(Length in meter)

2、 POLYKEN 955 Mechanical Protection Tapes (Outer Wrap)

Image



The Valuable Solution For
Underground Pipe Coatings



**POLYKEN 980&955
Coating System For Pipeline**

System Description

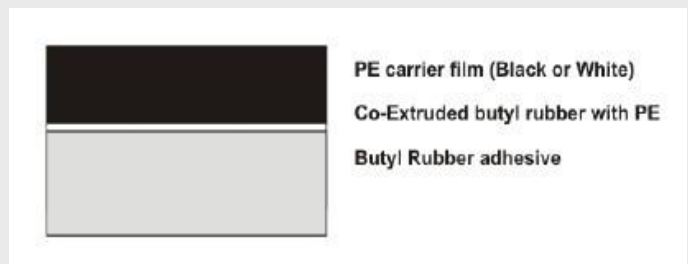
The POLYKEN 980,955 is a multilayer system used for the protection of steel pipelines. POLYKEN 1019,1027, Liquid Adhesives can be used as primers for this system. In addition to serving as primers, these liquid adhesives themselves represent an anticorrosion layer and provide a uniformly smooth contact surface to promote high adhesion of the coating system to the pipe. They are designed for machine or brush application and formulated with stress-corrosion cracking inhibitors. The Anti-Corrosion layer POLYKEN 980 is engineered to assure a high bond to the primed surface with excellent conformability characteristics. The mechanical protection layer POLYKEN 955, achieves a complete bond to the POLYKEN 980 inner layer, providing maximum handling and in-service protection for the coating system. The adhesives in these and all POLYKEN tape systems contain proven anti-microbial additives. The POLYKEN 980/955 can also be used for ductile iron pipes, in this case the use of 1027 primer is recommended.

Features

- Resistant to soil stress
- Excellent adhesion to pipe and self
- Low cathodic protection
- Long-term in-ground performance
- Serve for low-high temperatures
- Cold applied
- Uniform coating thickness
- Compatible with all pipe diameters and generic plant coating systems
- Qualified ASTM D1000,AWWA C 214,EN 12068 standards

Structure

Backing : Special blend of stabilized polyethylene
Adhesive : Butyl rubber and Adhesion Promoting Resins
Color : Black or White



Properties

Product Properties	Test method	Typical Value			
		POLYKEN 955-15	POLYKEN 955-20	POLYKEN 955-25	POLYKEN 955-30
Total Thickness		15mil(0.381mm)	20mil(0.508mm)	25mil(0.635mm)	30mil(0.762mm)
Backing of PE film		10mils(0.254 mm)	15mil(0.381mm)	20mil(0.508mm)	25mil(0.635mm)
Butyl Rubber Adhesive		5 mils(0.127 mm)	5mil(0.127mm)	5mil(0.127mm)	5mil(0.127mm)
Tensile Strength	ASTM D1000	50N/cm	60N/cm	70 N/cm	80 N/cm
Elongation	ASTM D1000	300%	350%	350%	450%
Peel Adhesion to Primed Steel	ASTM D1000	24 N/cm	25 N/cm	26.5 N/cm	33 N/cm
Water Vapor Transmission Rate	ASTM E 96	0.10g/m ²	0.10g/m ²	0.08g/m ²	0.06g/m ²
Water absorption after 1 day,At+23°C	ASTM D570	0.10%	0.10%	0.08%	0.06%
Volume Resistivity	ASTM D 257	2.0 x 10 ¹⁵ ohm.cm	2.5 x 10 ¹⁵ ohm.cm	2.6 x 10 ¹⁵ ohm.cm	2.6 x 10 ¹⁵ ohm.cm
Dielectric Strength	ASTM D149	30 kv	36 kv	43 kV	45 kV

Ordering Information

POLYKEN 980 and 955 tape coatings are in roll form.

Eg.: **POLYKEN 980-20 BLK 6"×400'**

POLYKEN 980	Product Model No.	Standard ordering options
20	Total tape thickness in mils	15mils(0.381mm),20mils(0.508mm),25mils(0.635mm),30mils(0.762mm)
BLK	Tape backing color	Black (BLK)
6	Tape width in inches	2"(50mm),,4"(100mm),6"(150mm),9"(228mm),12"(305mm)18" (457mm)
400	Tape roll length in feet	100ft(30M),200ft(61M),400ft(122M),600ft(183M),800ft(244M)

Eg.: **POLYKEN 955-20 WHI 6"×400'**

POLYKEN 955	Product Model No.	Standard ordering options
20	Total tape thickness in mils	15mils(0.381mm),20mils(0.508mm),25mils(0.635mm),30mils(0.762mm)
WHI	Tape backing color	White (WHI)
6	Tape width in inches	2"(50mm),,4"(100mm),6"(150mm),9"(228mm),12"(305mm)18" (457mm)
400	Tape roll length in feet	100ft(30M),200ft(61M),400ft(122M),600ft(183M),800ft(244M)

(Width of Coating in inches) ×(Area of pipe in square feet)*

-----=Squares **of Coating Required

(Width of coating in inches-Overlap in inches) ×100

*Area of pipe in square feet=(Diameter in inches)/12×3.1416×(Length in feet)

**One square=One hundred square feet=9.29 square meters

(Width of Coating in mm) ×(Area of pipe in square meter)*

-----=Square meter of Coating Required

(Width of coating in mm-Overlap in mm)

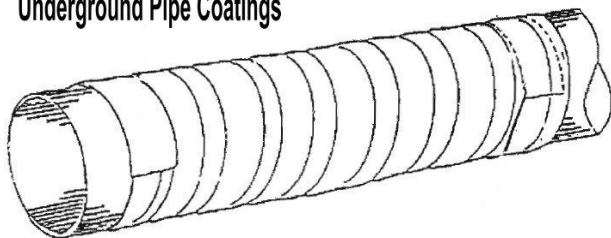
*Area of pipe in square meter=(Diameter in mm)/1000×3.1416×(Length in meter)

3、 POLYKEN 930 Joint Tape

Image



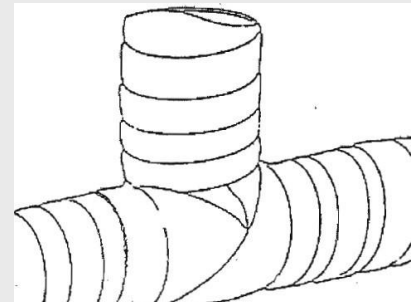
The Valuable Solution For
Underground Pipe Coatings



**POLYKEN 930 Tape
For Joints & Fittings
-No release liner**

System Description

POLYKEN930 is a cold applied tape coating system designed for the corrosion protection of field joints, fittings, and specialty piping. The unique adhesive retains conformability over a wide temperature range, yet exhibits an elevated level of shear resistance, which is a key in-ground performance characteristic. Coupled with a pliable, very malleable polyethylene backing, this versatile tape system can be applied by hand or with a wrapping machine.



Features

- Heavy duty adhesive. Ensures a strong bond & impervious seal.
- Conformable to irregular shapes. Offers a solution for nearly every application.
- No release liner. Makes installation fast and easy.
- Cold applied
- Complies with ASTM D 1000, AWWA C 214&209.
- Reliable, high-performance corrosion protection.
- Compatible with generic plant coating systems.
- Compatible with PE, FBE, TAPE & COAL TAR coatings.

Properties

Product Properties	Test method	Typical Value	Typical Value
		POLYKEN 930-35	POLYKEN 930-50
Tensile Strength	ASTM D1000	40 N/cm	50N/cm
Elongation	ASTM D1000	300%	350%
Peel Adhesion to Primed Steel	ASTM D1000	25 N/cm	32N/cm
Water Vapor Transmission Rate	ASTM E 96	0.03	

Water absorption after 1 day,At+23°C	ASTM D570	0.07%	
Volume Resistivity	ASTM D 257	2.0 x 10 ¹⁵ ohm.cm	
Dielectric Strength	ASTM D149	30 kv	32kv
Max serve temperature		-20 to + 80°C	
Color		Black or White	

Ordering Information

POLYKEN 930 tape coatings are in roll form.

Eg.: **POLYKEN 930-35 BLK 4"×50'**

POLYKEN 930	Product Model No.	Standard ordering options
35	Total tape thickness in mils	35mils(0.89mm),50mils(1.27mm)
BLK	Tape backing color	Black (BLK),White(WHI)
4	Tape width in inches	2"(50mm),,4"(100mm),6"(150mm)
50	Tape roll length in feet	50ft(15M),100ft(30M)

(Width of Coating in inches) ×(Area of pipe in square feet)*

-----=**Squares **of Coating Required**

(Width of coating in inches-Overlap in inches) ×100

***Area of pipe in square feet=(Diameter in inches)/12×3.1416×(Length in feet)**

****One square=One hundred square feet=9.29 square meters**

(Width of Coating in mm) ×(Area of pipe in square meter)*

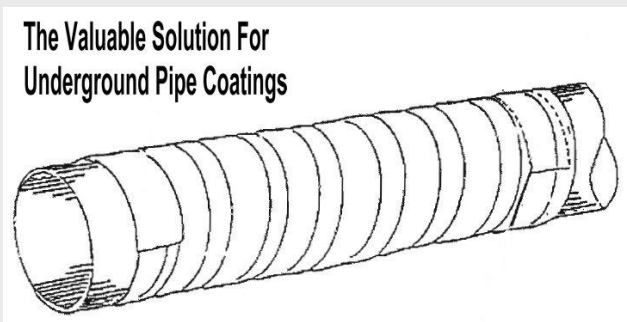
-----=**Square meter of Coating Required**

(Width of coating in mm-Overlap in mm)

***Area of pipe in square meter=(Diameter in mm)/1000×3.1416×(Length in meter)**

4、 POLYKEN 934 Tapes

Image



POLYKEN 934/955

Cold Applied Tape Coating System

Thick, aggressive adhesive for corrosion protection and repair of main line coatings.

