

NOVAGUARD™ 650

DESCRIPTION

Two-component, solvent-free amine cured epoxy coating

PRINCIPAL CHARACTERISTICS

- Tank coating for crude oil and aliphatic petroleum products
- Good resistance to various chemicals
- Can be applied by heavy-duty, single-feed, airless spray equipment (60:1)
- Excellent anticorrosive properties and water resistance
- Good abrasion resistance
- A clear version is available for application of glass mats repair systems or application of chopped glass fibers
- Meets the requirements of EI 1541 2.2 (coating systems for aviation fuel storage tanks and pipes)

COLOR AND GLOSS LEVEL

- Gray, offwhite, clear
- Gloss

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.4 kg/l (11.7 lb/US gal)
Volume solids	100%
VOC (Supplied)	UK PG 6/23(92) Appendix 3: max. 20.0 g/l (approx. 0.2 lb/US gal)
Recommended dry film thickness	300 - 600 µm (12.0 - 24.0 mils) depending on system
Theoretical spreading rate	3.3 m ² /l for 300 µm (134 ft ² /US gal for 12.0 mils) 1.7 m ² /l for 600 µm (67 ft ² /US gal for 24.0 mils)
Dry to touch	8 hours
Overcoating Interval	Minimum: 12 hours Maximum: 6 months
Shelf life	Base: at least 24 months when stored cool and dry Hardener: at least 24 months when stored cool and dry

Notes:

- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time



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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Steel; blast cleaned to ISO-Sa2½, blasting profile 50 – 100 µm (2.0 – 4.0 mils)
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Substrate temperature and application conditions

- Substrate temperature during application and curing should be above 5°C (41°F)
 - Substrate temperature during application and curing should be at least 3°C (5°F) above dew point
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INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 80:20 (4:1)

- The temperature of the mixed base and hardener should preferably be above 20°C (68°F)
 - Higher temperature will result in shorter pot life
 - No thinner should be added
 - In-line heaters can be considered
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Pot life

45 minutes at 20°C (68°F)

Note: See ADDITIONAL DATA – Pot life

Airless spray

- Use heavy-duty, single-feed, airless spray equipment, preferably 60:1 pump ratio and suitable high-pressure hoses/in-line heating or insulated hoses may be necessary to avoid cooling down of paint in hoses at low air temperature
- Application with 45:1 airless spray equipment is possible, provided in-line, heated high-pressure hoses are used

Recommended thinner

No thinner should be added

Nozzle orifice

Approx. 0.43 – 0.53 mm (0.017 – 0.021 in)

Nozzle pressure

21.0 MPa (approx. 210 bar; 3046 p.s.i.)

Note: In case of using 45:1 airless spray equipment, the paint must be heated to approximately 30°C (86°F) in order to obtain the right application viscosity

Brush/roller

- Brush: for stripe coating and spot repair only

Recommended thinner

No thinner should be added



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Cleaning solvent

THINNER 90-53 or THINNER 90-83

Note: All application equipment must be cleaned immediately after use. Paint inside the spraying equipment must be removed before the pot life has been expired.

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	Theoretical spreading rate
300 µm (12.0 mils)	3.3 m ² /l (131 ft ² /US gal)
600 µm (24.0 mils)	1.7 m ² /l (67 ft ² /US gal)

Overcoating interval for DFT up to 300 µm (12.0 mils)						
Overcoating with...	Interval	5°C (41°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)	40°C (104°F)
itself	Minimum	36 hours	20 hours	12 hours	5 hours	2 hours
	Maximum exposed to direct sunshine	2 months	2 months	2 months	1 month	1 month
	Maximum NOT exposed to direct sunshine	6 months	6 months	6 months	4 months	2 months

Note: Surface should be dry and free from any contamination

Curing time for DFT up to 300 µm (12.0 mils)			
Substrate temperature	Dry to touch	Dry to handle	Full cure
5°C (41°F)	30 hours	36 hours	21 days
10°C (50°F)	20 hours	24 hours	10 days
20°C (68°F)	8 hours	12 hours	5 days
30°C (86°F)	3 hours	4 hours	3 days

Pot life (at application viscosity)	
Mixed product temperature	Pot life
20°C (68°F)	45 minutes
30°C (86°F)	20 minutes



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SAFETY PRECAUTIONS

- Although this is a solvent-free paint, care should be taken to avoid inhalation of spray mist, as well as contact between the wet paint and exposed skin or eyes
- For paint and recommended thinners see INFORMATION SHEETS 1430, 1431 and relevant Material Safety Data Sheets

WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective and Marine Coatings to supply the same product on a worldwide basis. However, slight modification of the product is sometimes necessary to comply with local or national rules/circumstances. Under these circumstances an alternative product data sheet is used.

REFERENCES

• EXPLANATION TO PRODUCT DATA SHEETS	INFORMATION SHEET	1411
• SAFETY INDICATIONS	INFORMATION SHEET	1430
• SAFETY IN CONFINED SPACES AND HEALTH SAFETY, EXPLOSION HAZARD – TOXIC HAZARD	INFORMATION SHEET	1431
• SAFE WORKING IN CONFINED SPACES	INFORMATION SHEET	1433
• DIRECTIVES FOR VENTILATION PRACTICE	INFORMATION SHEET	1434
• CLEANING OF STEEL AND REMOVAL OF RUST	INFORMATION SHEET	1490

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