

POLYKEN[®]

Pipeline Coating Systems



State-of-the-Art
Pipeline Protection
for all Climates
and Environments



www.berrycpg.com

BERRY[™]
PLASTICS
CORPORATION
AND SUBSIDIARIES
CORROSION PROTECTION GROUP

The Leader in Pipeline Protection Technology

The Polyken® brand has been synonymous with pipeline corrosion protection systems worldwide for more than 50 years. Whether in the extreme heat of the Middle East or the forbidding cold of Russia or the more moderate climates of the United States, Berry Plastics CPG is there with the most advanced anti-corrosion pipeline coatings for the oil, gas, water and coal slurry industries.



With a full range of multi-layered coating systems and a host of coating accessories, Berry Plastics CPG is ready to respond to customers anywhere around the globe.



PRODUCT INNOVATION AND DEVELOPMENT

Berry Plastics CPG is a leader in innovative products for pipeline corrosion protection. Berry Plastics CPG introduced the first zero-VOC, solvent-based primer in the world and introduced the first polypropylene mesh rockshield system to protect high temperature coated pipe from handling damage that typically occurs during the backfill operation.



LEADING EDGE TECHNOLOGY

Advanced technical research, development and commercialization are key to Berry Plastics CPG's leading position in coating technology. The company operates an extensive research center in Lexington, Massachusetts to understand corrosion and pipeline technology. With that knowledge base, coating scientists design the most advanced systems to combat pipeline corrosion.



Plant Coating Systems

Berry Plastics CPG offers a wide range of coating systems that meet the rigorous demands of on-land and off-shore pipelines. Through a global network of certified

applicators, the plant coating specifications and quality standards are rigorously monitored, thus ensuring reproducible long-term coating performance to the end-user.



The SYNERGY® System is a fused multi-layer coating system that consists of a thermally activated primer layer, a thermoplastic elastomer layer and a tough polyethylene outer layer. During application the three layers are thermally fused, resulting in strong mechanical and chemical bonds that maximize the system's performance.

The Primer Layer is a solvent-based thermoplastic primer that provides a uniform surface for optimal adhesion. The primer is formulated with stress-corrosion cracking inhibitors.

The Anti Corrosion Layer chemically bonds to the primer layer and fuses to the outer polyethylene layer to anchor it completely to the pipe.

The Mechanical Layer fuses with the elastomer layer and to itself to provide protection from the elements, as well as mechanical protection.



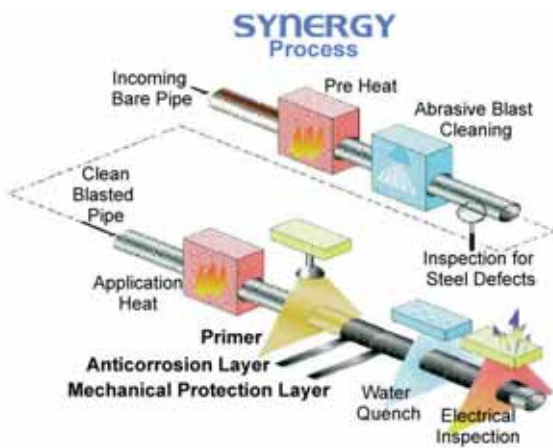
The Polyken® YGIII® System is a cold-applied, multi-layer coating system used primarily for the protection of steel and ductile iron water pipelines.

Low and Zero-VOC, Solvent-Based Primers comply with all air quality standards and regulations. Designed for machine application and formulated with stress-corrosion cracking inhibitors.

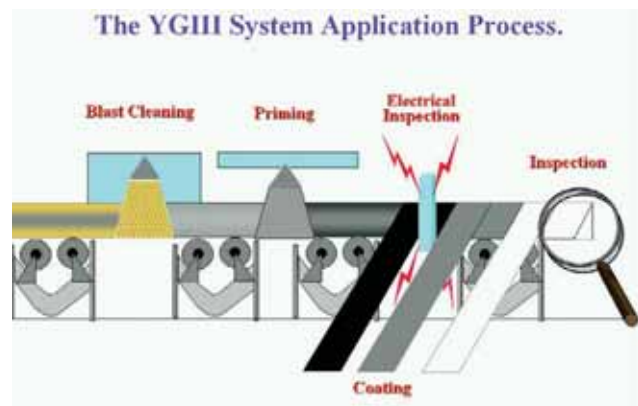
The Anti-Corrosion Layer is engineered for maximum adhesion to the primed surface with excellent conformability.