System Description

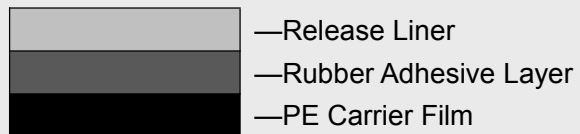
POLYKEN 934 is a cold applied tape coating system designed for the corrosion protection of field joints, fittings, and specialty piping. The highly conformable backing and thick, aggressive adhesive also make it the ideal repair system for all types of main line coatings. The POLYKEN 934 tape with very tacky adhesive has a release plastic liner to enable proper unwinding of the roll. Whether used as a double wrap system or as a single wrap with a mechanical layer, the POLYKEN 934 tape coating system is universally specified in the oil, gas and water industries.

Features

- Conformable to irregular shapes.
- Excellent adhesion to pipe and self
- Thick, aggressive adhesive.
- Conformable to irregular shapes.
- Cold applied
- Compatible with all pipe diameters and generic plant coatings
- Complies with ASTM D1000,AWWA C 209,EN 12068 standards
- As repair system for line coatings

Structure

Backing :	Special blend of stabilized polyethylene
Adhesive :	Butyl bituminous and Adhesion Promoting Resins
Interleaf:	Anti-adhesive Film Treated with Silicone.



Properties

PROPERPTIES	UNIT	TEST	TYPICAL VALUES			
			POLYKEN934-40	POLYKEN934-50	POLYKEN934-60	POLYKEN934-65

		METHOD				
Total thickness	mil	ASTM D 1000	40mils	50mils	60mils	65mils
Tensile Strength	N/cm	ASTM D 1000	60	70	80	100
Elongation	%	ASTM D 1000	300	300	350	350
Peel adhesion To primed pipe	N/cm	ASTM D 1000	30	33	35	35
Dielectric Strength	KV/mm	ASTM D 1000	42	42.6	43	43.8
Volume Resistivity	ohm·cm	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/ m2 /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	°C		-20-+70°C			
Max service temperature	°C		-40-+80°C			
Performance	AWWA C-209,ASTM D 1000,EN 12068					
Recommended primer	:	P1027				
Additional mechanical layer	:	POLYKEN 955				

How to select coating materials

Example:Total coating required thickness 3 mm with a minimum overlap of 50%.

You Can Choose followed two methods :

-1st :PRIMER 1027+ 934-60(60mil=1.524mm) as single double wrap, total 3mm .

Or

-2nd :PRIMER 1027 + 934-40(inner tape-40mil=1.016mm)+955-20(outer wrap-20mil=0.508mm),total 3mm.

Ordering Information

POLYKEN 934 tape coatings are in roll form.

Eg.: **POLYKEN 934-40 BLK 4"×50'**

POLYKEN 934	Product Model No.	Standard ordering options
40	Total tape thickness in mils	40mils(1.016mm),50mils(1.27mm),60mils(1.524mm),65mils(1.651mm)
BLK	Tape backing color	Black (BLK) ,White(WHI)
4	Tape width in inches	2"(50mm),,4"(100mm),6"(150mm),
50	Tape roll length in feet	30ft(10M),50ft(15M),100ft(30M)

Material Requirements

(Width of Coating in inches) ×(Area of pipe in square feet)*

-----=Squares **of Coating Required

(Width of coating in inches-Overlap in inches) ×100

*Area of pipe in square feet=(Diameter in inches)/12×3.1416×(Length in feet)

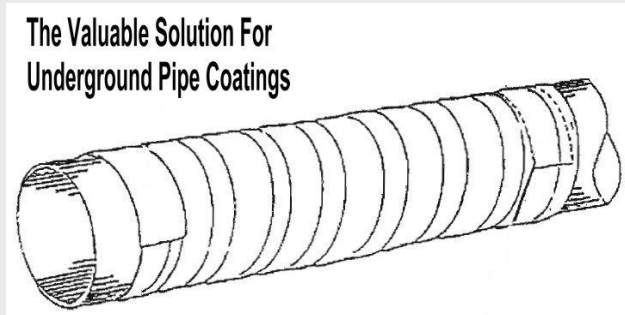
**One square=One hundred square feet=9.29 square meters

$$\frac{(\text{Width of Coating in mm}) \times (\text{Area of pipe in square meter})}{(\text{Width of coating in mm} - \text{Overlap in mm})} = \text{Square meter of Coating Required}$$

*Area of pipe in square meter=(Diameter in mm)/1000×3.1416×(Length in meter)

5、POLYKEN GTC Coating Tape

Image



POLYKEN GTC

Cold Applied Tape Coating System

The POLYKEN GTC Coating System is designed for the corrosion protection of new and existing pipelines.

System Description

The **GTC Coating System** is designed for the corrosion protection of new and existing pipelines. The coating layer consists of a tough, woven polypropylene backing with a high tack butyl rubber adhesive. An additional layer of POLYKEN 980 or 955 should also be used on pipes larger than 12" diameter to improve the soil stress resistance of the system.

Structures

Backing : a tough ,woven polypropylene

Adhesive : high tack butyl rubber adhesive

Interleaf: Anti-adhesive Film Treated with Silicone.

Features

- _ Excellent adhesion to pipe and self
- _ Flexibility provides extra protection at vulnerable areas
- _ Compatible with generic plant coatings
- _ Low cathodic protection requirements
- _ Can be applied over a wide temperature range
- _ Good conformability and consistent uniform thickness
- _ Heavy duty butyl adhesive ensures a strong bond & impervious seal.

Technical Datas

PROPERPTIES	UNIT	TEST METHOD	TYPICAL VALUES			
			POLYKENGTC 40	POLYKENGTC 50	POLYKENGTC 60	POLYKENGTC 65
Total thickness	mil	ASTM D 1000	40mils(1.0mm)	50mils(1.27mm)	60mils(1.52mm)	65mils(1.65mm)
Tensile Strength	Kg/cm	ASTM D 1000	35	35	35	35
Peel adhesion To primed pipe	Kg/cm	ASTM D 1000	25	28	30	34
	To backing	Kg/cm	ASTM D 1000	20	25	26.5
Dielectric Strength	KV/mm	ASTM D 1000	20	23	26	30
Water Absorptivity	%	ASTM D 570	0.1	0.08	0.08	0.06

Ordering Information

POLYKEN GTC

Eg.: POLYKEN GTC 4" X 50'

POLYKEN GTC	Product Model No.	Standard ordering options
50	Total tape thickness in mils	40mils(1.0mm),50mils(1.27mm),60mils(1.52mm),65mils(1.65mm)
4	Tape width in inches	2"(50mm),,4"(100mm),6"(150mm),
50	Tape roll length in feet	50ft(15M),100ft(30M)

Material Requirements

(Width of Coating in inches) ×(Area of pipe in square feet)*

-----=Squares **of Coating Required

(Width of coating in inches-Overlap in inches) ×100

*Area of pipe in square feet=(Diameter in inches)/12×3.1416×(Length in feet)

**One square=One hundred square feet=9.29 square meters

(Width of Coating in mm) ×(Area of pipe in square meter)*

-----=Square meter of Coating Required

(Width of coating in mm-Overlap in mm)

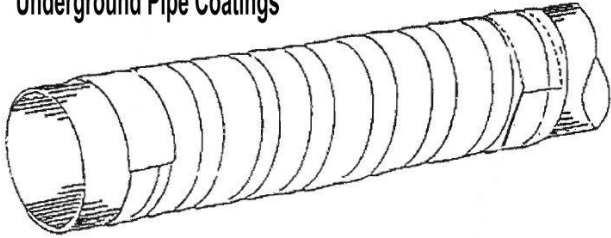
*Area of pipe in square meter=(Diameter in mm)/1000×3.1416×(Length in meter)

6、 POLYKEN 942&955 Coating System

Image



The Valuable Solution For
Underground Pipe Coatings



POLYKEN 942/955

3-ply Coating System For New Pipelines and Existing Pipeline Rehabilitation

System Description

The POLYKEN 942&955 System is a multilayer coating system designed for the corrosion protection of pipelines operating in highly corrosive environments and exposed to high mechanical stresses that may be present particularly on large diameter pipes. The system consists of POLYKEN#1027 liquid adhesive, POLYKEN #942 three-ply anti-corrosion inner layer and POLYKEN #955 mechanical outer layer and is fully certified to the DIN 30672 and EN12068 standards. The 3-ply adhesive system produces a strong cohesive bond to the primed steel surface, at the spiral overlap and to the mechanical outer layer. The tough mechanical properties of the outer layer provide protection to the pipes during handling and installation.

