

# 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 (semi-transparent) version is available for systems reinforced with chopped glass fibers or glass fiber mats
- Meets the requirements of EI 1541 2.2 (coating systems for aviation fuel storage tanks and pipes)

## COLOR AND GLOSS LEVEL

- Gray, offwhite, clear (semi-transparent)
- 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 <sup>2</sup> /l for 300 µm (134 ft <sup>2</sup> /US gal for 12.0 mils) 1.7 m <sup>2</sup> /l for 600 µm (67 ft <sup>2</sup> /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

## 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

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### **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

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### **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.

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## ADDITIONAL DATA

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

## 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.



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## 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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