



Long-line flexible anode for impressed-current cathodic protection of buried pipelines.

Product description

AFLX 500 cathodic protection.

Construction: Two basic elements:

Central Copper Conductor: #6 AWG, serving as a low resistance busbar to deliver the required current over considerable distance without incurring substantial longitudinal voltage drop.

Conductive polymer: 0.5 inch (13 mm) in diameter extruded polymer jacket which seals the copper conductor from external elements ie: chemical attack, and allows the flow of current.

AFLX 500 is a long-line, flexible, cable-like anode, which is placed in continuous close proximity to the target structure. Hence, uniform distribution of cathodic protection current is achieved on applications where many conventional anode ground beds do not work. Key to the product's performance is the central, conductive-polymer coated copper conductor. This unique construction allows current to flow long distances down the center conductor, while allowing sufficient cathodic protection current to continuously pass through the conductive polymer all along the length of the anode. In contrast to conventional CP systems, AFLX 500 is placed in the ground in close proximity to the steel surface to be protected and provides uniform distribution of protective current to each point evenly along the length of the steel surface, maintaining the steel-to-soil "instant-off" potential in the required window of -850mv (-950mv if SRB's Present) and -1200mv. The central anode cable is surrounded by high conductivity coke breeze, which is added separately at the time of installation. The improved current distribution increases anode efficiency and helps prevent over-voltage problems such as hydrogen generation and associated rapid coating disbondment. In addition, interference to foreign structures is minimized.

On poorly coated pipelines, where optimal polarization can no longer be achieved, AFLX 500 can often be installed as an alternative to expensive recoating. Both on single and multi-parallel pipelines, safe levels of polarization will be restored at every point. The system avoids difficult field recoating and greatly reduces environmental disturbance.

The anode is installed the same way as for a standard low voltage cable. AnodeFlex is delivered on easy-to-handle reel spools with sufficient lengths for most applications. Several lengths of the anode can be arranged in simple circuit designs. AnodeFlex can be ploughed in or simply laid in an existing ditch.

AFLX 500 is centrally laid in a 4" x 4" coke breeze backfill in a shallow trench and covered with soil, or the anode and coke breeze may be ploughed directly into the ground using cable ploughing techniques. In those soil conditions where the coke breeze cannot be maintained around the polymeric cable during its entire lifetime due to the risk of being washed away, than AFLX 1500-01 with pre-packaged coke breeze is recommended.

Product features/benefits

- Anode is always in close proximity to the pipeline**
 Distributes current uniformly over total length of pipeline
 No over- or under-protected areas. Prevents accelerated coating disbondment.
 More effective & economical (than a series of discrete anodes).
 Independent of variations in soil resistivity.
- Pipeline Rehabilitation without Excavation**
 No loss in revenue or service.
 No safety concerns as needed for working on live lines
 Environmentally friendly.
 Significantly extends the lifetime of the existing coating.
- Low cost and ideal alternative to recoating.
- Long continuous circuit lengths**
 90% fewer joints compared to conventional anode systems.
 Lower maintenance cost.
- Avoids interference and stray current problems**
 Enhances long-term performance.
 Focuses current on the target structure.
 Improves protection and cost efficiency.
- Installation with modified cable laying equipment**
 Fast, Easy, & Cost effective.

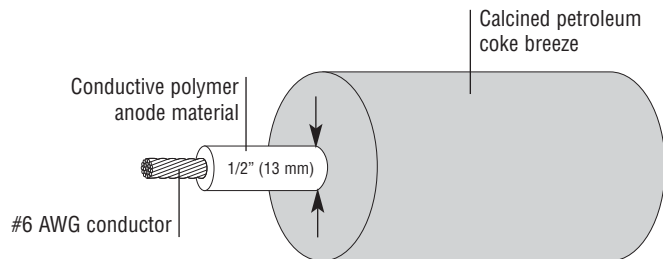
Product selection guide

	AFLX 500
Recommended Max Design Current Output in Soil	52 mA/m (16 mA/ft) if installed in a 4" coke breeze column

Product dimensions

	AFLX 500
Nominal diameter	0.5 in. (13 mm)
Weight	0.175 lbs/ft (260 g/m)
Length	Up to 2000 ft (Up to 610 m)
Coke breeze requirements	Calcined petroleum coke (fluid or delayed) Predominately spherical or round Bulk density > 65 lb/ft ³ = 961 kg/m ³ Fixed carbon > 99% Resistivity (10 bar) <= 0.1 Ohm-cm Ash <= 0.5% No volatiles at 950°C Size as small as possible, but must meet 1% between 1.2 mm (Mesh 16) and 12.7 mm (1/2in), 99% < 1.2 mm

Product properties: AFLX 500



Property	Test method	Typical Value
Copper Conductor		
Dimensions	ASTM B-263	6 AWG
Resistance	ASTM B-193	$1.5 \cdot 10^{-3}$ Ohm/m
Conductive Polymer		
Dimensions	ASTM B-263	Pass
Volume resistivity	ASTM B-193	1.5 Ohm-cm

Ordering information

ANODEFLEX type products are available:

- as a spool

Example: AFLX-500

	Standard Ordering options
AFLX	AnodeFlex type product
500	Conductive polymer coated copper conductor

Accessories

AFLX-500-CAP	End cap kit
AFLX-500-TEE	Tee Connection kit
AFLX-500-SPLICE	In-line splice kit

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.



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 USA +1 858 633 9797
Fax US: +1 858 633 9740
Tel Mexico: +52 664 647 4397
Fax Mexico: +52 664 647 4370
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