

3M™ Scotchkote™ Abrasion Resistant Epoxy Coating 328



Rugged Protection Easy to Apply



Introducing 3M™ Scotchkote™ Abrasion Resistant Epoxy Coating (AREC) 328, a patent-pending new technology for the protection of steel pipelines from the harsh effects of corrosion. Combining a traditional liquid epoxy with enhanced abrasion resistance, flexibility, and impact resistance, an AREC coating can be used in place of a conventional Abrasion Resistant Overcoat (ARO) or as a primary corrosion protection coating.



What is an AREC?

3M™ Scotchkote™ Abrasion Resistant Epoxy Coating (AREC) 328 is a 100% solids, two-part epoxy system designed for directional drilling, rocky terrain, or other applications that require a rugged coating. Combining a traditional liquid epoxy with patent pending technology that enables enhanced impact resistance, gouge resistance, and flexibility, an AREC coating can be used in place of a conventional field applied Abrasion Resistant Overcoat (ARO). With strong adhesion to both metal and FBE, it is effective for use as a primary corrosion protection coating for applications which require high flexibility after cure, in which long-term adhesion is critical, or where a rugged coating is required.

AREC Product Features:

More Rugged than Traditional Epoxy Coatings

- Increased Abrasion Resistance, Impact Resistance, Gouge Resistance and Flexibility
- Provides rugged protection at 20-30 mil instead of 40-70 mil

Improved Performance Over Traditional Liquid Epoxies

- Improved adhesion to steel and FBE
- Improved Cathodic Disbondment Resistance

Easier to Apply than some Abrasion Resistant Overcoat (ARO) products

- Applied by plural component spray equipment, brush or roller
- High build up to 45 mils / 1150 microns in one pass
- Lower viscosity = easier to work with
- Can be applied to substrate at temperatures down to 41°F/5°C



Rugged Protection, Easy Application

	3M Scotchkote AREC 328	Competitive ARO Product A
Abrasion Resistance* ASTM D4060-95	1800 cycles/mil	1250 cycles/mil
Flexibility*	4.0 °/PD at 70°F (20°C) 1.2 °/PD at -22°F (-30°C) (CSA Z245.20-10 Cl. 12.14)	0.75 °/PD at 0°F (-18°C) (NACE RP-0394)
Impact Resistance* ASTM G14	14 Joules @ 23°C 8 Joules @ -30°C	7.7 Joules
Viscosity of Part A**	22,000 cps	200,000 cps
Mix Ratio (Part A: Part B)*	3:1	4.8:1

Try Scotchkote coating 328 to see just how easy ARECs can be to apply!

*The data for this performance feature was obtained from 3M and competitive published data sheets. All customers are encouraged to perform their own testing or reference third party data when evaluating any coating.

**Viscosity testing on both 3M and Competitive ARO Product A was performed in a 3M laboratory using a Brookfield CAP 2000+ viscometer at 5 rpm and 25°C

Applications for 3M Scotchkote AREC 328

Scotchkote AREC 328 as an Abrasion Resistant Coating over FBE or Steel

3M™ Scotchkote™ Abrasion Resistant Epoxy Coating (AREC) 328 is applied with the same ease as traditional two part epoxy coatings. This makes it an easier way to protect factory-applied FBE coatings for directional drilling, thrust boring, river crossings, or similar applications. Scotchkote coating 328 is also ideal for the protection of field joints on pipe coated with a 3M™ Scotchkote™ Fusion Bonded Epoxy Dual Coating System 6352.

Primary Benefits:

- Easy to apply
- Lower viscosity than many AROs
- High build up to 45 mils / 1150 microns in one pass

Suggested Overcoat Applications:

- ✓ Over FBE parent coating
- ✓ Field joints on a pipe coated with an abrasion resistant overcoat parent coating
- ✓ Rehabilitation of AROs
- ✓ Field patching of damaged coatings

Scotchkote AREC 328 as a Traditional Corrosion Protection Coating

With strong adhesion to both metal and FBE, 3M™ Scotchkote™ Abrasion Resistant Epoxy Coating (AREC) 328 is also effective for use as a primary corrosion protection coating for directional drilling, rocky terrain, or other situations that require a rugged coating. Scotchkote coating 328 also demonstrates improved flexibility (greater than 4.0 %/PD at 70°F/20°C) over traditional liquid epoxy coatings for applications which require high flexibility after cure. With cathodic disbondment values lower than many traditional epoxy coatings, ARECs can also be used where long-term adhesion is critical.