Features

- Fully amalgamating overlapping areas

Forming a sleeve-type coating

- Impermeable to oxygen and moisture

- Resistant to soil stress

Superior in-ground performance

-Long-term in-ground performance

-Uniform coating thickness

Plant coating quality with in-situ application

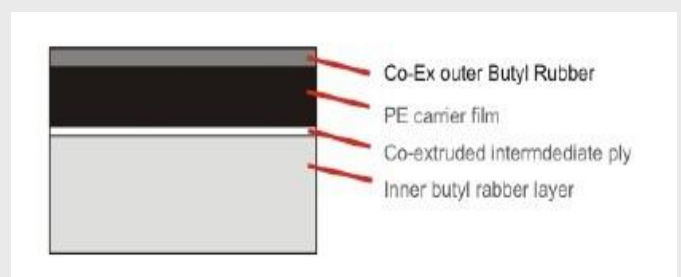
-Low cathodic protection-current requirements

Saving cost over the life of the pipeline

-Compatible with all pipe diameters and generic plant coating systems

Structure

	Inner-3ply POLYKEN 942-32	Outer-2ply POLYKEN 955-20
Backing :	12mil(0.30mm)	15mil(0.381mm)
Adhesive Inner Layer :	12mil(0.30mm)	5mil(0.127mm)
Adhesive Outer Layer:	8mil(0.20mm)	
Total Thick	0.80mm	0.508mm



Properties

PROPERTIES	UNIT	TEST METHOD	Inner layer-3ply tape	
			POLYKEN 942-32	
Total Thickness	mil	ASTM D 1000	32mil(0.8mm)	
Tensile strength	N/cm	ASTMD1000	112	
Elongation at break	%	ASTMD1000	650	
Peel strength to primed steel	N/cm	EN 12068 Annex C	at 23 °C	15
			at 50 °C	1.3
Peel strength tape to tape	N/cm	EN 12068 Annex B	at 23 °C	25
			at 50 °C	3.5
Peel strength layer to layer	N/mm	EN 12068	-Inner to Inner	1.5
			-Outer to Inner	2.0
			-Outer to Outer	0.5
Dielectric strength	Kv/mm	ASTMD149	32	
Insulation Resistance	Ohm.m ²	EN 12068	10 ¹²	
Water Vapor Transmission	g/ m ² /24h	ASTM E 96	0.1	
Water Absorption	%	ASTM D 570	0.08	
Impact resistance at 23°	J	EN 12068	18	
Cathodic disbandment at 23°c	mm	EN 12068	at 23°c	15
			at 50°c	30
Lap shear strength at 50°C	N/mm ²	EN 12068	0.05	

Ordering Information

POLYKEN 942 and 955 tape coatings are in roll form.

Eg.: **POLYKEN 942-32 4"×100'**

POLYKEN942	Product Model No.	Standard ordering options
32	Total tape thickness in mils	32mils(0.8mm)
BLK	Tape backing color	Black (BLK)
4	Tape width in inches	2"(50mm),,4"(100mm),6"(150mm),9"(228mm),12"(305mm)18" (457mm)
100	Tape roll length in feet	50ft(15M)100ft(30M),200ft(61M)

Eg.: **POLYKEN 955-20 BLK 4"×100'**

POLYKEN955	Product Model No.	Standard ordering options
20	Total tape thickness in mils	15mils(0.381mm),20mils(0.508mm),25mils(0.635mm),30mils(0.762mm)
BLK	Tape backing color	Black(BLK),White (WHI)
4	Tape width in inches	2"(50mm),,4"(100mm),6"(150mm),9"(228mm),12"(305mm)18" (457mm)
100	Tape roll length in feet	100ft(30M),200ft(61M),400ft(122M),600ft(183M),800ft(244M)

Equation for Pipe Coating Requirements

(Width of Coating in inches) ×(Area of pipe in square feet)*

-----=Squares **of Coating Required

(Width of coating in inches-Overlap in inches) ×100

*Area of pipe in square feet=(Diameter in inches)/12×3.1416×(Length in feet)

**One square=One hundred square feet=9.29 square meters

(Width of Coating in mm) ×(Area of pipe in square meter)*

-----=Square meter of Coating Required

(Width of coating in mm-Overlap in mm)

*Area of pipe in square meter=(Diameter in mm)/1000×3.1416×(Length in meter)

7、 POLYKEN 1600 HT Tape

Image



Description

The POLYKEN 1600-HT system is designed for the corrosion protection of new and existing pipelines with a maximum operating temperature of 250° F(121° C). The primer layer is a solvent-based, thermally-activated material formulated for elevated temperature stability. The coating layer consists of a cross-linked polyethylene backing and a cross-linked elastomeric adhesive capable of maintaining long-term protection at elevated temperature. The POLYKEN 1600 HT has a release liner to enable proper unwinding of the roll.

System Components

Primer layer #1619

Percent solids: 20

Flash point: 7° C (+45° F)

#1600 HT

Thickness: 30 mils(0.762 mm)

Tensile strength: 40 lbs/in(70 N/10 mm)

Elongation: 500%

Product Construction

1600-30HT

Backing 10 mils(0.254 mm)

Adhesive 20 mils (0.508 mm)

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

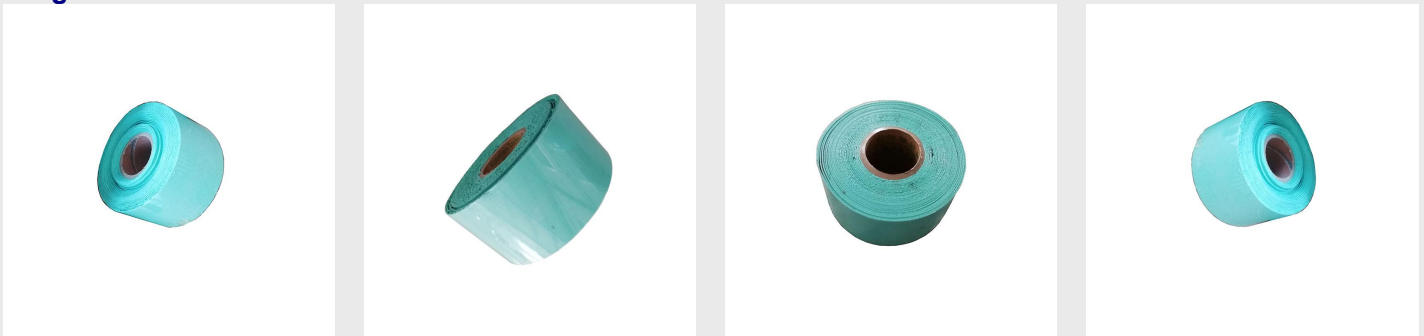
Properties

Tensile strength:	40 lbs/in(70 N/10 mm)
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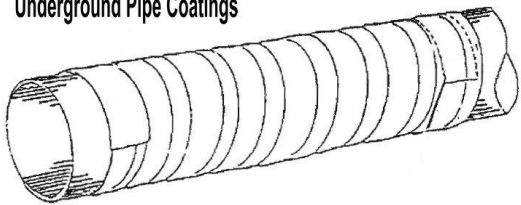
Elongation	500%
Peel Adhesion to Primed Pipe	40 N/cm
to backing	17.8N /cm
Dielectric Strength	40 KV
Cathodic Disbandment	9.5 mm radius
Impact resistance	3.2J
Volume Resistivity	1.2×10^{15} ohm.cm
Water Vapor Transmission Rate	0.06g/M ² /24h
Water Absorption Rate	< 0.08%
Serve temperaturere	-30 to +120 °C

8、 POLYKEN Visco-elastic tape

Image



The Valuable Solution For
Underground Pipe Coatings



POLYKEN VISCOWRP

Coating System For Pipeline

System Description

POLYKEN Visco-elastic anticorrosive tape is a new-type high-performance viscoelastic polyolefin material. It preserves the dual characteristics of the 100% solid adhesive material and liquid adhesive material. In normal conditions, its viscoelastic property will keep above 30 years. This product has excellent viscolastic , water-proof sealant and easy-used characters.

VISCO ELASTIC COATING is a 2-layer system that consists of a corrosion protective inner wrap (VISCOWRP) and mechanical protective outer wrap that can be a PE, PVC or PU composite outer wrap.

Features

- Is easy to use and can be applied in almost any situation, including below- and above-grade structures and steel pipelines,elbow pipe, pipe bending, three joints and insulated flange.
- Remains flexible even after decades
- Adheres to any dry surface, such as concrete, steel, pvc, piping, ducts, etc.
- Is easy and safe to use. No primers, solvents or heating are required.
- Is the latest viscous elastic coating, with unique features.
- 100% impervious to moisture and gases.Works as a corrosion / vapor barrier, water stop and encapsulation agent

-Is a long-term solution for Soil-to-air transitions, Field joints, High salt and water content, In-ditch applications, Pipeline Renovation Repair

- Excellent Self healing

-No curing time, Permanent wetting characteristics.

-100% inert formulation : no reactive groups and no deterioration in the course of time.

-30 years product warranty.

