JINING QIANGKE PIPE ANTICORROSION MATERIALS CO.,LTD

UNDERGROUND PIPELINE COATINGS

POLYKEN® Coating System

POLYKEN® Factory Coating

POLYKEN® Geotextile Coatings

POLYKEN® VISCOWRP Coating System

POLYKEN® Pipeline Accessory Products

THE HIGHEST QUALITY ANTI-CORROSION COATING SYSTEMS FOR UNDERGROUND PIPELINES

Company Profile

About Us

- We are the most professional manufacturers of Coating Tapes in China for the Corrosion protection of pipelines and specialty applications .
- A company supplying Polyethylene tape, Polypropylene geotextile tape , Visco-Elastic tape, 3-Ply tape Coating Systems to the corrosion industry within the oil, gas and water pipeline construction industry for both onshore and offshore applications.
- Approved **Material Supplier of China National Petroleum Corporation (CNPC)** and **China Petroleum Chemical Corporation(SINOPEC).**
- High-quality anti-corrosion systems providing anti-corrosion solutions for oil pipelines, natural gas, chemicals and water transmission and distribution pipelines, etc.

Industries that We Serve

- Oil, Gas and Water Transmission pipeline market ,Oil and Gas distribution and utility markets
- New pipeline construction markets
- New Pipe Construction and Rehabilitation and Reconditioning
- 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 ,3Ply and Visco-Elastic coating systems for pipe corrosion protection.
- Approved to ISO 9001:2008,SY/T 0414-2007,ASTM,AWWA C 209&214,EN12068,DIN30672 other 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 Works Association Standards (AWWA C 209 & 214), Indonesian Standards (PERTAMINA), Iran Standards-NIGC & IGS, China Standards SY/T0414-2007.
- 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
- 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)
- Liquid Adhesive
- 3ply double sided coating system(3ply+2ply)
- Joint tape-with or without release liner
- Special repair products &heavy duty tape
- High temperate tape
- Visco-Elastic coating 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/reconditioning
- Used in the oil, gas and water pipeline industry
- Offshore and Refinery coatings

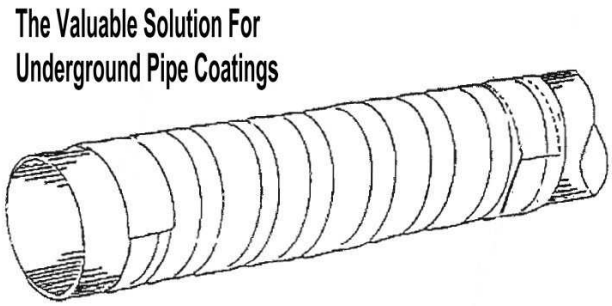
Functionality to a Coating System

- 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 2Ply and 3Ply 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)



POLYKEN 980&955

Cold Applied Tape Coating System

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 **POLYKEN® 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	ASTM D1000	15mil(0.381mm)	20mil(0.508mm)	25mil(0.635mm)	30mil(0.762mm)
Backing of PE film	ASTM D1000	9 mils(0.229 mm)	12mil(0.305mm)	13mil(0.330mm)	10mil(0.254mm)
Butyl Rubber Adhesive	ASTM D1000	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/m2	0.10g/m2	0.09g/m2	0.08g/m2
Water absorption ,At+23℃	ASTM D570	0.10%	0.10%	0. 08%	0. 06%
Volume Resistivity	ASTM D 257	2.0 x 10^{15} ohm.cm	2.5x10^{15} ohm.cm	2.5x10^{15} ohm.cm	2.5x 10^{15}ohm.cm
Dielectric Strength	ASTM D149	30 kV	35 kV	42kv	43kv
Application Temperature	-20 To +70℃				
Max Serve Temperature	-40 To +80℃				
Recommended primer	P1019, P1027				

Ordering Information

POLYKEN® 980 and 955 coating tapes 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)

****Special Roll Size can be customized .**

Material Calculation Formula :

(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**

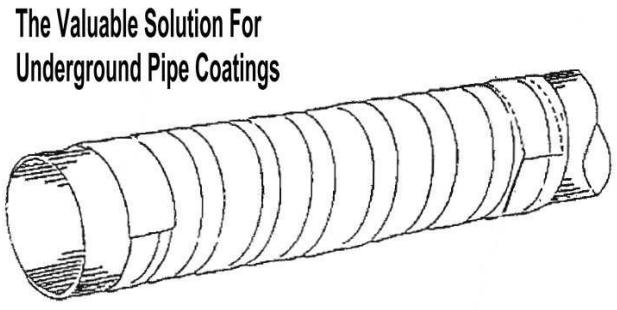
(Width of Coating in mm) ×(Area of pipe in square meter)*

----------=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)



POLYKEN 980&955

Cold Applied Tape Coating System

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 liquidadhesives 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 **POLYKEN®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 , 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/m2	0.10g/m2	0.08g/m2	0.06g/m2
Water absorption At+23℃	ASTM D570	0.10%	0.10%	0. 08%	0. 06%

Volume Resistivity	ASTM D 257	$2.0x10^{15}$ ohm.cm	$2.5x10^{15}$ ohm.cm	$2.5x10^{15}$ ohm.cm	$2.5x10^{15}$ ohm.cm
Dielectric Strength	ASTM D149	30 kv	36 kv	43 kV	45 kV
Application Temperature	-20 To +70℃				
Max Serve Temperature	-40 To +80℃				
Recommended Primer	P1019, P1027				

Ordering Information

POLYKEN® 980 and 955 coating tapes 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)

****Special Roll Size can be customized .**

Material Calculation Formula:

