



Nap-Gard®

7-4527

Gheen Green FBE

Revised: 5 October 2022

DESCRIPTION

Nap-Gard® Product No. 7-4527 is a thermosetting epoxy powder designed as a coating for underground and subsea pipeline service. In buried service, the coating is capable of withstanding continuous operating temperatures of 107°C (225°F). Nap-Gard® 7-4527 has been certified to NSF/ANSI/CAN 61, drinking water system components. For NSF/ANSI/CAN 61 applications, the maximum recommended film thickness is 14 mils. This product is also recommended for use as a primer on multi-layer systems at a film thickness of 8-12 mils.



TYPICAL POWDER PROPERTIES

Color:	Green	Theoretical Coverage:	134 Ft ² /lb/mil
Specific Gravity:	1.44 ± .05	Typical Gel Time:	24 ± 5 seconds CSA Z245.20-22
Density:	1440 ± 50 g/L	Shelf Life*:	12 months
CSA Z245.20-22		@ 25°C (77°F)	
		@ 50% RH	

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

TYPICAL PROPERTIES OF APPLIED FILM

Recommended Film Thickness		Average	350µm (14 mils)
		Minimum	300µm (12 mils)
TEST / REQUIREMENT	METHOD	CRITERIA	RESULT
Impact Resistance	ASTM G14	1/8"X5"X8" Steel Panels	160 in.lbs
	CSA Z245.20-22	@ 25°C (77°F)	
		@ -30°C (-22°F)	1.5J, Pass
Bending	CSA Z245.20-22	3.0°/PD @ -30° (-22°F)	Pass
	API-RP-5L7		Pass
Hardness	ASTM D2583	Barcol	62 Average
	ASTM D2240	Shore D	85 Average
Hot Water Resistance	CSA Z245.20-22	75°C, 24 hours	Rating 1-2, Pass

GENERAL APPLICATION PARAMETERS

- Grit blast to NACE Near-White specifications (Swedish Standard #Sa2½) and profile between 50µm (2 mils) and 112µm (4.5 mils).
- Use phosphoric acid/deionized water rinse if water soluble salt contamination is suspected.
- Preheat pipe to approximately 232°C (450°F) to 246°C (475°F)
- Apply Nap-Gard® 7-4527 powder to meet customer thickness specifications.
- Follow recommended cure schedule (see below).
- Cure should be verified by DSC or other methods.
- Electrically inspect for holidays. Repair with Nap-Gard® 7-1677S or 7-1868.
- If girth welds are being coated, refer to Axalta's "Nap-Gard® Field Girth Weld Application Procedure".



CURE† SCHEDULE GUIDELINES

The cure profile and schedule for Nap-Gard® 7-4527 shown below, outlines the minimum time at temperature required to achieve the typical performance properties of the coating. Recommended powder application temperature range is 204°C (400°F) to 239°C (463°F) and post heating is not a normal requirement on many pipe sizes with 0.25 inch wall thickness or above. The minimum post application curing temperature (as measured on the coated pipe) and the time to quench may conform to the following cure schedule:

Application Temperature	Min Time to Quench‡
218°C (425°F)	120 seconds
232°C (450°F)	90 seconds
239°C (463°F)	70 seconds

† 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. For three layer, the optimum time for adhesive application is between 30-70% cure of the FBE. This has to be developed by the applicator based on the plant layout.**

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

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