Properties

Item	Test method	Performance
color	Visual estimation	Green or blue
thickness	ISO 9001	1.8-2.0mm
Density	DIN 53479	1.6-1.7g/cm ³
Application temperature	--	-40 to +70 °C
Water absorption	ASTM D 570	< 0.1%
Tensile strength	DIN 30672	45N/cm
peel strength to steel (23°C)	ISO 21809-3	Tested on steel (Sa2 1/2, St2 and St3) and plant coatings PP, PE, FBE .Results on all substrates: @-45°C -PP, PE, FBE min 3N/mm. -steel min 20N/mm @+23°C min 0.5N/mm @+70°C min 0.05N/mm
Cathodic disbondment resistance	EN 12068	< 6mm
Dielectric strength	DIN53481	12kv/mm
Drip resistance	ISO21809-3	Tested 72 h @130 °C ,No dripping of compound
Lap shear strength	ISO21809-3	Tested @+23°C and +50°C on steel(Sa 2½, St 2 and St 3). Results on all substrates: @-45°C min 3 N/mm ² @23°C min 0.3 N/mm ² @70°C min 0.03 N/mm ² - Cohesive failure - ≥ 99% coverage of surface - ≥ 0.6 mm residual thickness
Water Vapor Transmission Rate	ASTM E 96	0.025%

Ordering Information

Wide: 50mm, 75mm, 100mm, 150mm

Length: 5m, 10m, 20m

Packing

Coiled on cardboard cores. Packed in cardboard boxes.

Storage

Indoor, dry and clean. No shelf- life .



Mechanical Protection Tapes (Outer Wrap-PVC/PE)

Generic type:

UV-resistant, flexible tape, coated with a modified, butyl rubber resin adhesive.

Product Description:

Outer Wrap PVC/ PE is used for mechanical protection of corrosion protective systems, The Outer Wrap has high puncture and aging resistance. Is well suited for above-ground, under ground and submerged applications. The heavy-duty adhesive layer provides high adhesion strength to the outer surface of the viscoelplastic as well as to it's own backing. The Outer Wrap has a good resistance to impacts and abrasion as well as resistance against the influences from alkalis and acids.

Features

- Resistant to soil stress
- Excellent adhesion
- Long-term in-ground performance
- Wide temperature range for service
- Cold applied
- Uniform coating thickness
- Good Conformability
- Excellent impact resistance

Properties (Outer wrap)

Item	Test method	Typical Value
Color		Black
Total Thickness		0.5mm
Carrier		0.3mm
Adhesive		0.2mm
Tensile Strength	ASTM D1000	10kg/25mm (40N/cm)
Elongation	ASTM D1000	300%
Peel Adhesion at 23°C	ASTM D1000	0.5N/cm
Water absorption after 1 day,At+23°C	ASTM D570	< 0.10%
Impact resistance at 23°C	ISO 21809-3	≥15 J
Application temperature		0 to +60°C
Service temperature		-30 to 65°C

Properties (coating system: outer wrap PVC on Viscoelastic tape)

Item	Typical Value
Total Thickness	2.8mm -3.0mm
Impact resistance Tested at 15J	
At -30℃	No holidays (< 5 min)
At +23℃	No holidays (< 5 min)
At + 65℃	No holidays (< 120 min)
Indentation resistance	10N/mm ²
At +23 ℃	No holidays (< 5 min)
At + 65 ℃	No holidays (< 120 min)

Ordering Information

POLYKEN Outer wrap PVC/ PE is available in rolls.

Wide: 50mm,75mm,100mm,150mm

Length: 10m,20m,30m

Packing

Coiled on cardboard cores.Packed in cardboard boxes.

Storage

Indoor,dry and clean.Storage temperature not above 40 C degree for a long shelf –life .



9、Liquid Primer

Description

POLYKEN 1019 or 1027 Liquid adhesive is recommended for use with our coating systems only. The Liquid adhesive consist of a mixture of butyl rubber and synthetic compound and a solvent-gasoline. 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 is 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

Features

Heavy duty adhesive

Quick Dry

Conformable to irregular pipe

Compatible with general coating system

Properties

Properties	Unit	P1019	P 1027
Solid content	%	20	27
Weight	Kg/liter	0.77	0.87
Viscosity+23℃ (out flow time,4mm nozzle)	sec	40±5	40±5
Flash point	℃	14	15
Drying time	min	5-10	5-10
Color		black	black
Package	15/20/200Liter per drum		

Hot Applied Shrinkable Tape

System description

It is a hand wrapped heat shrinkable tape designed for corrosion protection of straight pipes, fittings, bends, elbows and other irregular configurations.. When heated the backing layer shrinks and the adhesive flows and forms a reliable corrosion protection seal onto metal and adjacent coating surfaces.

The **Polyethylene Heat shrinkable Tape** needs no primer nor patch closure and reduces application time and labour costs.

Structure

The specification of the tape consists of three layers,

Adhesive:	Butyl rubber based hot melt adhesive
Film backing:	Radiation crosslinked polyethylene
Interleaf:	Antiadhesive Film Treated with Silicone

Features

After heating, formed corrosion protection seal

Strong backing provides outstanding waterproofing effect

High chemical resistance. resists impact, abrasion and ultraviolet light.

Excellent resistance against cathodic disbondment, dielectric breakdown.

Simple Application

Physical Properties

- Product Data Sheet Total Thickness:40mil, 50 mil,60 mil ,65 mils.
- Width:50,100,150,300,400,500,800 mm
- Length: 10 m-30m
- Tensile Strength:35 N/cm
- Elongation:400%
- Adhesion Strength to pipe:30 N/cm
- Application temperature: -10 -60 °C
- Temperature resistance:-50 °C - 80°C
- Shelf Life: 12 months

Application

No Special skills, equipments, patch closure nor primer are needed. Its superior flexibility provides easy and reliable application for irregular configurations of fittings, bends and elbows and small diameter of straight pipes.

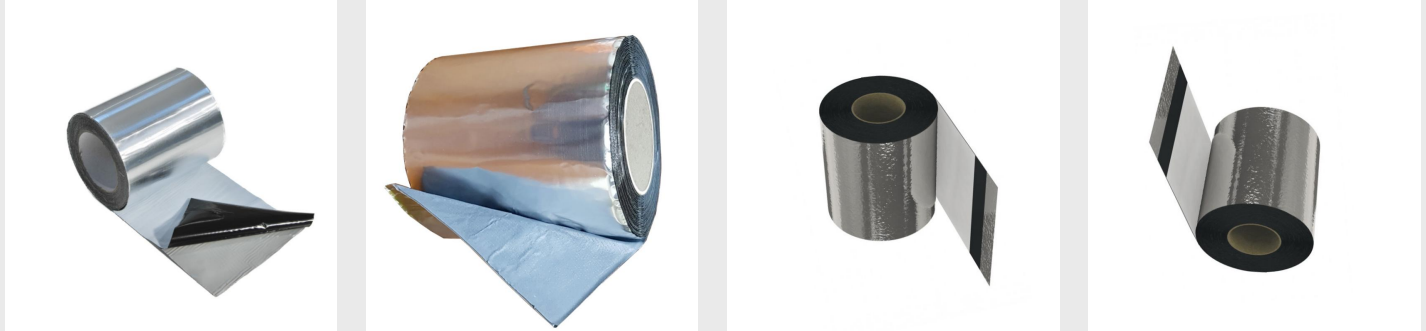
Wrap spirally the tape over foreign matters-free and preheated surface, beginning at least 25~50mm (1~2) onto pipe coating. Wrap the tape with enough tension to obtain conformability and with minimum 50% of overlapping, while removing the release liner. Warm the end part of the tape and press down firmly. Using a torch, start at the edge of the tape and heat circumferentially around the coated pipe.

Finish off by heating over the entire tape vertically to ensure a uniform adhesion and by using a roller or gloved hands to remove wrinkle and air.

Waterproofing Tape

POLYKEN Aluminum Butyl Tape

Image

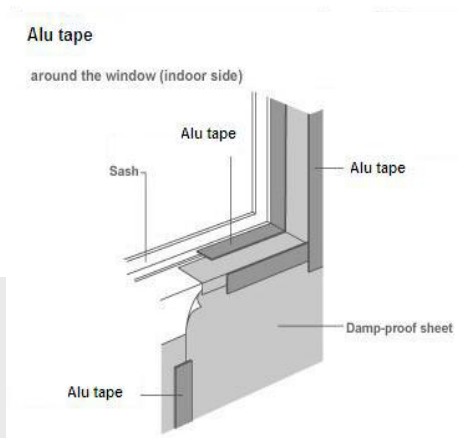
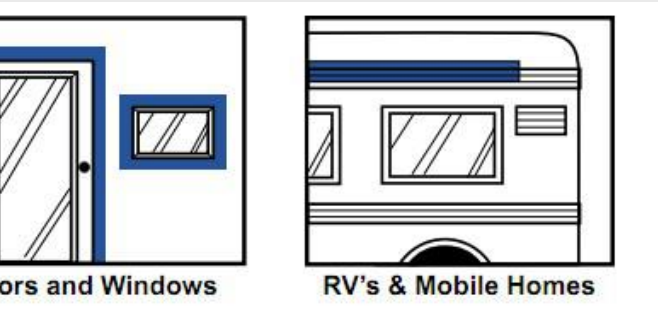
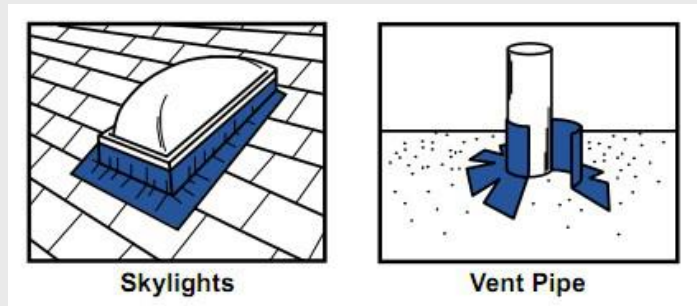


DESCRIPTION

A cold applied self adhesive aluminium backed flashing in roll form.

