January 28, 2022 (Revision of November 30, 2021)

NOVAGUARD™ 890 LT

DESCRIPTION

Two-component, solvent-free, amine-cured novolac phenolic epoxy coating

PRINCIPAL CHARACTERISTICS

- One-coat tank coating system
- Cures down to –5°C (23°F) with intermittent temperature drops to –10°C (14°F)
- Fast return to service
- Excellent resistance to crude oil up to 120°C (250°F)
- Suitable for storage of unleaded gasolines blended up to 100% ethanol (E5 up to E100)
- Suitable for storage of biodiesel (EN14214)
- Good chemical resistance against a wide range of chemicals and solvents
- Good visibility due to light color
- Can be applied by heavy-duty, single-feed, airless spray equipment (60:1)
- Reduced explosion risk and fire hazard

COLOR AND GLOSS LEVEL

- Black, gray and light gray
- 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)	Directive 2010/75/EU, SED: max. 94.0 g/kg max. 131.0 g/l (approx. 1.1 lb/US gal) EPA Method 24: 92.0 g/ltr (0.8 lb/USgal)
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)
Dry to touch	8 hours
Dry to handle	12 hours
Overcoating Interval	Minimum: 24 hours Maximum: 1 month
Full cure after	6 days

NOVAGUARD™ 890 LT

Data for mixed product	
Shelf life	Base: at least 12 months when stored cool and dry Hardener: at least 12 months when stored cool and dry

Notes:
- See ADDITIONAL DATA – Spreading rate and film thickness
- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Steel; blast cleaned to a minimum of SSPC-SP10 or ISO-SA2½ , blasting profile 50 – 125 µm (5.0 mils) (2.0 – 5.0 mils)
- Steel with suitable primer (NOVAGUARD 260 or PHENGUARD 930 or PHENGUARD 965) must be dry and free from any contamination

Substrate temperature

- Substrate temperature during application and curing at -5°C (23°F) is acceptable; however curing to hardness takes longer at lower temperatures
- Ambient temperature during application and curing at -5°C (23°F) is acceptable
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point

Note: The surface should be inspected to ensure there is no ice present on the substrate in cold weather conditions

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 at least 20°C (68°F)
- Thinning will severely impair the curing mechanism and subsequent performance.
- For recommended application instructions, see working procedure
- At lower temperature, the viscosity will be too high for spray application

Induction time

None

Pot life

35 minutes at 20°C (68°F)

Note: See ADDITIONAL DATA – Pot life

NOVAGUARD™ 890 LT

Airless spray

Nozzle orifice
Approx. 0.53 mm (0.021 in)

Nozzle pressure
At 20°C (68°F) paint temperature min. 28.0 MPa (approx. 280 bar; 4061 p.s.i.). At 30°C (86°F) min. 22.0 MPa (approx. 220 bar; 3191 p.s.i.)

Note: Use heavy-duty, single-feed, airless spray equipment, preferably 60:1 pump ratio and suitable high-pressure hoses

Brush/roller

- Brush: for stripe coating and spot repair only

Cleaning solvent
THINNER 90-53 or THINNER 90-83

Notes:
- 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 (134 ft^2/US gal)
600 µm (24.0 mils)	1.7 m^2/l (67 ft^2/US gal)

Note: Maximum DFT when brushing: 150 µm (6.0 mils)

Measuring wet film thickness

- A difference is often obtained between the measured apparent WFT and the real applied WFT. This is due to the thixotropy and the surface tension of the paint, which retards the release of air, trapped in the paint film for some time
- Recommendation is to apply a WFT, which is equal to the specified DFT plus 60 µm (2.4 mils)

Measuring dry film thickness

- Penetration of the measuring gauge into the paint film may be observed due to low initial hardness. Care should be taken to prevent unnecessary low readings
- The DFT should be measured using a calibration foil of known thickness placed in between the coating and the measuring device

NOVAGUARD™ 890 LT

Overcoating interval for DFT up to 600 µm (24.0 mils)						
Overcoating with...	**Interval**	**-5°C (23°F)**	**0°C (32°F)**	**5°C (41°F)**	**10°C (50°F)**	**20°C (68°F)**
itself	Minimum Maximum	5 days 1 month	3 days 1 month	48 hours 1 month	32 hours 1 month	12 hours 1 month

Note: Surface should be dry and free from any contamination and ice

Curing time for DFT up to 600 µm (24.0 mils)			
Substrate temperature	**Dry to handle**	**Minimum cure time for purely aliphatic petroleum product (see note)**	**Minimum cure time for all other chemicals**
-5°C (23°F)	5 days	9 days	14 days
0°C (32°F)	3 days	5 days	14 days
5°C (41°F)	48 hours	60 hours	14 days
10°C (50°F)	32 hours	48 hours	10 days
20°C (68°F)	12 hours	36 hours	6 days

Notes:
- Gasoline or gasoline/alcohol blends are not included in purely aliphatic petroleum products, please contact your PPG representative for further details
- Adequate ventilation must be maintained during application and curing (please refer to INFORMATION SHEETS 1433 and 1434)

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
20°C (68°F)	35 minutes
30°C (86°F)	15 minutes - 20 minutes

Note: Due to exothermic reaction, temperature during and after mixing may increase

SAFETY PRECAUTIONS

- For paint and recommended thinners see INFORMATION SHEETS 1430, 1431 and relevant Material Safety Data Sheets
- 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
- Ventilation should be provided in confined spaces to maintain good visibility
- If workers are exposed to concentrations above the exposure limit, they must use appropriate personal protective equipment (PPE).

NOVAGUARD™ 890 LT

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

• CONVERSION TABLES	INFORMATION SHEET	1410
• 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
• SPECIFICATION FOR MINERAL ABRASIVES	INFORMATION SHEET	1491
• RELATIVE HUMIDITY – SUBSTRATE TEMPERATURE – AIR TEMPERATURE	INFORMATION SHEET	1650

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