

# 3M™ External Coatings

## Operating Temperatures

Experimentation and numerous case histories support the use of these systems in a continuous operating environment at the following maximum temperatures. Laboratory data alone is likely insufficient to accurately predict field performance. This is due to the wide variation in actual field conditions. Soil types, resistivity, moisture content and other factors peculiar to the area could influence the performance of the coating or system.

Fusion Bonded Epoxy (FBE)  
Abrasion Resistant Overcoat (ARO)

System Description	Thickness		Operating Temperatures	
	mils	microns	Degrees C	Degrees F
<b>Single Layer FBE</b>				
Scotchkote 6233(P)/226N/226N+	15	406	95	203
Scotchkote 6233(P)/226N/226N+	30	762	110	230
Scotchkote 206N	14	355	65	149
<b>Dualkote System</b>				
Total Dualkote System	30	762	110	230
Scotchkote (Base Layer) 6233(P)/226N/226N+	15	508		
Scotchkote 6352 (ARO)	15	254		
<b>Above ground coating systems</b>				
Utilize FBE coatings as above, but apply a powder weatherable top coat such as polyester. Below 60C (140°F), Scotchkote 352 can be used.				
<b>FBE Girthwelds</b>				
FBE girthweld systems applied at the same thickness as the parent coating have the same operating temperature as the parent coating. Scotchkote 323 as a repair coating has an operating temperature up to 95C (203°F).				
<b>Tri-Layer Systems</b>				
Tri-Layer Polyethylene*-HD	125	3175	80	176
Scotchkote 226N//226N+	10	254		
Adhesive Layer	10	254		
Top Coat	105	2667		
Tri-Layer Polypropylene*	100	2540	110	230
Scotchkote 226N//226N+	10	254		
Adhesive Layer	10	254		
Top Coat	80	2,032		
3-layer Girthweld Coating Scotchkote 352	50	1270	60	140
<b>Pipeline Coating rehabilitation systems</b>				
Scotchkote 352	25	635	60	140
Scotchkote 323	25	635	95	203



The following recommended maximum continuous operating temperature for high glass transition temperature products is based on a derating of the measured glass transition temperature, as well as available case histories. Laboratory data alone is likely insufficient to accurately predict field performance. This is due to the wide variation in actual field conditions. Soil types, resistivity, moisture content and other factors peculiar to the area could influence the performance of the coating or system.

System Description	Thickness		Operating Temperatures	
	mils	microns	Degrees C	Degrees F
<b>Single Layer High Tg FBE</b>				
Scotchkote 626-120	16	406	115	239
Scotchkote 626-140	16	406	135	275
<b>Tri-Layer High Tg FBE</b>				
Tri-Layer Polypropylene*	100	2540	115	239
Scotchkote 626-120	10	254		
Adhesive Layer	10	254		
Top Coat	80	2032		
Tri-Layer Polypropylene*	100	2540	135	275
Scotchkote 626-140	10	254		
Adhesive Layer	10	254		
Top Coat	80	2032		

\*Operating temperature of three layer coatings depends on the performance capabilities of the PE or PP systems

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