USES

- _ Window and door openings (headers, sills, jambs, thresholds, nailing flanges)
- _ Deck-to-wall intersections
- _ Corner boards
- _ Wall-to-wall tie-ins
- _ Foundation sill plates
- _ Sheathing panel seams
- _ Under stucco finishes
- _ Car's insulation
- _ Roof detail areas
- _ Gutters
- _ Mobile home repair
- _ Other building joints.
- _ Exposed pipelines protection.



COMPOSITION

Backing: Aluminum or PE coated Aluminum or Woven aluminum

Adhesive: butyl rubber or butyl bituminous or bitumen

Release Liner: Anti-adhesive PE Film Treated with Silicone.

Features

Easy application-- Installation is fast and easy—simply remove the release film and press onto the substrate.

Superior adhesion capabilities-- Creates a strong bond to the substrate for long-lasting waterproofing Protection.

Excellent sealing performance-- The specially formulated rubberized asphalt adhesive seals around fasteners, allowing no water to penetrate and get to the substrate.

Highly conformable and flexible-- Can accommodate settlement and shrinkage movement.

Long-lasting waterproofing protection-- Create a water and moisture barrier that does not degrade from the effects of the environment.

Technical Datas

PROPERTIES		TYPICAL VALUES	UNIT
Adhesion		30	N/cm
Breaking Strength		40	N/cm
Moisture absorption		0.02	%
Temperature range			°C
For application		5 to 50	
For maximum service		93	
Tensile Strength		11.0 0.2	b/in kg/mm
UV resistance		Excellent	--
Roll of	Thickness	0.8mm, 1.0mm, 1.2mm, 1.27mm, 1.4mm, 1.5mm, 1.65mm, 2.0mm	
	Width	5cm, 7.5cm, 10cm, 15cm, 20cm, 30cm, 40cm, 50cm... 80cm	
	Length	30m, 20m, 15m, 10m, 5m	

POLYKEN Aluminum Butyl Tape For Car's Soundproof & insulation

Specifications

- 1.soundproof / absorption/insulation
- 2.shock proof
- 3.for auto motive industry
- 4.Thermo insulation
- 5.Vibration absorption

Description:

Aluminum butyl rubber tape for car's auto soundproof and shock absorption
The tape including a butyl layer, single side coated with aluminum foil.

	Thickness
Backing : flexible aluminum foil	0.1mm
Adhesive : Butyl rubber	1.9mm
Color :	Sivler

Features:

- High adhesion.
- High and low temperature resistance (-50C to 130C)
- Age, acid, alkali resistance.
- Have no corrosion to the attached object.
- No unpleasant smell, environment friendly.
- Water resistance: does not absorb moisture.
- Resistant to mildew.
- Non toxic.
- Very easy to apply (self adhesive).

Benefits:

- The tape can easily bond to metal and other materials.
- Aluminum foil can effect reflex the heat outside of the car.
- Soft and durable

Application:

The surface needs to be dried and cleaned of any dust, grease and oil before application. Self-adhesive layer will ensure tight grip to the place need protection.

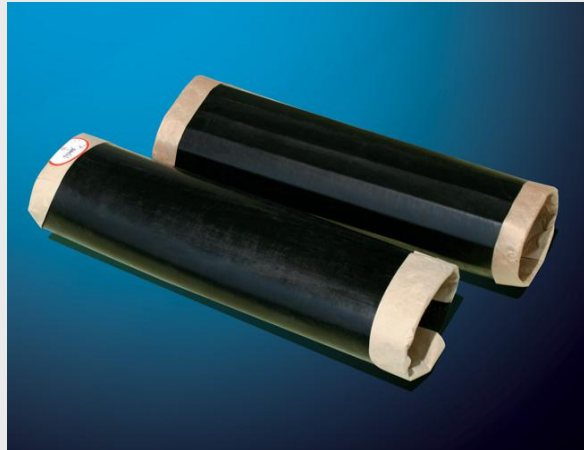
Heat Shrinks Products***1、 POLYKEN Heat Shrink Tubing Sleeves***

It is a heat shrinkable tubular sleeve designed for corrosion protection of buried and exposed steel pipelines. Consists of a cross-linked polyolefin backing, coated with a protective heat sensitive adhesive which effectively bonds to steel substrates and common pipeline coatings including polyethylene and fusion bonded epoxy.

Tubular type sleeves are installed before joining the pipe ends by sliding the coat from a free end of the pipe onto the area to be coated.

A unique, factory constructed, tubular configuration allows for quickest installation time because less time is spent handling the sleeve and closure

A specially formulated adhesive bonds to common pipeline coatings and is engineered for demanding conditions up to a maximum operating temperature of 55°C (131°F)



2、POLYKEN Heat Shrink Wraparound Sleeves

Wraparound sleeve with a separate closure designed for corrosion protection of buried and exposed steel pipelines. It consisting of a cross-linked polyolefin backing, coated with a protective heat activated adhesive. Once installed, the system effectively bonds and protects steel substrates and common main line pipe coatings including polyethylene and fusion bonded epoxy.

- Just-in-time customized lengths allow bulk rolls to be field cut to protect any pipe size
- Open sleeve configuration allows the product to be applied after the pipeline has been welded and cleaned
- A broad range of operating temperature specific and soil stress resistant adhesives for project specific conditions



Design Temperature

HT C 50/65

HT C 70/80

50°C/65°C-type heat-shrinkable sleeve is this Company' s leading product, which was developed in

the year 2000 and was put into the market in 2001. Up till now, altogether 500 thousand sets of it have been used and there is good market feedback. It has earned recognition of and praise from each major customer.

50 °C/65 °C -type sleeves is easily handled, safe, fast in shrinking and short in construction time. Average operators can easily handle it. All these combined together make this product a good choice for protection coating of petroleum and natural gas pipes.

70/ 80/120 °C - type heat-shrinkable sleeves is used in high temperature place, such as desert, Middle east .

We have taken a lead in China to pass the European test and get the DVGW certificate. Standard with EN12068, DIN 30670, ASTM.

A.Properties of Sleeve PE backing

Properties	Test Method	Up to 60 °C	Up to 80 °C
Tensile strength	ASTM D638	2600psi	2900psi
Elongation	ASTM D638	550%	550%
Hardness ShoreD	ASTM D 2240	45	45
Volume resistivity, at 23 °C Ω.m	ASTM D257	1 × 10 ¹⁴	1 × 10 ¹⁴
Dielectric strength KV/mm	ASTM D 149	25	20
Water absorption at 23 °C 24hrs.wt	ASTM D570	≤0.1	≤0.1
Water-vapour transmission (max)	ASTM E96	0.05g/h/m ²	0.05g/h/m ²

B.Properties of Melt Adhesive

Properties	Test Method	Up to 60 °C	Up to 80 °C
softening point, °C	ASTM E 28	103	112
Lap shear strength (N/cm ²) at 23	ASTMD 1002	200	400
	EN 12068	32	11

C.Properties of Installed sleeve

properties	Test Method	Up to 60 °C	Up to 80 °C
Peel Strength at 23 °C	EN 12068	65N/cm	85N/cm
Impact Resistance	EN 12068	min.15J	min.15J
Indentation Resistance	EN 12068	min. 1mm	min. 1mm
Cathodic Disbondment at 23 °C 30 days	EN 12068	max.15mm	max.15mm
Resistance to thermal ageing	EN 12068	After 100 days at 80 °C	After 100 days at 100 °C
-Tensile strength ratio		0.9	0.9
-Elongation ratio		0.9	0.8

3、POLYKEN Heat Shrink Wrap Tape

Heat Shrinkable Wraparound Tape designed for corrosion protection of buried and exposed steel pipelines, especially for pipelines, fittings, bends, elbows and other irregular configurations. It is made of three layers, namely the outer layer (backing material) is a cross-linked polyolefin backing; the middle layer is high performance heat melting adhesive, polyethylene and fusion bonded epoxy. The two-layer tape bears no primer. Upon the application of heating, it shrinks down to fully encapsulate the protected substrate.

Features & Benefits

- you can cut it by yourself according to different pipeline size.
- The product is packaged in convenient rolls with various widths protect and repair pipelines, fittings, bends, elbows and other irregular configurations.
- Cross-linked backing provides superior abrasion, mechanical and chemical attack resistance.
- High performance adhesive provides excellent resistance to Cathodic Disbondment to ensure long-term corrosion protection

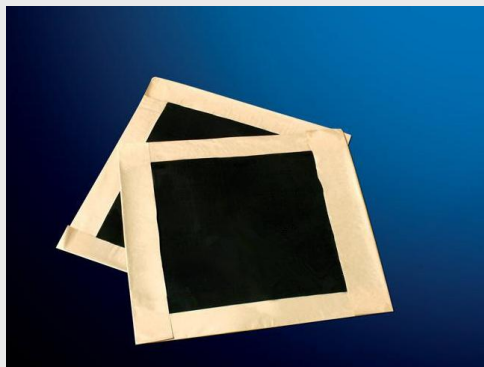
Specification

- Width: 50mm、100mm、150mm、200mm、300mm、500mm and so on.
- length: 15m、20m、25m、30m,
- The Size can be ordered according to customers' demands



4、POLYKEN Repair patch

Repair Patch consists of an irradiated cross-linked polyolefin backing with hot melt adhesive layer. It is designed for sealing damaged pipe coatings. In combination with melt stick and epoxy primer most minor damages and cracks can be repaired effectively. It is compatible with most of the common pipeline coatings and suitable for operating temperatures up to 80 °C.