(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**

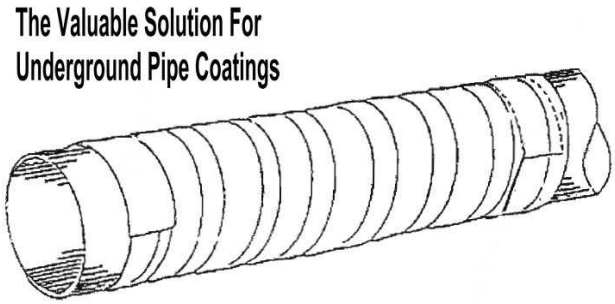
(Width of Coating in mm) ×(Area of pipe in square meter)*

----------=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



POLYKEN 930 Joint Tape
For Pipe Joints &Fittings
-No release liner

System Description

POLYKEN® 930 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 ASTMD 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	
		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 At+23℃	ASTM D570	0.07%	
Volume Resistivity	ASTM D 257	2.5 x 10^{15} ohm.cm	
Dielectric Strength	ASTM D149	30 kv	32kv
Application Temperature		-20 to + 75℃	
Max serve temperature		-40 to + 80℃	
Color		Black , White	

Ordering Information

POLYKEN® 930 coating tapes 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),9"(228mm),12"(305mm)18" (457mm)
50	Tape roll length in feet	50ft(15M),100ft(30M)

*****Special Roll Size can be customized .**

Material Calculation Formula :

(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**

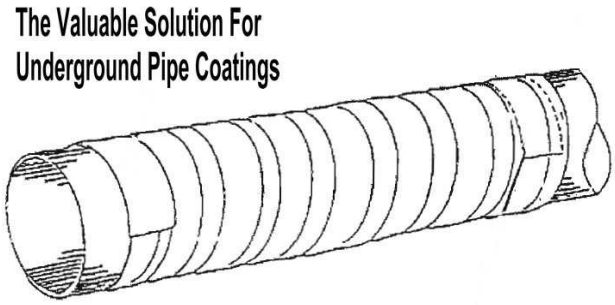
(Width of Coating in mm) ×(Area of pipe in square meter)*

----------=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 Anticorrosion Tapes



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 ,water and chemical 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.

—Release Liner
—Rubber Adhesive Layer
—PE Carrier Film

Properties

PROPERPTIES	UNIT	TEST METHOD	TYPICAL VALUES			
			POLYKEN934-40	POLYKEN934-50	POLYKEN934-60	POLYKEN934-65
Total thickness	mil	ASTM D 1000	40mils(1.016mm)	50mils(1.27mm)	60mils(1.52mm)	65mils(1.65mm)
Tensile Strength	N/cm	ASTM D 1000	60	70	80	100
Elongation	%	ASTM D 1000	300	300	350	350
Peel adhesion To primed pipe To Self	N/cm	ASTM D 1000	 30 20	 33 23	 35 25	 35 30
Dielectric Strength	KV/mm	ASTM D 1000	42	42.5	43	43.8
Volume Resistivity	ohm·cm	ASTM D 257	2.5×10^{15}	2.5×10^{15}	2.5×10^{15}	2.5×10^{15}
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			-20-+75℃			
Max service temperature			-40-+80℃			
Recommended primer			P1019, P1027			
Additional mechanical layer (If necessary)			POLYKEN 955 Tape			

How to select coating materials

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

You Can Choose followed two methods :

-1st Singal Wrap with Overlap 50% :

PRIMER layer + 934-60(60mil=1.524mm) as single double wrap, total 3mm .

-2nd Singal Wrap with an outer Wrap :

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

Ordering Information

POLYKEN® 934 coating tapes 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),9"(228mm),12"(305mm)18" (457mm)
50	Tape roll length in feet	33ft(10M),50ft(15M),100ft(30M)

*****Special Roll Size can be customized .**

Material Calculation Formula :

(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**

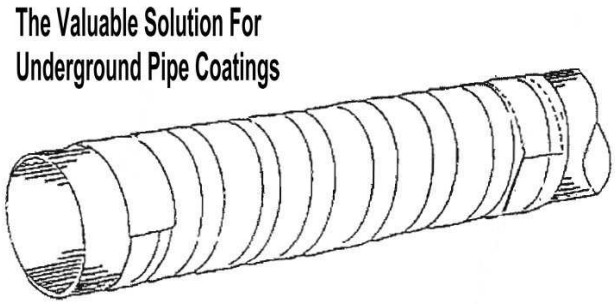
(Width of Coating in mm) ×(Area of pipe in square meter)*

----------=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)**

5、POLYKEN GTC Coating Tape



POLYKEN GTC

Polypropylene Geotextile

Cold Applied Tape Coating System

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

System Description

The **POLYKEN® 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 / Bitumen adhesive**. An additional layer of **POLYKEN® 980** or 955 should also consider to be used on pipes larger than 12" diameter to improve the soil stress resistance of the system.

Structures

Backing : A tough ,woven polypropylene geotextile

Adhesive : High tack butyl rubber /bitumen 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	35
To backing	Kg/cm	ASTM D 1000	20	25	25	25

Dielectric Strength	KV/mm	ASTM D 1000	20	23	26	30
Water Absorptivity	%	ASTM D 570	0.1	0.08	0.08	0.06
Application Temperature			-20-+75℃			
Max service temperature			-40-+80℃			
Recommended primer			P1019, P1027			

Ordering Information

POLYKEN® GTC coating tapes are in roll form.