The Middle and Outer Mechanical Protection Layers provide exceptional handling and in-service protection of the coating system.

Weld Stripping Layer is used in the corrosion protection of spiral and longitudinal weld areas.



Fused Multi-Layer System



Cold Applied Multi-Layer System

POLYKEN[®] On-Site Coating Systems

Berry Plastics CPG offers a series of coating systems designed specifically for in-field applications on new construction pipe or reconditioning of existing pipelines. In-field or in-situ installation is economical and efficient. When Berry Plastics CPG cold applied coating systems are used, a small investment in manpower and application equipment yields a big return in productivity and long-term performance. The reconditioning systems can be applied on existing operating pipelines, which means no loss of revenue and downtime. Berry Plastics CPG non-toxic and environmentally safe materials ensure application friendly conditions along the right-of-way (ROW).



New Construction/Reconditioning Systems

Product	Uses and General Characteristics	Total Thickness		ASTM D1000 Adhesion to Primed Steel Pipe		Maximum Temperature	
		Metric	US Imperial	Metric	US Imperial	Metric	US Imperial
1019	Solvent-based primer designed for machine application on abrasive-cleaned or wire brushed pipe surfaces. Contains stress-corrosion cracking inhibitors.	N/A	N/A	N/A	N/A	100°C	212°F
1027	Solvent-based primer designed for brush, roller or spray application to mechanically-cleaned reconditioned pipe surfaces. Contains stress-corrosion cracking inhibitors.	N/A	N/A	N/A	N/A	100°C	212°F
980 980-20 980-25 980-30	Anti-corrosion layer designed for machine application under various climactic conditions. Excellent conformability to the primed pipe surface with proven long-term in-ground performance.	0.51 mm 0.63 mm 0.76 mm	20 mil 25 mil 30 mil	33 N/10 mm	300 oz/in	85°C *	185°F *
955	Mechanical protection coating layer designed for machine application. Protects Polyken [®] 980 from backfill and in-ground construction damage.	0.76 mm 0.63 mm	30 mil 25 mil	33 N/10 mm	300 oz/in	85°C	185°F

* For pipe diameters up to 36" or DN900

High Shear System – GO Coat 200™

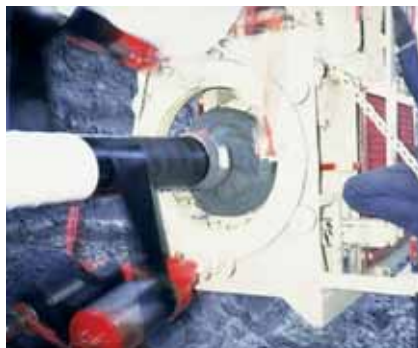
- for pipe where soil stress conditions exist.

Product	Uses and General Characteristics	Total Thickness		ASTM D1000 Adhesion to Primed Steel Pipe		Maximum Temperature	
		Metric	US Imperial	Metric	US Imperial	Metric	US Imperial
2019	High shear primer designed for machine application on mechanically-cleaned pipe surfaces. Formulated with stress-corrosion cracking inhibitors and materials that remain stable at elevated temperatures.	N/A	N/A	N/A	N/A	100°C	212°F
2000	Anti-corrosion layer formulated with a high shear adhesive to work in conjunction with the Polyken® 2019 primer. The polymeric backing is designed to remain pliable at elevated temperatures for long-term corrosion protection.	0.64 mm	25 mil	28 N/10 mm	250 oz/in	93°C	200°F
2055	Mechanical protection layer designed for machine application to protect the Polyken® 2000 layer from backfill and construction damage. The polymeric backing is designed for long-term stability at elevated temperatures.	0.64 mm	25 mil	33 N/10 mm	300 oz/in	93°C	200°F
2036	Hand-applied version of the Polyken® 2000 system for application to field joints, fittings and specialty piping. Also used as an in-field repair coating system.	0.64 mm	25 mil	28 N/10 mm	250 oz/in	93°C	200°F

High Temperature Polypropylene System – GO Coat 250™

- for application on high temperature pipelines operating at maximum temperatures up to 121°C (250°F).