Use an AREC when:

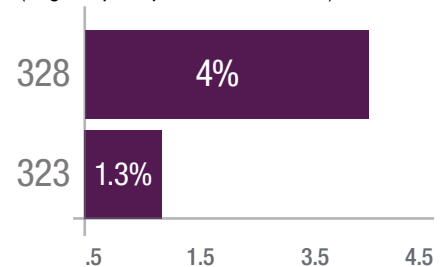
- A rugged, abrasion resistant coating is required
- A highly flexible field coating is required
- Long term adhesion to metal is critical

Suggested Corrosion Protection Coating Applications:

- ✓ Field Joints
- ✓ Rehabilitation of pipeline coatings
- ✓ Field patching of damaged coatings
- ✓ Patching of imperfections in factory coatings

Flexibility

(Degrees per Pipe Diameter at 20°C)



Product Name	Product Description	Stock Number	Contents	Billing Unit
3M™ Scotchkote™ Abrasion Resistant Epoxy Coating 328	Scotchkote 328 1 Liter Kit – Part A	80-6300-0330-1	4 x 0.75L Containers of Part A in One Case	Case
	Scotchkote 328 1 Liter Kit – Part B	80-6300-0334-3	4 x 0.25L Containers of Part B in One Case	Case
	Scotchkote 328 3 Liter Kit – Part A	80-6300-0331-9	4 x 2.25L Containers of Part A in One Case	Case
	Scotchkote 328 3 Liter Kit – Part B	80-6300-0335-0	4 x 0.75L Containers of Part B in One Case	Case
	Scotchkote 328 17 Liter Pail – Part A	80-6300-0332-7	1 x 17L Pail of 328 Part A (Order 3A:1B)	Each
	Scotchkote 328 17 Liter Pail – Part B	80-6300-0333-5	1 x 17L Pail of 328 Part B	Each
	Scotchkote 328 190 Liter Drum – Part A	80-6300-0250-1	1 x 190L Drum of 328 Part A (Order 3A:1B)	Drum
	Scotchkote 328 190 Liter Drum – Part B	80-6300-0251-9	1 x 190L Drum of 328 Part B	Drum

3M™ Scotchkote™ Abrasion Resistant Epoxy Coating 328

Coating Properties

Property	Results
Color	Blue-Green
Mix Ratio	3A/1B By Volume 72.3/27.7 By Weight
Viscosity 70°F/20°C (cps)	Part A = 22,000 Part B = 14,000
Shelf Life (unopened)	24 months
Specific Gravity (g/cc)	
Part A	1.34
Part B	1.48
Part A & B Mixed	1.38
Coverage (ft ² /lb/mil)/(m ² /kg/mm)	145/0.81
Minimum/Maximum Coating Thickness (as a primary corrosion protection coating)	20/60 mils (500/1500 microns)
Minimum/Maximum Coating Thickness (as an ARO)	40/100 mils (1000/2500 microns)
Gel Time 70°F/20°C (minutes)	38
Dry to Touch Time 70°F/20°C (minutes)	155
Hard Dry Time (Shore D>70) (minutes)	255

Test Properties

Property	Test Description	Typical Values	
Cathodic Disbondment	CSA Z245.20-10 (Cl. 12.8)	149°F/65°C, 28 days, 1.5V 176°F/80°C, 28 days, 1.5V 203°F/95°C, 28 days, 1.5V	4.1 mmr 4.4 mmr 3.7 mmr
Hot Water Soak Adhesion	CSA Z245.20-10 (Cl. 12.14)	167°F/75°C, 28 days 203°F/95°C, 28 days	Rating 1 Rating 1
Dry Film Adhesion to Steel	ASTM D-4541 (IV)	70°F/20°C	6100 psi
Dry Film Adhesion to FBE	ASTM D-4541 (IV)	70°F/20°C	7200 psi
Flexibility	CSA Z245.20-10 (Cl. 12.11)	70°F/20°C -22°F/-30°C	4.0 °/PD 1.2 °/PD
Abrasion Resistance	ASTM D4060-07	5000 Cycles with 1000 g load	375 mg
Impact Resistance	ASTM G14	14.0 J (40-60 mils)	Pass
Gouge Resistance	CSA Z245.20-10 (Smooth Bit)	70 Kg	Pass
Shore D Hardness	ASTM D785	70°F/20°C	82

3M and Scotchkote are trademarks of 3M Company.

Important Notice

All statements, technical information and recommendations related to 3M Products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using the 3M Product, you must evaluate it and determine if it is suitable for your intended application. Because conditions of Product use are outside of our control and vary widely you assume all risks and liability associated with such use. Any Product-related statements not contained in current 3M publications, or any contrary statements contained in your purchase order, shall have no force or effect unless expressly agreed to in writing by an authorized officer of 3M.

Warranty; Limited Remedy; Limited Liability.

3M warrants that Product will conform to 3M published specifications upon shipment. If Product is proven not to have met the specifications your exclusive remedy and 3M's sole obligation will be, at 3M's option, to replace the Product or to refund the purchase price of the Product. **EXCEPT WHERE PROHIBITED BY LAW, THIS WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR THOSE ARISING FROM A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. Buyer is an expert in its field and is responsible for determining if Products are suitable for a particular purpose or application.** 3M has no obligation under this warranty with respect to any Product that has failed due to inadequate or improper storage, handling, surface preparation, application, or maintenance; failure to follow Product instructions; or alteration or damage to the Product caused by accident, neglect, or misuse. **EXCEPT WHERE PROHIBITED BY LAW, IN NO EVENT SHALL 3M BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGES (INCLUDING LOST PROFITS) ARISING FROM THIS PRODUCT, REGARDLESS OF THE LEGAL THEORY ASSERTED.**



Infrastructure Protection Division

6801 River Place Blvd.
Austin, TX 78726-9000
www.3M.com/corrosion

Please recycle. Printed in USA
© 3M 2013. All rights reserved.
80-6111-8654-7