Eg.: **POLYKEN® GTC 4"×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),9"(228mm),12"(305mm),18" (457mm)
50	Tape roll length in feet	33ft(10m),50ft(15M),100ft(30M)

*****Special Roll Size can be customized .**

Material Calculation Formula :

(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**

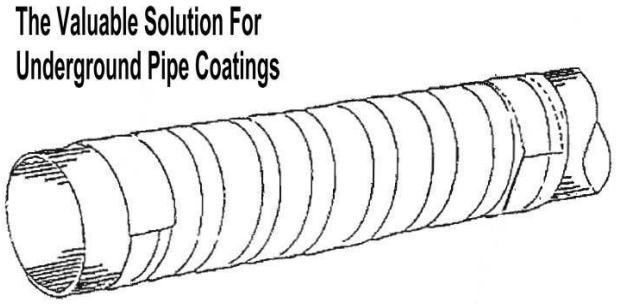
(Width of Coating in mm) ×(Area of pipe in square meter)*

----------=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



POLYKEN 942/955

3-ply Coating System For New 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

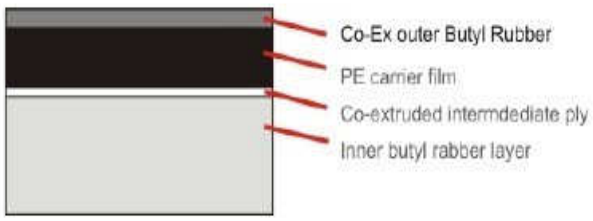
-Low cathodic protection-current requirements

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 at 23 ℃ at 50℃	N/cm	EN 12068 Annex C	 15 1.3
Peel strength tape to tape at 23 ℃ at 50℃	N/cm	EN 12068 Annex B	 25 3.5

Peel strength layer to layer -Inner to Inner -Outer to Inner -Outer to Outer	N/mm	EN 12068	 1.5 2.0 0.5
Dielectric strength	Kv/mm	ASTMD149	32
Insulation Resistance	Ohm.m²	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℃ at 50℃	mm	EN 12068	15 30
Lap shear strength at 50℃	N/mm^2	EN 12068	0.05

Ordering Information

POLYKEN® 942 and 955 coating tapes 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)

*****Special Roll Size can be customized .**

Material Calculation Formula :

(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**

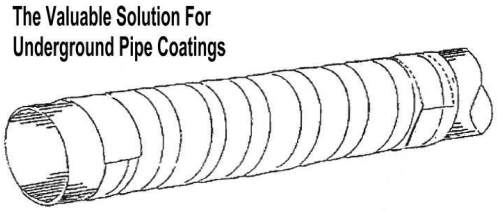
(Width of Coating in mm) ×(Area of pipe in square meter)*

----------=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



POLYKEN High Temperature

Cold Applied Tape Coating System

Description

The **POLYKEN® 1600-HT** system is designed for the corrosion protection of new and existing pipelines with a maximum operating temperature of 250℉(121℃). The primer l ayer 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.

Features

- Excellent adhesion to pipe and self	- Easily applied with no special equipment
- Can be applied over a wide temperature range	- Compatible with common pipe coatings
- Good conformability and consistent uniform thickness	- Excellent resistance to cathodic disbonding

Properties

PROPERTIES	TYPICAL VALUES
	POLYKEN 1600-30
Tensile strength:	40 lbs/in(70 N/10 mm)
Elongation	500%
Peel Adhesion to Primed Pipe	40 N/cm
to backing	20N /cm
Dielectric Strength	40 KV
Cathodic Disbandment	9.5 mm radius
Impact resistance	3.2J
Volume Resistivity	1.2 x 10^{15} ohm.cm
Water Vapor Transmission Rate	0.06g/M^2/24h
Water Absorption Rate	< 0.08%
Serve temperatuere	-40 to +120 ℃

Ordering Information

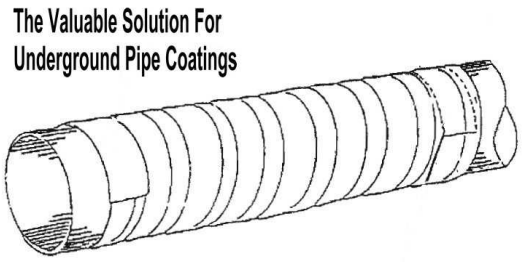
POLYKEN® 1600-HT coating tapes are in roll form.

Eg.: **POLYKEN® 1600-HT 4"×100'**

POLYKEN1600	Product Model No.	Standard ordering options
30	Total tape thickness in mils	30mils(0.76mm)
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)

****Special Roll Size can be customized .**

8、POLYKEN Visco-Elastic Tape Coating System



POLYKEN VISCOWRP+Outer Wrap

Cold Applied Tape Coating System

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

PROPERTIES	TEST METHOD	**TYPICAL VALUES**
Color	Visual estimation	Green ,Blue
Thickness	ISO 9001	1.8-2.0mm
Weight	DIN 53479	1.5 kg/m^2
Water Absorption	ASTM D 570	< 0.1%
Tensile Strength	DIN 30672	45N/cm
Peel Strength to steel (23℃)	ISO 21809-3	Tested on steel (Sa2 1/2,St2 and St3)and plant coatings PP,PE,FBE .Results on all sustrates: @-45℃ -PP,PE,FBE min 3N/mm. -steel min 20N/mm @+23℃ min0.5N/mm @+70℃ min 0.05N/mm

Cathodic Disbondment resistance	EN 12068	< 6mm
Dielectric Strength	DIN53481	12kv/mm
Drip Resistance	ISO21809-3	Tested 72 h @130 ℃,No dripping of compound
Lap shear strength	ISO21809-3	Tested @+23℃ and +50℃ on steel(Sa 2½, St 2 and St 3). Results on all substrates: @-45℃ min 3 N/mm^2 @23℃ min 0.3 N/mm^2 @70℃ 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%
Application Temperature		-40 to +70℃
Max serve Temperature		-40 to +80℃

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 viscoelastic 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℃	ASTM D1000	0.5N/cm
Water absorption after 1 day,At+23℃	ASTM D570	< 0.10%

Impact resistance at 23℃	ISO 21809-3	≥15 J
Application termperature		0 to +60℃
Service temperature		-30 to 65℃

Properties (coating system: outer wrap PVC on Visco-Elastic 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