Product	Uses and General Characteristics	Total Thickness		ASTM D1000 Adhesion to Primed Steel Pipe		Maximum Temperature	
		Metric	US Imperial	Metric	US Imperial	Metric	US Imperial
1619	Thermally activated solvent-based primer for spray, roller or brush application to mechanically-cleaned new or reconditioned pipe. Formulated for stability at elevated temperatures and contains stress-corrosion cracking inhibitors.	N/A	N/A	N/A	N/A	121°C	250°F
1600	Polypropylene-based coating system with a cross-linked adhesive capable of maintaining long-term protection at high temperatures. The system is applied in multiple layers using commercially available reconditioning equipment.	0.64, 0.76 mm	25, 30 mil	33 N/10 mm	300 oz/in	121°C	250°F
1636	Hand-applied version of the Polyken® 1600 system for application to field joints, fittings and specialty piping. Also used as an in-field repair coating system.	0.76 mm	30 mil	33 N/10 mm	300 oz/in	121°C	250°F



POLYKEN®



Berry Plastics CPG carries a full line of products to complement the main line coating systems and meet the challenges of modern pipeline activities.

Utility work: hand-applied tape products for gas utility, oil field, and plumbing applications on small diameter pipe.

Coating repair: cold-applied tape products for plant and field repair of main line coating systems.

Specialty fittings and fabrication work: a variety of tape systems and mastics that conform to irregularly-shaped pipe.

Field joints: single-sided and double-sided tape systems that conform to bell and spigot, welded and mechanically-coupled field joints.

ROW construction: Rockshield system, tie-in, and above-ground tape systems for use at the job site by the pipeline contractor.

Offshore Tapes: Whether replacing PVC on welded joints or protecting Pier Piling, Polyken® has the tape coating for the job.

Pipe Wrap, Joint Coatings and Accessory Products

Product	Uses and General Characteristics	Total Thickness		ASTM D1000 Adhesion to Primed Steel Pipe		Maximum Temperature	
		Metric	US Imperial	Metric	US Imperial	Metric	US Imperial
1027	Solvent-based primer designed for brush, roller or spray application to mechanically-cleaned pipe surfaces. Contains stress-corrosion cracking inhibitors.	N/A	N/A	N/A	N/A	100°C	212°F
908	General utility tape for hand application on small diameter pipe, joints and fittings.	0.20 mm	8 mil	N/A	N/A	66°C	150°F
911	General utility tape for hand application on small diameter pipe, joints and fittings.	0.23 mm	9 mil	11 N/10 mm	100 oz/in	66°C	150°F
910	All purpose tape system for field application in the oil patch.	0.25 mm	10 mil	11 N/10 mm	100 oz/in	66°C	150°F
900	General utility tape for hand application on small diameter pipe, joints and fittings.	0.3 mm	12 mil	11 N/10 mm	100 oz/in	66°C	150°F
920	Utility tape system with increased mechanical integrity for hand or machine application on small diameter pipe.	0.51 mm	20 mil	11 N/10 mm	100 oz/in	66°C	150°F
905(-30) 905(-40)	Cold-applied tape system used for tie-in sections during pipeline construction.	0.75 mm 1.02 mm	30 mil 40 mil	38 N/10 mm	350 oz/in	85°C	185°F
930(-35) 930(-50)	Heavy duty joint wrap tape for hand wrapping in applications where higher shear properties are required. Designed without release liner for less waste and ease of use. EN/DIN B30 Qualified.	0.89 mm 1.27 mm	35 mil 50 mil	27 N/10 mm 33 N/10 mm	250 oz/in 300 oz/in	66°C	150°F
931	Self-adhering, 100% butyl rubber filler used to fill voids and crevices around joints, fittings and specialty piping. Must be over-wrapped with any of the Polyken® joint wrap systems.	0.97 mm	38 mil	27 N/10 mm	250 oz/in	121°C	250°F
932(-35) 932(-50)	Cold-applied tape system with an elevated high-tack adhesive. Provides excellent conformability when hand applied to field joints, fittings and specialty piping. EN/DIN B30 Qualified.	0.89 mm 1.27 mm	35 mil 50 mil	16 N/10 mm 18 N/10 mm	150 oz/in 160 oz/in	50°C 50°C	122°F 122°F

Pipe Wrap, Joint Coatings and Accessory Products (cont.)