Properties of repair patch

properties		Test Method	Typical Value
Backing	Tensile strength	ASTM D638	2900psi
	Ultimate Elongation	ASTM D638	530%
	Volume resistivity	ASTM D257	1×10 ¹⁶ ohm.cm
	Dielectric strength	ASTM D 149	20KV/mm
	Water absorption at 23°C 24hrs.wt	ASTM D570	0.05
Adhesive	Softening Point	ASTM E28	115°C
	Peel Strength	EN 12068	70N/cm
	Lap Shear	EN 12068	100N/cm ²
Installed patch	Impact Resistance	EN 12068	Min 15J
	Penetration Resistance	EN 12068	Min 0.6mm
	Cathodic Disbondment 30days	ASTM G42	Max 20mm-radius
	Dielectric Breakdown	ASTM D149	40KV

DIMENSIONS

Dimension	Repair Patch	Filler Mastic	Melt Stick
Width	150mm	50mm	25mm Dia.
Thickness	2.0mm	3mm	25mm Dia
Length	10-30m	3m	300mm

5、POLYKEN Epoxy Primer

Epoxy primer is a two component ,solvent free ,proprietary formulation.The components are mixed prior to application in the field .The resultant coating forms the first layer of corrosion protection ,in a 3 layer system .the primer should be applied on the pre-heated bare steel surface ,as well as the line coating where the sleeves will be shrunk .the resultant film ensures superior corrosion protection .The primer can be used with tubular sleeve and wraparound sleeve.

Properties

Color	Black
Specific gravity (Base A)	1.62
Specific gravity (Cure B)	0.9
Volume of Solids	100%
Mixing ratio	4:1(by volume) or 2:1 (by weight)
Coating thickness	4-6mils (100-150microns)
Pot life at 23 °C	20-30 mintues
Shelf life	2 years under proper storing conditions.shelf life will be lesser at high temperatures

Certificate


SGS-Inner Wrap 6''*400'

SGS TEST REPORT
 No.: SHN1501002031MR
 Date: Feb 06, 2015
 Page: 1 of 11

CUSTOMER NAME: JINING QIANGKE PIPE ANTICORROSION MATERIALS CO.,LTD
 ADDRESS: NO.1 JIANG ROAD, JIANGSU INDUSTRIAL PARK, JIANGSU CITY, SHANDONG PROVINCE, CHINA

The following samples were submitted and identified on behalf of the client as:
 Sample Name: Polyethylene liner (Inner Wrap)
 SGS Ref. No.: SHN1501002031MR
 Product Specification: F-400
 Product Lot No.: C1506035
 Manufacturer: JINING QIANGKE PIPE ANTICORROSION MATERIALS CO.,LTD
 Date of Receipt: Jan 16, 2015
 Testing Start Date: Jan 16, 2015
 Testing End Date: Jan 29, 2015
 Test Result: For further details, please refer to the following pages)


Signature: Zeno Lai
 Title: Lab Authorized Signatory



SGS TEST REPORT
 No.: SHN1501002031MR
 Date: Feb 06, 2015
 Page: 2 of 11

Summary of Results


No.	Test Item	Test Method	Result	Conclusion
1	90° Peel Strength to Printed Seal at 23°C	ASTM D1000-10 Section 46-10 and client's requirement	30.4 N/10mm	/
2	90° Peel Strength to Backing at 23°C	ASTM D1000-10 Section 46-10 and client's requirement	33.0 N/10mm	/
3	Tensile strength	Direction 1	53.2N/10mm	/
		Direction 2	58.9N/10mm	/
4	Yield strength	Direction 1	48.4N/10mm	/
		Direction 2	45.2N/10mm	/
5	Elongation at Break	Direction 1	651%	/
		Direction 2	690%	/
4	PE Backing Thickness	Section 21-07 and client's requirement	13.9mm	/
5	Total Thickness	Section 21-07 and client's requirement	25.9mm	/
6	Thickness of Adhesive	Section 21-07 and client's requirement	12.0mm	/
7	Water Absorption	ASTM D2201-09(2012) and client's requirement	0.03%	/



SGS TEST REPORT
 No.: SHN1501002031MR
 Date: Feb 06, 2015
 Page: 3 of 11

No.	Test Item	Test Method	Result	Conclusion
8	Water Vapor Transmission Rate	ASTM E96/96M-13 and client's requirement	0.16g/(m²·day)	/
9	Dielectric Strength	ASTM D1490/D1490M-12 and Client's Requirement	See result	/

Note: Pass: Meet the requirements; Fail: Does not meet the requirements; /: Not apply to the judgement.



SGS TEST REPORT
 No.: SHN1501002031MR
 Date: Feb 06, 2015
 Page: 4 of 11

1. Test Item: 90° Peel Strength to Printed Seal at 23°C
 Sample Description: Black plastic sheet
 Test Method: ASTM D1000-10 Section 46-10 and client's requirement
 Test Condition: Specimen width: 47.8mm
 Testing speed: 300mm/min
 Lab Environmental Condition: 23±2°C, 50±5%RH
 Test Result:


Test Item	Test Result
90° Peel Strength to Printed Seal at 23°C	30.4 N/10mm

Note: Test specimens were supplied by client.

2. Test Item: 90° Peel Strength to Backing at 23°C
 Sample Description: Black plastic sheet
 Test Method: ASTM D1000-10 Section 46-10 and client's requirement
 Test Condition: Specimen width: 35.4mm
 Testing speed: 300mm/min
 Lab Environmental Condition: 23±2°C, 50±5%RH
 Test Result:

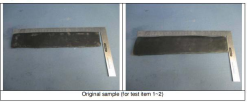
Test Item	Test Result
90° Peel Strength to Backing at 23°C	33.0 N/10mm

Note: Test specimens were supplied by client.



SGS TEST REPORT
 No.: SHN1501002031MR
 Date: Feb 06, 2015
 Page: 5 of 11

Sample Photo:




Original sample (for test item 1-2)

3. Test Item: Tensile Test
 Sample Description: Black plastic sheet
 Test Method: ASTM D1000-10 Section 37-40 and client's requirement
 Test Condition: Specimen width: 25.1mm
 Testing speed: 300mm/min
 Grip separation: 100mm
 Lab Environmental Condition: 23 ± 2 °C, 50 ± 5 % RH
 Test Result:

Test Item	Test Result
Tensile strength	Direction 1: 53.2N/10mm Direction 2: 58.9N/10mm
Yield strength	Direction 1: 48.4N/10mm Direction 2: 45.2N/10mm
Elongation at Break	Direction 1: 651% Direction 2: 690%

Note: Test specimens were cut from the sample.



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 Date: Feb 06, 2015
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4. Test Item: PE Backing Thickness
 Sample Description: Black plastic sheet
 Test Method: ASTM D1000-10 Section 21-07 and client's requirement
 Test Condition: Pressure: 50kPa
 Lab Environmental Condition: 23±2°C, 50±5%RH
 Test Result:


Test Item	Test Result
PE Backing Thickness	13.9mm

Note: Test specimens were cut from the sample.

5. Test Item: Total Thickness
 Sample Description: Black plastic sheet
 Test Method: ASTM D1000-10 Section 21-07 and client's requirement
 Test Condition: Pressure: 50kPa
 Lab Environmental Condition: 23±2°C, 50±5%RH
 Test Result:

Test Item	Test Result
Total Thickness	25.9mm

Note: Test specimens were cut from the sample.



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 Date: Feb 06, 2015
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6. Test Item: Thickness of Adhesive
 Sample Description: Black plastic sheet
 Test Method: ASTM D1000-10 Section 21-07 and client's requirement
 Test Condition: Pressure: 50kPa
 Lab Environmental Condition: 23±2°C, 50±5%RH
 Test Result:


Test Item	Test Result
Thickness of Adhesive	12.0mm

Note: Test specimens were cut from the sample.

7. Test Item: Water Absorption
 Sample Description: Black plastic sheet
 Test Method: ASTM D2201-09(2012) and client's requirement
 Test Condition: Specimen: 100mm*100mm*4.30mm
 Drying condition: 50±3°C, 24h
 Immersion condition: 23±1°C, 24h
 Lab Environmental Condition: 23±2°C, 50±5%RH
 Test Result:

Test Item	Test Result
Water Absorption	0.03%

Note: 1) Water absorption % = Mass after immersion/Mass after drying and before immersion*100%
 2) Test specimens were cut from the sample.