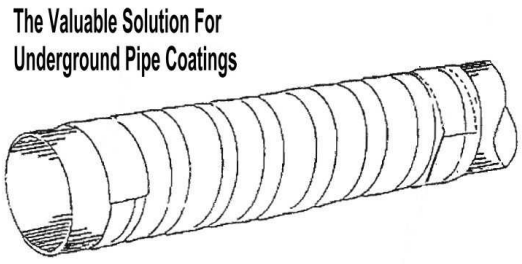
POLYKEN® VISCOWRP and Outer wrap PVC/ PE coating tapes are in roll form.
Width: 50mm,75mm,100mm,150mm,200mm,250mm,400mm
Length: 5m,10m,20m,30m

*****Special Roll Size can be customized .**

Material Calculation Formula :

(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)**

9、POLYKEN Liquid Adhesive Primer



POLYKEN Liquid Adhesive

Primer Coating

Description

POLYKEN® 1019 , 1027 Liquid adhesive is designed for complement to our **POLYKEN®** coating tape 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 liter/m² pipe surface
Machine application: app. 0.1 liter/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	℃	15	15
Drying time	min	5-10	5-10
Color		black	black
Package in drum	1gallon (4 Liter),4gallon (15Liter),5 gallon(20Liter) 50gallon (200Liter)		

****Drying time depends on ambient conditions.**

10、POLYKEN 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 rubberized based hot melt adhesive**

Film backing: **Radiation crosslinked polyethylene**

Interleaf: **Anti-adhesive 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

- Total Thickness:40mil, 50 mil,60 mil ,65 mils.
- Width:50,100,150,300,400,500,800 mm
- Length: 10 m-30m
- Tensile Strength:100 N/cm
- Elongation:400%
- Adhesion Strength to pipe:30 N/cm
- Application temperature: -20 to +70 ℃
- Temperature resistance:-40 ℃ to + 80℃
- 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

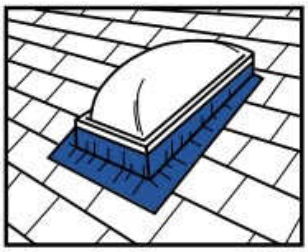
11、POLYKEN 940 Aluminum Butyl Tape

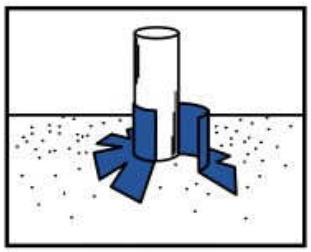
DESCRIPTION

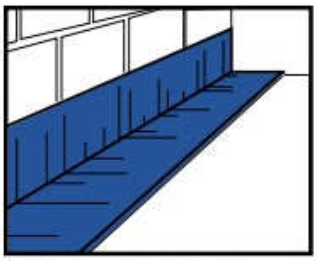
A cold applied self adhesive aluminum backed flashing in roll form.

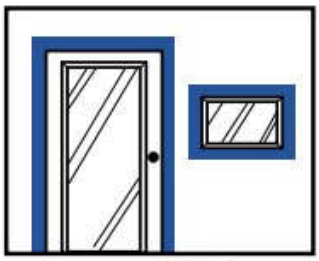
USES

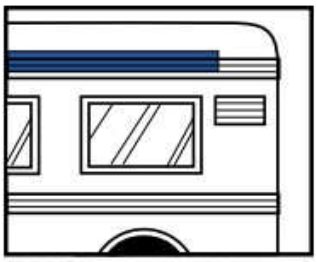
_Window and door openings (headers, sills,jambs, thresholds, nailing flanges)
_Deck-to-wall intersections
_ Corner boards
_Wall-to-wall tie-ins
_Foundation sill plates
_Sheathing panel seams
_Under stucco finishes
_Car's insulation
_ Roof detail areas
_ Gutters
_ Mobile home repair
_Other building joints.
_Exposed pipelines protection.

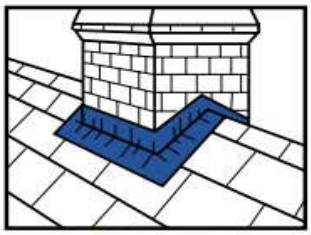

Skylights

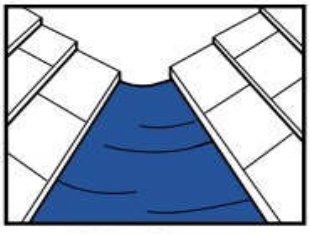

Vent Pipe


Extension Flashing

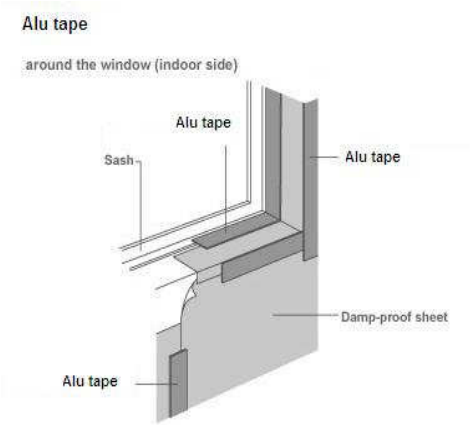

Doors and Windows


RV's & Mobile Homes


Chimneys


Valley Gutters


Porches



COMPOSITION

Backing: Aluminum foil 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 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 For application For maximum service	 5 to 50 93	 ºC
Tensile Strength	11.0 0.2	lb/in kg/mm
UV resistance	Excellent	--
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,100cm	
Length	5m,10m,15m,20m,30m	

Ordering Information

Supplied in roll form .
Width: 50mm,75mm,100mm,150mm,200mm,250mm,400mm,500mm,1000mm
Length: 5m,10m,20m,30m

***Special Roll Size can be customized .**

Soundproof Tape

12、POLYKEN 950 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 :	Silver

Features

- High adhesion.
- High and low temperature resistance
- 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.Safe and Clean
- Very easy to apply (cold applied and self adhesive).
-No change after installation long time

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.

