

# 3M™ Scotchkote™ Fusion-Bonded Epoxy Dual Coating System 6352

## Product Description

3M™ Scotchkote™ Fusion-Bonded Epoxy Dual Coating System 6352 is a hard, mechanically strong top coating for all Scotchkote fusion-bonded epoxy pipeline corrosion protection coatings. When applied at greater thickness, Scotchkote 6352 also enhances the hot, wet performance of the first layer of corrosion coating. It is applied to the base coating to form a tough outer layer that is resistant to gouge, impact, abrasion and penetration. Scotchkote 6352 coating is specifically designed to protect the primary corrosion coating from damage during pipeline directional drilling applications, bores, river crossing and installation in rough terrain.

It is thermosetting, integrally bonded to the base coating and does not shield from cathodic protection. Excellent flexibility provides an added service advantage over other top coating systems.

Properties	
Color	Brown
Specific Gravity - Powder	1.64
Coverage based on film	122 ft. <sup>2</sup> /lb/mil (0.636 m <sup>2</sup> /kg/mm)
Gel Time at 400°F/204°C	
6352-4G	9.5 seconds ± 20%
6352-8G	16 seconds ± 20%
6352-11G	25 seconds ± 20%

## Temperature Operating Range

The Scotchkote 6352 coating, when properly applied, should perform in a satisfactory manner on pipelines operating between -100°F/-73°C and 230°F/110°C. For temperatures between 170°F/77°C and 230°F/110°C, laboratory tests indicate that the thicker coatings may improve the service capability. However, it is difficult to accurately predict field performance from the laboratory data due to the wide variation in actual field conditions. Soil types, moisture content, temperatures, coating thickness and other factors peculiar to the area all influence the coating performance and the upper temperature operating limit.

## Suggested Thickness

Thickness requirements depend on service conditions. Normally, the following thickness is used: 8 mils/200 µm to 16 mils/400 µm of Scotchkote 6233 and 226 FBE coatings, and 15 mils/380 µm to 35 mils/900 µm of Scotchkote 6352 FBE coating.

Scotchkote 6352 meets the requirements of AWWA C213.

Scotchkote 6352 Fusion Bonded Epoxy Coating Test Data					
Property	Test Description			Typical Value	
Impact	CSA Z245.20			3.0 J	
Bendability (Mandrel Bend)	Thickness - mils (microns)	First Layer/ Second Layer	Source	Temperature	°/PD\*
	30 (762)	15 (381)/15 (381)	Lab	-22°/-30°	2.0
*\_ Plant application could vary test results					
Hot Water Resistance	24 hours, CAN/CSA-Z245.20-12.14, 203°F/95°C			1 rating	
	48 hours, CAN/CSA-Z245.20-12.14, 167°F/75°C			1 rating	
Hardness	ASTM D 2240-97 Shore D, run on pucks			86	
	ASTM D 2583-95 Barcol, run on pucks			50	
Gouge Resistance	TISI with R33 bit				
	30 kg load			203 µm/8 mils gouge depth	
	40 kg load			279 µm/11 mils gouge depth	
	50 kg load			330 µm/13 mils gouge depth	
Abrasion Resistance	ASTM D 4060 CS17 1000 g wt 5000 cycles			0.091 g loss	
Cathodic Disbondment	28 day, 1.5V, 3% NaCl, 176°F/80°C			4.8 mmr 226N/6233	

Note: The typical values in this data sheet are based on lab prepared samples. Run on steel bars coated with 381 µm/15 mils of Scotchkote 226N/6233 overcoated with 508 µm/20 mils of Scotchkote 6352 coating. Values shown are not to be interpreted as product specifications.



## Curing Specifications

After application, 3M™ Scotchkote™ Fusion-Bonded Epoxy Dual Coating System 6352 shall be allowed to cure in accordance with Figure 1 or 2. The indicated temperature is that of the outer surface of the corrosion coating primer layer. A properly calibrated IR measuring device shall measure the temperature. Alternatively, an estimate of the surface temperature shall be calculated by multiplying the primer coating thickness in mils by 2 and subtracting that value from the pipe temperature in °F (thickness in microns by 0.04 and subtracting that value from the pipe temperature: 475°F (246°C). Estimated temperature of coating surface = 475 - (16 x 2) = 443°F.

(In °C, 246 - (400 x 0.04) = 230°C)

## Coating Repair

Areas of pipe requiring small spot repairs shall be cleaned to remove dirt and damaged coating using surface grinders or other suitable means. All dust shall be wiped off.

3M™ Scotchkote™ Liquid Epoxy Coating 323 or 3M™ Scotchkote™ Liquid Epoxy Coating 352 shall be applied in small areas to the thickness as specified. The freshly coated area shall be allowed to properly cure prior to handling and storage. Liquid epoxy shall not be applied if the pipe temperature is 41°F/5°C or less, except when manufacturer's recommended heat curing procedures are followed.

Alternatively, for pinhole areas, the heat bondable polymeric 3M™ Scotchkote™ Hot Melt Patch Compound 226P shall be applied in small areas to a minimum thickness of 16mils/400 µm in addition to the parent coating. Abrade the area with sandpaper. A non-contaminating heat source shall be used to heat the area to be repaired to approximately 350°F/177°C. When the Patch Compound sticks to the hot surface, it is hot enough. While continuing to heat the cleaned and prepared area, the patch compound shall be applied by rubbing the stick on the area to be repaired in circular motion to achieve a smooth, neat appearing patch. The patch shall be allowed to cool before handling.

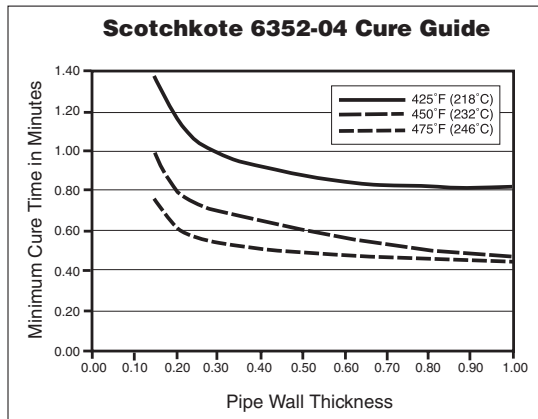


Figure 1

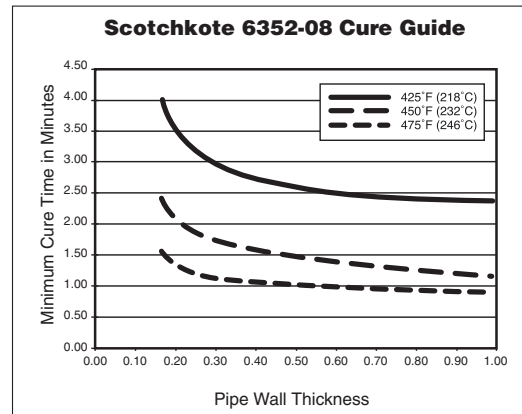


Figure 2

## Handling & Safety Precautions

Read all Health Hazard, Precautionary, and First Aid statements found in the Material Safety Data Sheet, and/or product label prior to handling or use.

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# 3M

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80-6111-8349-4 Rev. H