



# Nap-Gard®

## 7-2675

## High Tg FBE Coating Dual Layer

Revised: October 7, 2022

### DESCRIPTION

Nap-Gard® 7-2675 is a thermosetting epoxy powder designed for use as a moisture barrier coating for underground and sub-sea pipelines that operate in high temperature service. When used in conjunction with 7-2555, this dual layer system is capable of withstanding continuous operating temperatures of 180°C (356°F).

### TYPICAL POWDER PROPERTIES

<b>Color:</b>	Orange	<b>Theoretical Coverage:</b>	138 Ft <sup>2</sup> /lb/mil
<b>Specific Gravity:</b>	1.39 ± .05	<b>Typical Gel Time:</b>	15 ± 3 Sec. @ 204°C (400°F) CSA Z245.20-22
<b>Density:</b> CSA Z245.20-22 clause 12.6	1390 ± 50 g/L	<b>Shelf Life @ 25°C (77°F)</b>	*9 months
<b>Thermal Characteristics</b>	CSA Z245.20-22	T <sub>g1</sub> = 60 ± 6°C T <sub>g2</sub> = 99 ± 5°C ΔH = 50 ± 20 (J/g)	

\*Transportation: The material is stable during transportation at temperatures below 25°C (77°F) and 50% RH.

### TYPICAL PROPERTIES OF APPLIED FILM†

<b>Recommended Film Thickness</b>	Base Coat – 7-2555	Average	350µm (14 mils)
		[This can vary from 12 mils to 18 mils]	
	Top Coat – 7-2675	Average	430µm (17 mils)
		[This can vary from 15 mils to 20 mils]	
	7-2555 / 7-2675	Nominal Total System Thickness	780µm (31 mils)

This product will have the following properties when applied at a thickness of 400 µm (16 mils) over 300µm (12 mils) of 7-2555 for a total system thickness of 700 µm (28 mils).

<u>TEST / REQUIREMENT</u>	<u>METHOD</u>	<u>CRITERIA</u>	<u>RESULT</u>
<b>Heat Distortion Resistance</b>	CSA Z245.20-22	T <sub>g3</sub> = 99°C (208°F)	
<b>Hardness</b>	ASTM D2240	Shore D	90 avg.
<b>Impact Resistance</b>	ASTM G14	3/16" X 1" X 8" Steel Panels	120 in. lbs
<b>Tensile Strength</b>	ASTM D2370	11,600 psi avg.	
<b>Bending</b>	CSA Z245.20-22	2.0°/pipe dia @ -30°C (-22°F)	Pass

Note: Flexibility will be lower at higher film thickness.



<b>Shear Adhesion</b>	ASTM D1002	> 6200 psi	
<b>Compressive Strength</b>	ASTM D695	9040 psi (+/- 20%)	
<b>Thermal Conductivity</b>	ASTM C177	0.09 ± 0.01 BTU/hr./ft <sup>2</sup> /ft./°F	
<b>Cathodic Disbondment</b>	CSA Z245.20-22	28 days @ 65°C, 1.5 volts, 3%NaCl	5 mm avg. radius
		28 days @ 95°C, 1.5 volts, 3%NaCl	6 mm avg. radius
		28 days @ 150°C, 1.5 volts, 3%NaCl	2 mm avg. radius
		28 days @ 180°C, 1.5 volts, 3%NaCl	3 mm avg. radius

† - Performance depends on film thickness. Consult Nap-Gard® Specialist for specific recommendations.

**TYPICAL ELECTRICAL PROPERTIES OF FILM**

<u>TEST / REQUIREMENT</u>	<u>METHOD</u>	<u>CRITERIA</u>	<u>RESULT</u>
Dielectric Strength	ASTM D149	@ 250µm (10 mils)	1050 volts/mil
Dielectric Constant	ASTM D150		3.32 @ 1 MHz
Volume Resistivity	ASTM D257		3.1 x 10 <sup>15</sup> ohm-cm

**GENERAL APPLICATION PARAMETERS**

- Grit blast to NACE Near-White specifications (Swedish Standard #Sa2½) and profile between 50µm (2 mils) and 112µm (4.5 mils).
- Preheat pipe to 218°C(425°F) to 239°C(463°F).
- Apply Nap-Gard® 7-2555 followed immediately by Nap-Gard® 7-2675 in a continuous process providing the base coat time to gel but not fully cure. Water quench after allowing sufficient time for proper cure. [Note: Water quench time may vary with application parameters and substrate thickness.]
- Follow recommended cure schedule (see below).
- Repair damaged area with Nap-Gard® 7-1854 or SPC SP-8888 for service temperature up to 150°C; For service temperature up to 180°C, repair damaged area with Nap-Gard® 7-1890 or SPC SP-8988.

**GEL TIME & CURE† SCHEDULE GUIDELINES**

The minimum post application curing temperature (as measured on the pipe) shall conform to the cure schedule of the base coat, refer to Nap-Gard® 7-2555 Data Sheets. However, a minimum 90 seconds at 218°C (425°F) or higher is needed for proper cure.

† Cure is by residual heat in the pipe, therefore very light wall pipe may require additional post heat to complete cure.

‡ Recommended time to quench is based on the assumption that the listed temperature is maintained without any cool down rate. Time to quench will vary with application parameters and pipe sizes. **Therefore, the above information shall be used only as a guideline by the applicator to develop proper time to quench. Cure should be verified by DSC or other methods.**

Always consult product Material Safety Data (SDS) prior to handling.

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