Ordering Information

Supplied in Roll form .
Width: 50mm,75mm,100mm,150mm,200mm,250mm,400mm,500mm,1000mm
Length: 4m,5m,10m

***Special Roll Size can be customized .**

Certificate

ISO 9001:2008

CERTIFICATE OF CONFORMITY
QUALITY MANAGEMENT SYSTEM CERTIFICATION

NO. 10415Q20145R1S

This is to certify that the Quality Management System of

JINING QIANGKE PIPE ANTICORROSION MATERIALS CO., LTD.

(Registered Add.: Jiaxiang Economic Development Zone (Interchange Between Jiacheng Road And Chengxiang Road), Jining, Shandong
Audit Add.:No.3 Jiamei Road, Jiaxiang Economic Development Zone, Jining, Shandong
Organization Code: 58607448-7 Postal Code: 272415)

is in conformity with:

GB/T 19001-2008 / ISO 9001:2008

This system is valid to:

* MANUFACTURING AND IMPORT & EXPORT (CONTAIN THE TECHNOLOGY IMPORT AND EXPORT) OF PIPE ANTICORROSION TAPE / SALES OF ANTICORROSIVE MATERIALS *

Further clarifications regarding the scope of this certificate and the applicability of GB/T19001-2008 / ISO9001:2008 requirements may be obtained by this body organization. Certificate in the state regulations administrative license, qualification, mandatory product certification received within the validity period and the normal annual review of the case effectively. This certificate information is available on the official website of the agency and Certification & Accreditation Administration of the People's Republic of China (www.cnca.gov.cn).

Issue date :02-07-2015 Term of validity: 02-07-2015 TO 02-06-2018

Representative of the company (Director): S.P. chun

CNAS MANAGEMENT SYSTEM CNAS C104-Q

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

SHANDONG SEATONE QUALITY CERTIFICATION CO.,LTD.

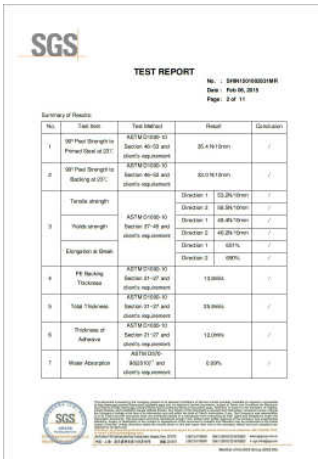
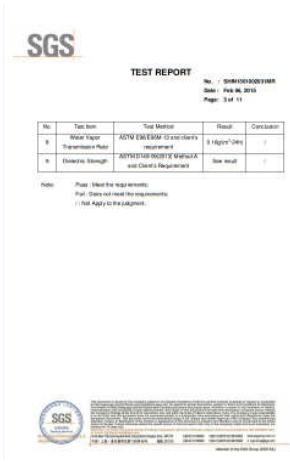
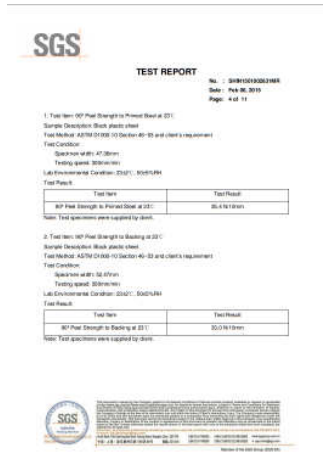
Wechat certificate query

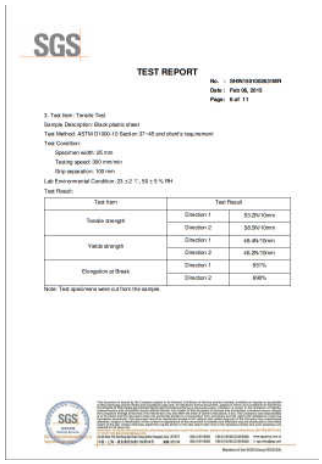
first inspection second inspection third inspection

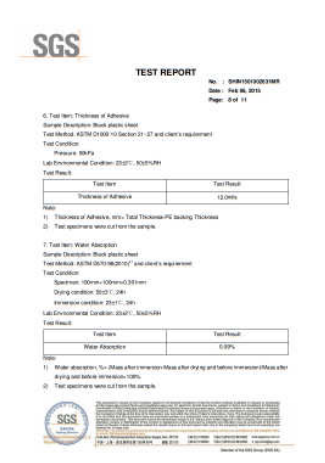
This certificate will not be legally valid unless the inspection is confirmed

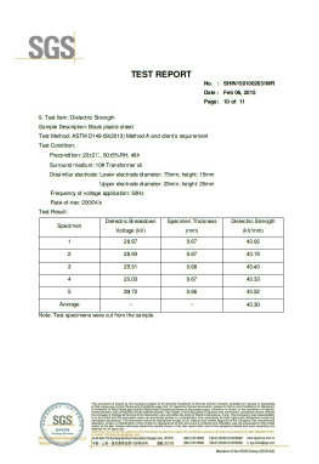
Address:Floor15,New World Mansion,9 Fuzhou Rd.,Qingdao,China Tel: 0532-85781352 Fax: 0532-80779550 Web: www.seatone.cn

