PHENGUARD™ 965

DESCRIPTION

Two-component, high-build, amine adduct-cured novolac phenolic epoxy coating

PRINCIPAL CHARACTERISTICS

- Excellent resistance to a wide range of organic acids, alcohols, fats (regardless of free fatty acid content) and solvents
- Maximum cargo flexibility
- Low cargo absorption
- Easy to clean
- Good resistance to hot water
- Can be applied and cures at temperatures down to 5°C (41°F)
- Good application properties, resulting in a smooth surface

COLOR AND GLOSS LEVEL

- Offwhite, pink, gray
- Low sheen

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.7 kg/l (14.2 lb/US gal)
Volume solids	68 ± 2%
VOC (Supplied)	Directive 2010/75/EU, SED: max. 195.0 g/kg max. 329.0 g/l (approx. 2.7 lb/US gal) EPA Method 24: 310.0 g/ltr (2.6 lb/USgal)
Recommended dry film thickness	100 µm (4.0 mils)
Theoretical spreading rate	6.8 m^2/l for 100 µm (273 ft^2/US gal for 4.0 mils)
Dry to touch	2 hours
Overcoating Interval	Minimum: 8 hours Maximum: 14 days
Shelf life	Base: at least 12 months when stored cool and dry Hardener: at least 12 months when stored cool and dry

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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Steel should be blast cleaned in situ to at least ISO-Sa2½
- Blasting profile 50 – 100 µm (2.0 – 4.0 mils)
- Steel must be free from rust, scale, shop primer and any other contamination
- The substrate must be perfectly dry before and during application of PHENGUARD 965

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

SYSTEM SPECIFICATION

- PHENGUARD 965 offwhite: 100 µm (4.0 mils)
- PHENGUARD 965 pink: 100 µm (4.0 mils)
- PHENGUARD 965 grey:100 µm (4.0 mils)

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 6.69:1

- The temperature of the mixed base and hardener should preferably be above 15°C (59°F), otherwise extra thinner may be required to obtain application viscosity
- Adding too much thinner results in reduced sag resistance
- Thinner should be added after mixing the components

Table of Induction time

Mixed product induction time	
Mixed product temperature	**Induction time**
5°C (41°F)	20 minutes
10°C (50°F)	15 minutes
15°C (59°F)	10 minutes

Pot life

2 hours at 20°C (68°F)

Note:

- See ADDITIONAL DATA – Pot life

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Air spray

Recommended thinner

THINNER 91-92

Volume of thinner

5 - 10%, depending on required thickness and application conditions

Nozzle orifice

2.0 mm (approx. 0.079 in)

Nozzle pressure

0.3 MPa (approx. 3 Bar; 44 p.s.i.)

Airless spray

Recommended thinner

THINNER 91-92

Volume of thinner

0 - 10%, depending on required thickness and application conditions

Nozzle orifice

Approx. 0.46 – 0.53 mm (0.018 – 0.021 in)

Nozzle pressure

15.0 MPa (approx. 150 bar; 2176 p.s.i.)

Brush/roller

Recommended thinner

THINNER 91-92

Volume of thinner

0 – 5%

Cleaning solvent

- THINNER 90-53

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ADDITIONAL DATA

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
100 µm (4.0 mils)	6.8 m^2/l (273 ft^2/US gal)
125 µm (5.0 mils	5.4 m^2/l (218 ft^2/US gal)

Note:

- Maximum DFT when brushing: 60 µm (2.4 mils)

Overcoating interval for DFT up to 100 µm (4.0 mils)						
Overcoating with...	**Interval**	**5°C (41°F)**	**10°C (50°F)**	**15°C (59°F)**	**20°C (68°F)**	**30°C (86°F)**
itself	Minimum	24 hours	20 hours	14 hours	8 hours	6 hours
	Maximum	28 days	25 days	21 days	14 days	7 days

Note:

- Surface should be dry and free from any contamination

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Curing time for DFT up to 100 µm (4.0 mils)	
Substrate temperature	**Minimum curing time before transport of cargoes without note 4, 7 or 11 and ballast water or tank test with sea water**
5°C (41°F)	7 days
10°C (50°F)	5 days
15°C (59°F)	4 days
20°C (68°F)	3 days
30°C (86°F)	48 hours

Notes:

- Minimum curing time of PHENGUARD 965 system before transport of cargoes with note 4, 7 or 11: 3 months
- For detailed information on resistance and resistance notes, please refer to the latest issue of the cargo resistance list
- For transport of methanol and vinyl acetate monomer, a hot cure is required, which cannot be substituted by a service period of 3-months with non-aggressive cargoes
- Adequate ventilation must be maintained during application and curing
- When used as a primer under solvent-free tank-linings the DFT must be limited to a maximum of 100 µm (4.0 mils)

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
5°C (41°F)	8 hours
10°C (50°F)	6 hours
15°C (59°F)	4 hours
20°C (68°F)	2 hours
30°C (86°F)	1 hours

SAFETY PRECAUTIONS

- This is a solvent-borne paint and care should be taken to avoid inhalation of spray mist or vapor, as well as contact between the wet paint and exposed skin or eyes
- See Safety Data Sheet and product label for complete safety and precaution requirements

WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective & 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

- Guide | PPG PHENGUARD | Tankcoating - Hot cure
- Information sheet | Explanation of product data sheets

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