Product	Uses and General Characteristics	Total Thickness		ASTM D1000 Adhesion to Primed Steel Pipe		Maximum Temperature	
		Metric	US Imperial	Metric	US Imperial	Metric	US Imperial
933 (-25)	Specifically designed to provide additional protection of the weld steam of a spiral or longitudinally welded pipe.	0.64 mm	25 mil	2.2 Kg/cm	200 oz/in	85°C	185°F
934(-35) 934(-50)	Cold-applied tape system with a high tack adhesive. Used as a patch/repair system and as the primary corrosion protection system on field joints, fittings and specialty piping.	0.89 mm 1.27 mm	35 mil 50 mil	27 N/10 mm 35 N/10 mm	250 oz/in 320 oz/in	66°C 66°C	150°F 150°F
936(-30) 936(-50)	Cold-applied, high tack tape system specifically for above-ground protection on cleaned pipe surfaces. The system is formulated to resist degradation caused by exposure to UV rays and various outdoor conditions. Long-Term UV Resistance.	0.762 mm 1.27 mm	30 mil 50 mil	22 N/10 mm 25 N/10 mm	200 oz/in 225 oz/in	66°C 66°C	150°F 150°F
937	Brush-applied mastic coating to protect irregularly-shaped underground metal surfaces.	N/A	N/A	N/A	N/A	66°C	150°F
938	Trowel-applied mastic coating to protect irregularly-shaped underground metal surfaces.	N/A	N/A	N/A	N/A	66°C	150°F
939	100% solids mastic designed as a self-adhering filler material prior to overcoating with Polyken® joint coating tape systems.	**	**	33 N/10 mm	300 oz/in	93°C	200°F
942	Cold-applied, double-faced tape systems for in-field or plant application on mechanically-cleaned and primed pipe. The Polyken® 942 complies with the DIN 30672 standard when used in conjunction with a mechanical protection layer. EN/DIN C50 Qualified.	0.76 mm	30 mil	33 N/10 mm	300 oz/in	50°C	122°F
955 EN	Mechanical protection layer for use with Polyken® 942 coating product. Easy hand or machine application.	0.76 mm	30 mil	N/A (outerwrap)	N/A (outerwrap)	66°C	150°F
954	Mechanical protection layer for use with all of the Polyken® joint wrap coating products. Easy hand or machine application.	0.38 mm	15 mil	N/A (outerwrap)	N/A (outerwrap)	85°C	185°F
4000(-35)	Cold-applied coating system designed for the corrosion protection of field joints, fittings, and specialty piping. This system does not require a primer or liquid adhesive.	0.89 mm	35 mil	17 N/cm 12 N/cm	160 oz/in 110 oz/in	21°C -12°C	70°F 10°F
5000	Rockshield system - polyethylene diamond mesh screen helps protect against backfill and handling damage during construction.	4.0 mm	160 mil	Rockshield	Rockshield	66°C	150°F
5200	Rockshield system - polyethylene mesh laminated to polypropylene fabric padding for the ultimate supplemental coating protection.	6.6 mm	260 mil	Rockshield	Rockshield	66°C	150°F