SGS-Inner Wrap 980-25

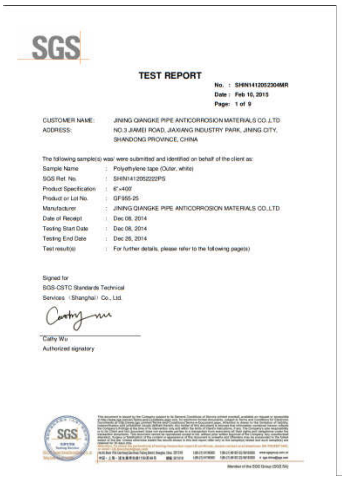












SGS-Outer Wrap 955-25


SGS

TEST REPORT

No. : SHHN1412052304MR
Date : Feb 10, 2015
Page: 1 of 9

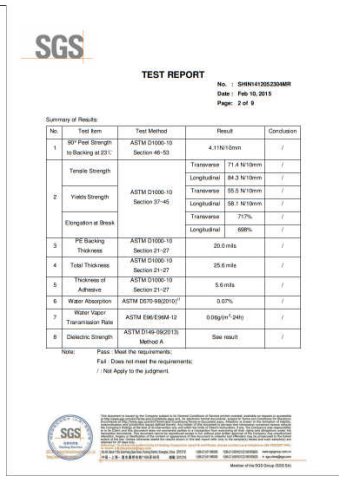
CUSTOMER NAME: JINING QIANGKE PIPE ANTICORROSION MATERIALS CO.,LTD
ADDRESS: NO.3 JIAMEI ROAD, JIAXIANG INDUSTRY PARK, JINING CITY, SHANDONG PROVINCE, CHINA

The following sample(s) was/ were submitted and identified on behalf of the client as:

Sample Name : Polyethylene tape (Outer, white)
SGS Ref. No. : SHHN1412052229PS
Product Specification : 4"-40Z
Product or Lot No. : GF955-25
Manufacturer : JINING QIANGKE PIPE ANTICORROSION MATERIALS CO.,LTD
Date of Receipt : Dec 08, 2014
Testing Start Date : Dec 08, 2014
Testing End Date : Dec 26, 2014
Test result(s) : For further details, please refer to the following page(s)

Signed for
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Cathy Wu
Authorized signatory


SGS

TEST REPORT

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Summary of Results:

No.	Test Item	Test Method	Result		Conclusion
1	90° Peel Strength to Backing at 23℃	ASTM D1000-10 Section 46~53	4.11N/10mm		/
2	Tensile Strength	ASTM D1000-10 Section 37~45	Transverse	71.4 N/10mm	/
			Longitudinal	84.3 N/10mm	/
	Yields Strength		Transverse	55.5 N/10mm	/
			Longitudinal	58.1 N/10mm	/
	Elongation at Break		Transverse	717%	/
			Longitudinal	698%	/
3	PE Backing Thickness	ASTM D1000-10 Section 21~27	20.0 mils		/
4	Total Thickness	ASTM D1000-10 Section 21~27	25.6 mils		/
5	Thickness of Adhesive	ASTM D1000-10 Section 21~27	5.6 mils		/
6	Water Absorption	ASTM D570-98(2010)$^{\varepsilon1}$	0.07%		/
7	Water Vapor Transmission Rate	ASTM E96/E96M-12	0.06g/(m^2·24h)		/
8	Dielectric Strength	ASTM D149-09(2013) Method A	See result		/

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


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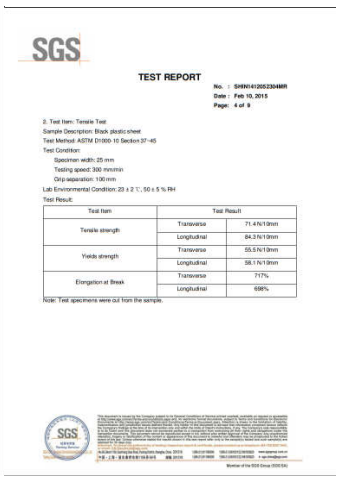
1. Test Item: 90° Peel Strength to Backing at 23℃
Sample Description: Black plastic sheet
Test Method: ASTM D1000-10 Section 46~53
Test Condition:
Specimen width: 50mm
Testing speed: 300mm/min
Lab Environmental Condition: 23±2℃, 50±5%RH
Test Result:

Test Item	Test Result
90° Peel Strength to primed steel at 23℃	4.11N/10mm

Note: Test specimens were supplied by client.

Sample Photo: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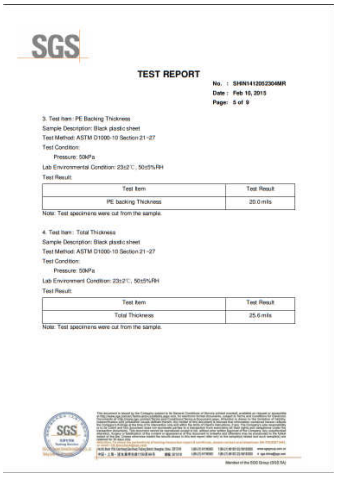
2. Test Item: Tensile Test
Sample Description: Black plastic sheet
Test Method: ASTM D1000-10 Section 37~45
Test Condition:
Specimen width: 25 mm
Testing speed: 300 mm/min
Grip separation: 100 mm
Lab Environmental Condition: 23 ± 2 ℃, 50 ± 5 % RH
Test Result:

Test Item		Test Result
Tensile strength	Transverse	71.4N/10mm
	Longitudinal	84.3 N/10mm
Yields strength	Transverse	55.5 N/10mm
	Longitudinal	58.1 N/10mm
Elongation at Break	Transverse	717%
	Longitudinal	698%

Note: Test specimens were cut from the sample.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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±2℃, 50±5%RH
Test Result:

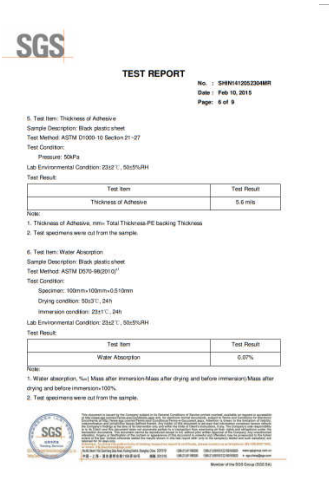
Test Item	Test Result
PE backing Thickness	20.0 mils

Note: Test specimens were cut from the sample.

4. Test Item: Total Thickness
Sample Description: Black plastic sheet
Test Method: ASTM D1000-10 Section 21~27
Test Condition:
Pressure: 50kPa
Lab Environment Condition: 23±2℃, 50±5%RH
Test Result:

Test Item	Test Result
Total Thickness	25.6 mils

Note: Test specimens were cut from the sample.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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±2℃, 50±5%RH
Test Result:

Test Item	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.