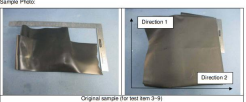
SGS TEST REPORT
 No.: SHN1501002031MR
 Date: Feb 06, 2015
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8. Test Item: Water Vapor Transmission Rate
 Sample Description: Black plastic sheet
 Test Method: ASTM E96/96M-13 and client's requirement
 Test Condition: Specimen thickness: 0.50mm
 Location: 23±2°C, 50±5%RH
 Lab Environmental Condition: 23±2°C, 50±5%RH
 Test Result:


Test Item	Test Result
Water Vapor Transmission Rate	0.16g/(m²·day)

Note: Test specimens were cut from the sample.

Sample Photo:



Original sample (for test item 3-5)




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 Date: Feb 06, 2015
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9. Test Item: Dielectric Strength
 Sample Description: Black plastic sheet
 Test Method: ASTM D1490/D1490M-12 Method A and client's requirement
 Test Condition: Precondition: 23±2°C, 50±5%RH, 4h
 Surround medium: 10k Transformer oil
 Diameter electrode: Lower electrode diameter: 20mm; height: 5mm
 Frequency of voltage application: 50Hz
 Peak voltage: 2000V
 Test Result:

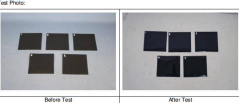
Specimen	Dielectric Breakdown Voltage (kV)	Specimen Thickness (mm)	Dielectric Strength (kV/mm)
1	28.87	0.67	43.08
2	29.81	0.67	44.19
3	29.51	0.68	43.40
4	29.58	0.67	43.30
5	28.72	0.66	43.52
Average	—	—	43.30

Note: Test specimens were cut from the sample.



SGS TEST REPORT
 No.: SHN1501002031MR
 Date: Feb 06, 2015
 Page: 10 of 11

Test Photo:



Equipment Information:

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
Withstand Voltage Tester Console	JTJZ-DWXX	P-2027-1	2014-7-15	2015-7-14

End of report



SGS TEST REPORT
 No.: SHN1501002031MR
 Date: Feb 06, 2015
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10. Test Item: Dielectric Strength
 Sample Description: Black plastic sheet
 Test Method: ASTM D1490/D1490M-12 Method A and client's requirement
 Test Condition: Precondition: 23±2°C, 50±5%RH, 4h
 Surround medium: 10k Transformer oil
 Diameter electrode: Lower electrode diameter: 20mm; height: 5mm
 Frequency of voltage application: 50Hz
 Peak voltage: 2000V
 Test Result:

Specimen	Dielectric Breakdown Voltage (kV)	Specimen Thickness (mm)	Dielectric Strength (kV/mm)
1	28.87	0.67	43.08
2	29.81	0.67	44.19
3	29.51	0.68	43.40
4	29.58	0.67	43.30
5	28.72	0.66	43.52
Average	—	—	43.30

Note: Test specimens were cut from the sample.



SGS-Outer Wrap 6''*400'

SGS TEST REPORT
No.: SHNH1202204MR
Date: Feb 10, 2015
Page: 1 of 9

CUSTOMER NAME: JINING QIANGKE PIPE ANTICORROSION MATERIALS CO., LTD
ADDRESS: NO.3 JIANG ROAD, JIANGSU INDUSTRY PARK, JINING CITY, SHANDONG PROVINCE, CHINA

The following sample(s) was/were submitted and identified on behalf of the client as:
Sample Name: Polyethylene tape (Color: white)
SGS Ref. No.: SHNH1202204MR
Product Specification: QJG0520
Production Lot No.: QJG0520
Manufacturer: JINING QIANGKE PIPE ANTICORROSION MATERIALS CO., LTD
Date of Order: Dec 28, 2014
Testing Start Date: Dec 28, 2014
Testing End Date: Dec 28, 2014
Test results: For further details, please refer to the following page(s)

Signed for:
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Carly Wu
Carly Wu
Authorized signatory

SGS TEST REPORT
No.: SHNH1202204MR
Date: Feb 10, 2015
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Summary of Results:

No.	Test Item	Test Method	Result	Conclusion
1	90° Peel Strength to Backing at 23°C	ASTM D1000-10 Section 4E-53	4.11N/15mm	/
		Transverse	71.4 N/10mm	/
2	Tensile Strength	ASTM D1000-10 Section 37-45	Longitudinal: 84.2 N/10mm Transverse: 55.7 N/10mm	/
		ASTM D1000-10 Section 37-45	Longitudinal: 58.7 N/10mm Transverse: 77.7%	/
3	PE Backing Thickness	ASTM D1000-10 Section 21-27	20.0 mils	/
		ASTM D1000-10 Section 21-27	25.6 mils	/
4	Thickness of Adhesive	ASTM D1000-10 Section 21-27	5.6 mils	/
		ASTM D1000-10 Section 21-27	5.6 mils	/
5	Water Absorption	ASTM D570-98(2010)7	0.07%	/
		ASTM D570-98(2010)7	0.06g/(m ² ·24h)	/
6	Vapor Vapor Transmission Rate	ASTM D570-98(2010)7	0.06g/(m ² ·24h)	/
		ASTM D570-98(2010)7	See result	/

Note: Pass: Meet the requirements.
Fail: Does not meet the requirements.
/ : Not Apply to the program.

SGS TEST REPORT
No.: SHNH1202204MR
Date: Feb 10, 2015
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1. Test Item: 90° Peel Strength to Backing at 23°C
Sample Description: Black plastic sheet
Test Method: ASTM D1000-10 Section 4E-53
Test Condition:
Specimen width: 50mm
Testing speed: 300mm/min
Lab Environmental Condition: 23±1°C, 50±5%RH
Test Result:
90° Peel Strength to backed steel at 23°C: 4.11N/15mm
Note: Test specimens were supplied by client

Sample Photo:


SGS TEST REPORT
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Date: Feb 10, 2015
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2. Test Item: Tensile Test
Sample Description: Black plastic sheet
Test Method: ASTM D1000-10 Section 37-45
Test Condition:
Specimen width: 25 mm
Testing speed: 300 mm/min
Grip separation: 100 mm
Lab Environmental Condition: 23 ± 1 °C, 50 ± 5 % RH
Test Result:
Tensile strength: Transverse: 71.4 N/10mm, Longitudinal: 84.2 N/10mm
Yield strength: Transverse: 55.7 N/10mm, Longitudinal: 58.7 N/10mm
Elongation at Break: Transverse: 77.7%, Longitudinal: 69%

Note: Test specimens were cut from the sample.

SGS TEST REPORT
No.: SHNH1202204MR
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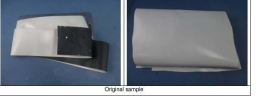
3. Test Item: PE Backing Thickness
Sample Description: Black plastic sheet
Test Method: ASTM D1000-10 Section 21-27
Test Condition:
Pressure: 50kPa
Lab Environmental Condition: 23±1°C, 50±5%RH
Test Result:
PE Backing Thickness: 20.0 mils
Note: Test specimens were cut from the sample.

SGS TEST REPORT
No.: SHNH1202204MR
Date: Feb 10, 2015
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5. Test Item: Thickness of Adhesive
Sample Description: Black plastic sheet
Test Method: ASTM D1000-10 Section 21-27
Test Condition:
Pressure: 50kPa
Lab Environmental Condition: 23±1°C, 50±5%RH
Test Result:
Thickness of Adhesive: 5.6 mils
Note:
1. Thickness of Adhesive, mm: Total Thickness PE Backing Thickness
2. Test specimens were cut from the sample.

SGS TEST REPORT
No.: SHNH1202204MR
Date: Feb 10, 2015
Page: 7 of 9

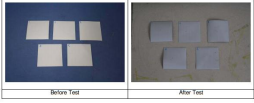
7. Test Item: Water Vapor Transmission Rate
Sample Description: Black plastic sheet
Test Method: ASTM D570-98(2010)7
Test Condition:
Specimen thickness: 0.067mm
Transmission area: 0.0025m²
Condition: 23±1°C, 50±5%RH
Lab Environmental Condition: 23±1°C, 50±5%RH
Test Result:
Water Vapor Transmission Rate: 0.06g/(m²·24h)
Note: Test specimens were cut from the sample.

Sample Photo:


SGS TEST REPORT
No.: SHNH1202204MR
Date: Feb 10, 2015
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8. Test Item: Dielectric strength
Sample Description: Polyethylene Tape
Test Method: ASTM D149-99(2012)7 Method A
Test Condition:
Precondition: 23±1°C, 50±5%RH, 40h
Surround medium: 15% Transpiration of
Diameter electrode: Lower electrode diameter: 75mm, height: 15mm
Upper electrode diameter: 25mm, height: 25mm
Frequency of voltage application: 50Hz
Rate of rise: 2000V/s
Test Result:
Specimen: Dielectric Breakdown Voltage (kV), Specimen Thickness (mm), Dielectric Strength (kV/mm)
1: 25.33, 0.66, 45.80
2: 28.23, 0.66, 42.77
3: 26.96, 0.64, 42.12
4: 27.12, 0.66, 41.09
5: 29.43, 0.66, 44.50
Average: --, --, 43.57
Note: Test specimens were cut from the sample.