** See Data Sheet

Offshore Tapes

Product	Uses and General Characteristics	Total Thickness		ASTM D1000 Adhesion to Primed Steel Pipe		Maximum Temperature	
		Metric	US Imperial	Metric	US Imperial	Metric	US Imperial
980-SSJ	Polyken® 980-SSJ Joint Coating has been specifically designed and ideally suited for the corrosion protection of welded joints of Lay-barge installed pipelines.	65 mil	1.66mm	> 4 N/cm (unprimed)	> 20 lbs/in. (unprimed)	85°C	185°F
670	Specifically designed and ideally suited for the corrosion protection of "in-situ" pilings installed in fresh or sea water	1.54mm	60 mil			66°F	150°F
671	Mechanical protection layer for use with Polyken® 670 coating product.	1.54 mm	60 mil	N/A (outerwrap)		66°F	150°F

MEETING GLOBAL STANDARDS

Polyken® Pipeline Coatings are manufactured in a ISO 9000 / QS 9000 certified manufacturing facility and are designed and tested in accordance with the most demanding industry and global standards.

What is a Square?

Polyken® Pipeline Coatings are produced and sold in a universal unit of measure called a Square.
One Square = 100 ft. ² and 9.29 m ²

Formula for determining the area of Pipe:

Area of Pipe = (Diameter)(3.1416)(Length)

Imperial Formula for Pipe Coating Requirements:

$$\frac{(\text{Width of Coating in inches})(\text{Area of pipe in square feet})}{(\text{Width of Coating} - \text{Overlap in inches})(100)} = \text{Squares of Coating Required}$$

Metric Formula for Pipe Coating Requirements:

$$\frac{(\text{Width of Coating in mm})(\text{Area of pipe in square meters})}{(\text{Width of Coating} - \text{Overlap in mm})(9.29)} = \text{Squares of Coating Required}$$

MACHINE APPLIED POLYKEN® PIPE DIAMETER AND TAPE WIDTH

Pipe Outside Diameter		Tape Width	
inch	mm	inch	mm
.75 - 1.5	19 - 38	2	50.8
2 - 3	51 - 76	≤ 4	≤ 101.6
4	102	≤ 6	≤ 152.4
6 - 14	152 - 356	≤ 9	≤ 228.6
16 - 60	406 - 1524	≤ 12	≤ 304.8

HAND APPLIED POLYKEN® PIPE DIAMETER AND TAPE WIDTH

Pipe Outside Diameter		Tape Width	
inch	mm	inch	mm
.75 - 1.5	19 - 38	2	50.8
2 - 6	51 - 152	≤ 4	≤ 101.6
8 and larger	203	≤ 6	≤ 152.4

Berry Plastics CPG is a proud member of :



Polyken® products have quality certifications from :



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Berry Plastics warrants that the product conforms to its chemical and physical description and is appropriate for the use stated on the technical data sheet when used in compliance with Berry Plastics written instructions. Since many installation factors are beyond the control of Berry Plastics, the user shall determine the suitability of the products for the intended use and assume all risks and liabilities in connection herewith. Berry Plastics liability is stated in the standard terms and conditions of sale. Berry Plastics makes no other warranty either expressed or implied. All information contained in this technical data sheet is to be used as a guide and is subject to change without notice. This technical data sheet supersedes all previous data sheets on this product.

IBERRY™
PLASTICS CORPORATION™
AND SUBSIDIARIES
CORROSION PROTECTION GROUP
www.berrycpg.com

Local Distributor / Representative:

For contact details of local Distributors / Representatives
Please visit www.berrycpg.com.

Headquarters : Berry Plastics Tapes & Coatings Division, Franklin MA, USA

Franklin, MA, USA
Tel: +1 508 918 1714
US Toll Free: +1 800 248 0149
Fax: +1 508 918 1910
CPG@berryplastics.com

Houston, TX, USA
Tel: +1 713 676 0085
US Toll Free: 01 888 676 7202
Fax: +1 713 676 0086
CPGH@berryplastics.com

Tijuana, Mexico
Tel US: +1 866 9 CORROSION
Fax US: +1 619 424 4258
Tel Mexico: +52 664 607 0926
Fax Mexico: +52 664 623 6463
CPGTJ@berryplastics.com

Aarschot, Belgium
Tel: +32 16 55 36 00
Fax: +32 16 55 36 74
CPGE@berryplastics.com

Baroda, India
Tel: +91 2667 264721
Fax: +91 2667 264724
CPGIN@berryplastics.com