6. Test Item: Water Absorption
Sample Description: Black plastic sheet
Test Method: ASTM D570-98(2010)$^{\varepsilon1}$
Test Condition:
Specimen: 100mm×100mm×0.51mm
Drying condition: 50±3℃, 24h
Immersion condition: 23±1℃, 24h
Lab Environmental Condition: 23±2℃, 50±5%RH
Test Result:

Test Item	Test Result
Water Absorption	0.07%

Note:
1. Water absorption, $\%_{wt}$= Mass after immersion-Mass after drying and before immersion)/Mass after drying and before immersion×100%.
2. Test specimens were cut from the sample.


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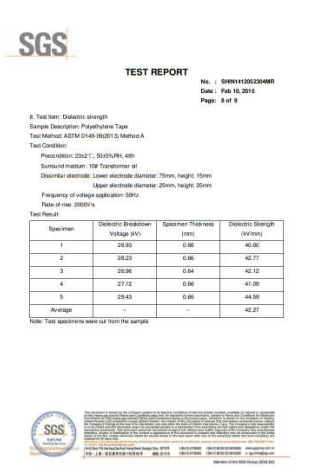
7. Test Item: Water Vapor Transmission Rate
Sample Description: Black plastic sheet
Test Method: ASTM E96/E96M-13
Test Condition:
Specimen thickness: 0.507 mm
Transmission area: 0.0050m^2
Condition: 23±2℃, 50±5%RH
Lab Environmental Condition: 23±2℃, 50±5%RH
Test Result:

Test Item	Test Result
Water Vapor Transmission Rate	0.06g/(m^2·24h)

Note: Test specimens were cut from the sample.

Sample Photo:

Original sample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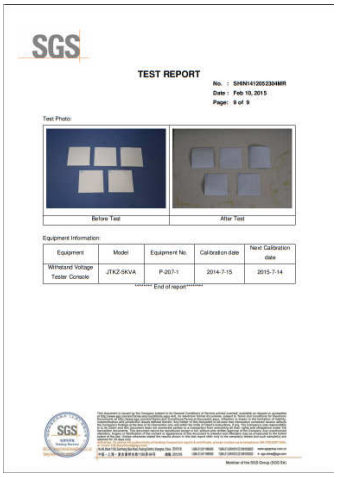
8. Test Item: Dielectric strength
Sample Description: Polyethylene Tape
Test Method: ASTM D149-09(2013) Method A
Test Condition:
Precondition: 23±2℃, 50±5%RH, 48h
Surround medium: 10# Transformer oil
Disc/Bar electrode: Lower electrode diameter: 75mm, height: 15mm
Upper electrode diameter: 25mm, height: 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	26.93	0.66	40.80
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	44.59
Average	–	–	42.27

Note: Test specimens were cut from the sample.


SGS

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Test Photo:

Before Test

After Test

Equipment Information:

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
Withstand Voltage Tester Console	JTKZ-5KVA	P-207-1	2014-7-15	2015-7-14

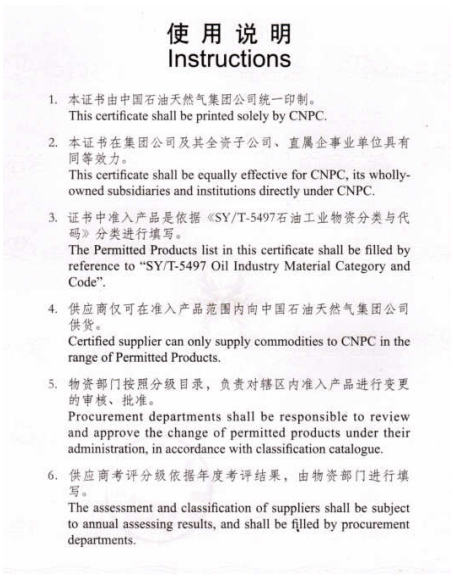
End of report

Certificate of Material Supplier -CNPC


中国石油天然气集团公司
CHINA NATIONAL PETROLEUM CORPORATION

物资供应商
准入证

CERTIFICATE OF
MATERIAL SUPPLIER


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. 供应商仅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：
Supplier Type 所属企业管理 制造商

供应商编码：
Supplier Code 1813626

工商注册号：
License No. 370829200006997

组织机构代码：
Organization Code 58607448-7

法定代表人／负责人：
Legal Representative 张传厚

单位地址：
Address 中国山东济宁市嘉祥开发区嘉美路3号

发证日期：
Issue Date 2014 年 Y 12 月 M 12 日 D


供应商名称：
Supplier Name 济宁强科管防材料有限公司

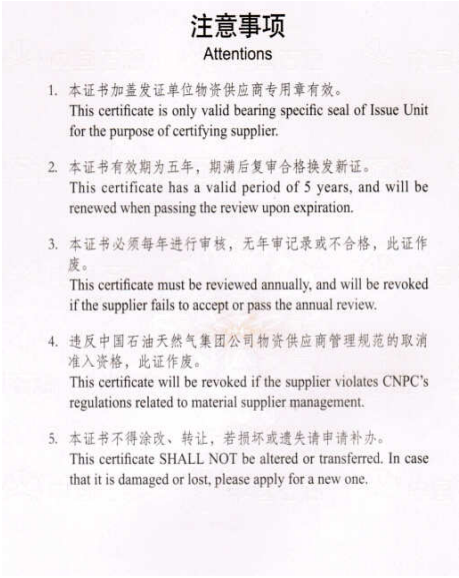
准入证编号：
Certificate No. 02140046625

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

准入章：
Certificate stamp


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
12116701	石油专用化工产品	管线防腐材料	防腐胶带	聚丙烯防腐胶带	二级		管道局 供应商审核章
12116702	石油专用化工产品	管线防腐材料	防腐胶带	聚乙烯防腐胶带	二级		管道局 供应商审核章
12116703	石油专用化工产品	管线防腐材料	防腐胶带	铝基材料冷缠带	二级		管道局 供应商审核章
12116704	石油专用化工产品	管线防腐材料	防腐胶带	管道铁路公路防腐胶带	二级		管道局 供应商审核章
12116705	石油专用化工产品	管线防腐材料	防腐胶带	粘弹体防腐胶带	二级		管道局 供应商审核章
12116706	石油专用化工产品	管线防腐材料	防腐胶带	粘弹体防腐胶带	二级		管道局 供应商审核章


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，若损坏或遗失请申请补办。
This certificate SHALL NOT be altered or transferred. In case that it is damaged or lost, please apply for a new one.