SGS TEST REPORT
No.: SHNH1202204MR
Date: Feb 10, 2015
Page: 9 of 9


Test Photo:



Equipment Information:

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
Withstand Voltage Tester Console	J742-900A	P-2071	2014-7-15	2015-7-14

File of origin:


CNPC-China National Petroleum Corporation



 Report No.: 2013052002
THE ANTICORROSIVE TESTING LAB OF PIPELINE RESEARCH INSTITUTE OF CNPC
TEST REPORT
 Sample: Polyethylene tape
 Client: JINING QIANGKE INDUSTRY TRADE CO.,LTD
 Pages: _____
 Test category: Entrustment


THE ANTICORROSIVE TESTING LAB OF PIPELINE RESEARCH INSTITUTE OF CNPC
TEST REPORT
 No.: 2013052002

Sample	Polyethylene tape	Description	Black sheet, White sheet, Black liquid	
Type	Inner Wrap:Guanfang 980-25 BLK 9"*600 Outer Wrap:Guanfang 955-25 WHT 9"*600 Primer:P27	Lot number	/	
Quantity	Black sheet(1),White sheet(1),Black liquid(1)	Production date	/	
Client	JINING QIANGKE INDUSTRY TRADE CO.,LTD	Test category	Entrustment	
Manufacturer	JINING QIANGKE INDUSTRY TRADE CO.,LTD	Delivery date	May 20, 2013	
Date received	May 20,2013	Test date	May 20, 2013~ May 21, 2013	
Client address	JIAXIANG INDUSTRY PARK,JINING CITY ,SHANDONG PROVINCE,CHINA			
Technical file	GB/T 6672-2001,ASTM D1000-2010,etc.			
Test items	Unit	Results	Specifications	Test method
Inner Wrap				
PE backing	mils	13.2	≥13	ASTM D 1000-2010
Total thickness	mils	25.9	≥25	
Butyl Rubber adhesive	mils	12.5	≥12	
Tensile strength	N/10mm	90.5	≥50	
Yields strength at 23°C	N/10mm	51.2	≥40	
Elongation at break at 23°C	%	6.8 × 10 ²	≥200	
Peel strength (23°C)	Adhesion to primed steel N/cm	34.0	≥25	
Dielectric strength	kV/mm	30.81	≥30	ASTM D 1000-2010
Water vapor permeability (24h)	g/m ² /24h	0.2	≤0.2	ASTM E96/E96M-2010
water absorption at 23°C after 1 day	%	0.05	≤0.1	ASTM D 570-1988

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THE ANTICORROSIVE TESTING LAB OF PIPELINE RESEARCH INSTITUTE OF CNPC
TEST REPORT
 No.: 2013052002

Test items	Unit	Results	Specifications	Test method
Outer Wrap				
PE backing	mils	20.9	≥20	ASTM D 1000-2010
Total thickness	mils	30.7	≥25	
Butyl Rubber adhesive	mils	9.8	≥5	
Tensile strength at 23°C	N/10mm	98.4	≥50	
Yields strength at 23°C	N/10mm	54.2	≥40	
Elongation at break at 23°C	%	6.3 × 10 ²	≥200&≤400	
Dielectric strength	kV/mm	33.45	≥30	ASTM D 1000-2010
Water vapor permeability (24h)	g/m ² /24h	0.098	≤0.1	ASTM E96/E96M-2010
water absorption at 23°C after 1 day	%	0.099	≤0.1	ASTM D 570-1988
Colour	/	White	White	/
Primer				
Dry thickness	mils	5.6	2-3	ASTM D1186-2001
Dry time	minute	18	10-15	ASTM D 1640-2003(2009)
Solid content	%	36.7	27-30	ISO 1515-1973
Viscosity at 23°C (out flow time,4min nozzle)	s	38	40±5	ASTM D1200-2010
Colour	/	Black	Black	/
Blank				
Note	None			
Lab. assistant	Pengcheng Li , Yaning Gao			
Editor	Xianjing Wang 2013.5.21	Auditor	Ye zhong. Li 2013.5.21	Approver 

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使用说明 Instructions

1. 本证书由中国石油天然气集团公司统一印制。
This certificate shall be printed solely by CNPC.
2. 本证书在集团公司及其全资子公司、直属企事业单位具有同等效力。
This certificate shall be equally effective for CNPC, its wholly-owned subsidiaries and institutions directly under CNPC.
3. 证书中准入产品是依据《SY/T-5497石油工业物资分类与代码》分类进行填写。
The Permitted Products list in this certificate shall be filled by reference to "SY/T-5497 Oil Industry Material Category and Code".
4. 供应商可在准入产品范围内向中国石油天然气集团公司供货。
Certified supplier can only supply commodities to CNPC in the range of Permitted Products.
5. 物资部门按照分级目录，负责对辖区内准入产品进行变更的审核、批准。
Procurement departments shall be responsible to review and approve the change of permitted products under their administration, in accordance with classification catalogue.
6. 供应商考评分级依据年度考评结果，由物资部门进行填写。
The assessment and classification of suppliers shall be subject to annual assessing results, and shall be filled by procurement departments.

供应商类型: 所属企业管理 制造商
Supplier Type

供应商编码: 1813626
Supplier Code

工商注册号: 370829200006997
License No.

组织机构代码: 58607448-7
Organization Code

法定代表人/负责人: 张传厚
Legal Representative

单位地址: 中国山东济宁市嘉祥开发区嘉美路3号
Address

发证日期: 2014 年 12 月 12 日
Issue Date

供应商名称: 济宁强科管防材料有限公司
Supplier Name

准入证编号: 02140046625
Certificate No.

发证单位: 中国石油天然气集团公司
中国石化天然气管道局
Issue Unit

准入章:

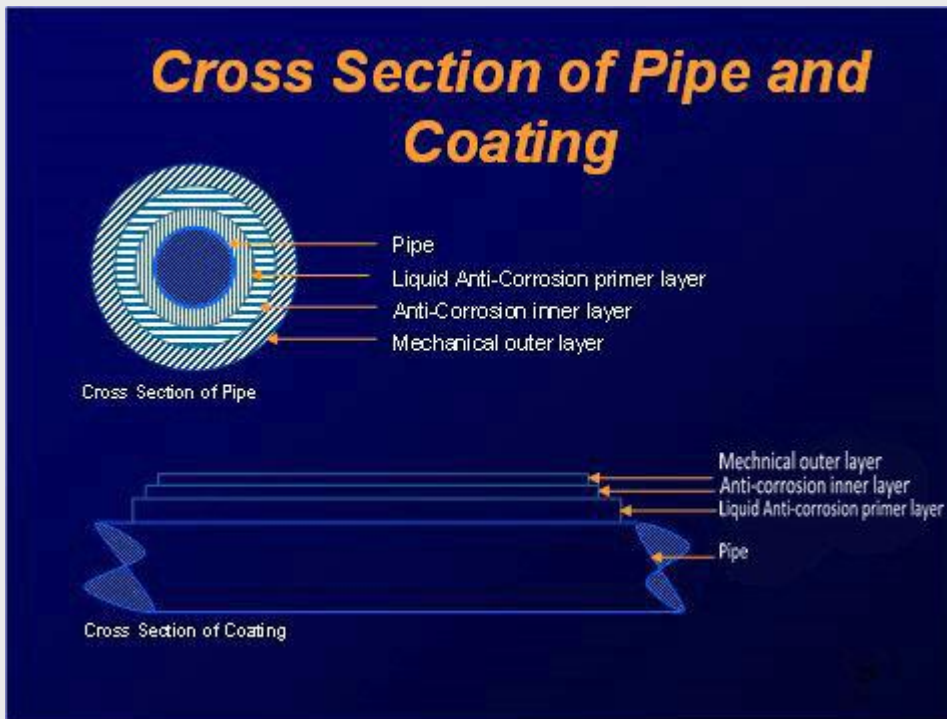
准入产品 Permitted Products

物资代码 Code	大类 Category 1	中类 Category 2	小类 Category 3	品名 Product Name	物资类别 Type	备注 Remarks	审核单位 Review Unit
12110701	石油专用化	管阀防腐材	防腐涂层	环氧防腐漆	二液	防腐	管道局 供应商审查
12110702	石油专用化	管阀防腐材	防腐涂层	环氧防腐漆	二液	防腐	管道局 供应商审查
12110703	石油专用化	管阀防腐材	防腐涂层	环氧防腐漆	二液	防腐	管道局 供应商审查
12110704	石油专用化	管阀防腐材	防腐涂层	普通快干漆	二液	防腐	管道局 供应商审查
12110705	石油专用化	管阀防腐材	防腐涂层	环氧防腐漆	二液	防腐	管道局 供应商审查
12110706	石油专用化	管阀防腐材	防腐涂层	环氧防腐漆	二液	防腐	管道局 供应商审查

以 内 为 止

注意事项 Attentions

1. 本证书加盖发证单位物资供应商专用章有效。
This certificate is only valid bearing specific seal of Issue Unit for the purpose of certifying supplier.
2. 本证书有效期为五年，期满后复审合格换发新证。
This certificate has a valid period of 5 years, and will be renewed when passing the review upon expiration.
3. 本证书必须每年进行审核，无年审记录或不合格，此证作废。
This certificate must be reviewed annually, and will be revoked if the supplier fails to accept or pass the annual review.
4. 违反中国石油天然气集团公司物资供应商管理规范的取消准入资格，此证作废。
This certificate will be revoked if the supplier violates CNPC's regulations related to material supplier management.
5. 本证书不得涂改、转让，若损坏或遗失申请补办。
This certificate SHALL NOT be altered or transferred. In case that it is damaged or lost, please apply for a new one.



Contact:

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