Ownership of Trademark

'TMYY10389753D01T150902'

第 10389753 号

商标注册证

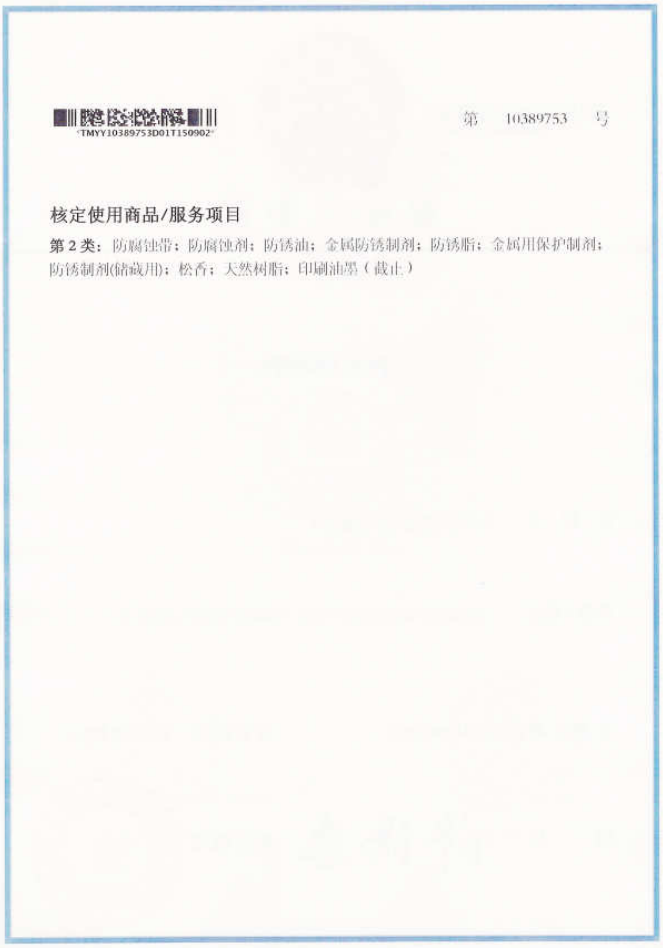
POLYKEN

注 册 人 济宁强科管防材料有限公司

注册人地址 山东省济宁市嘉祥经济开发区（嘉诚路与呈祥大道交汇处）

注册日期 2013年05月28日 有效期至 2023年05月27日

局 长 许瑞表 发证机关 中华人民共和国国家工商行政管理总局 商标局

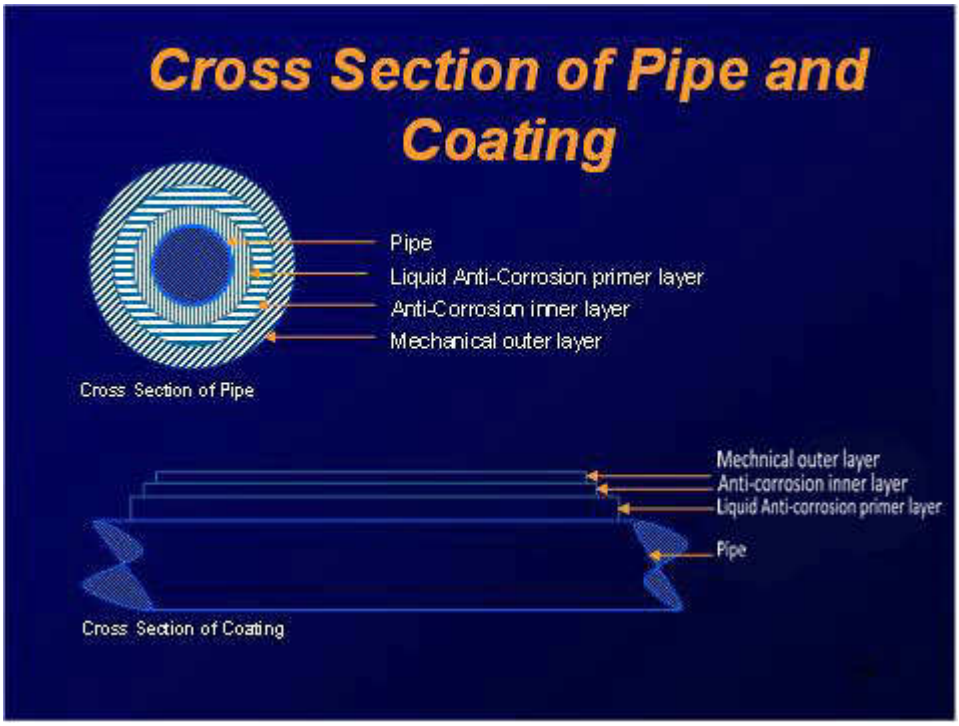


'TMYY10389753D01T150902'

第 10389753 号

核定使用商品/服务项目

第2类：防腐蚀带；防腐蚀剂；防锈油；金属防锈制剂；防锈脂；金属用保护制剂；防锈制剂(储藏用)；松香；天然树脂；印刷油墨（截止）



Contact :

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www.chinapolyken.com