

PPG PITT-CHAR® NX

DESCRIPTION

Two-component, 100% solids, flexible, epoxy intumescent fire protective coating for use in industries such as oil & gas, chemicals, energy, transportation and defence that potentially involve major accident hazards including explosions, hydrocarbon jet and pool fires. Also provides Cryogenic Spill Protection (CSP) requirements on LNG facilities.

PRINCIPAL CHARACTERISTICS

- Provides passive fire protection to structures, divisions (decks, bulkheads and firewalls), process vessels, pipework and equipment which are safety critical. Ensures structural stability, integrity and meeting insulation requirements.
- Suitable for use in offshore and onshore environments with ISO 12944-2 corrosivity categories of C5 and CX (offshore)
- Resistant to industrial environments including splash and spillage of chemicals
- Suitable for substrates including aluminum, carbon steel, galvanized steel, stainless/duplex steels and composites
- Resistant to the damage from vibration, abrasion, impact and from deflection of structures during fabrication, transportation, extreme loading conditions and low temperatures
- Withstands vapor cloud explosion events including blast over-pressure, drag and secondary projectile impact forces
- Can be applied by spray, nozzle or trowel. Suitable for converting into finished goods e.g. valve and flange enclosures.
- Independently tested in accordance with recognized national and international test standards including: ASTM E-84, BS 476, GB 14907, GOST R 53295, GOST R EN 1363-2, IMO FTP Code, ISO 22899-1, ISO 12944, ISO 20902-1, ISO 20088-3, NFPA 290, NORSOK M501 Edition 6, UL 2431 and UL 1709 Rev.5
- Type approval and certification by industry leading class societies, including: ABS, DNV, LR, RMRS
- Service Temperature Limits: -60°C (-76°F) to +80°C (176°F) continuous; please contact PPG for advice on use at low temperatures and where there are short term/infrequent excursions beyond these limits

COLOR AND GLOSS LEVEL

- Gray (not available in tints)
- Matt
- Can be topcoated with wide range of top coats in colors and gloss levels

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.1 g/cm ³ (68.7 lb/ft ³) (IMO MSC 307(88) Marine FTP code 2010)
Volume solids	100%
VOC (Supplied)	Directive 2010/75/EU, SED: max. 0.0 g/kg EPA Method 24: 0.0 g/ltr (0.0 lb/USgal)
Shelf life	Base: at least 18 months when stored cool and dry Hardener: at least 18 months when stored cool and dry

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Notes:

- Material should be stored in dry conditions, out of direct sunlight and at temperatures above 0°C (32°F) and below 30°C (86°F). For temperatures excursions outside this range, please contact a PPG representative.
- The applied mass density is dependent upon many variables such as temperature, test method, application method and equipment
- Apply appropriate loss/wastage factor
- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Substrate must be sound, dry and free from any contamination and surface prepared in accordance with PPG PITT-CHAR NX APPLICATION GUIDELINES
- Primer system should be within specified thickness, fully cured, and within over-coating interval guidelines for the system used
- Only primers qualified for use with PPG PITT-CHAR NX shall be used, please refer to a PPG representative
- Optional aesthetic topcoats, where used, shall be qualified for use with PPG PITT-CHAR NX; please refer to a PPG representative for guidance
- For non-PPG primers or topcoats, please contact your PPG representative
- Where mesh reinforcement of PPG PITT-CHAR NX is necessary, this should be carried out in accordance with the PPG PITT-CHAR NX APPLICATION GUIDELINES

Substrate temperature and application conditions

- Ambient temperature below 10°C (50°F) is acceptable; however curing to hardness takes longer, and it will effectively cease curing below 5°C (41°F). But once the temperature rises again, it will continue to cure.
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point
- Relative humidity during application should not exceed 85%

INSTRUCTIONS FOR USE

- Application should be in accordance with PPG PITT-CHAR NX APPLICATION GUIDELINES

Mixing ratio

- By volume: base to hardener 2.28:1
- By weight: base to hardener 3.24:1

Note:

- Tolerance $\pm 10\%$. When applying by single feed spray pump or trowel application, it is recommended that full 20 kg kits are mixed.

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Airless spray: Plural component

- See PPG PITT-CHAR NX APPLICATION GUIDELINES for full details

Recommended thinner

No thinner should be added; THINNER 91-92 can be used for rolling and cleaning of tools

Note:

- Hoses should be kept as short as possible; Suitable insulated and/or heated hoses should be used
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Airless Spray – Single Feed Pump

- See PPG PITT-CHAR NX APPLICATION GUIDELINES for full details

Recommended thinner

THINNER 91-92

Volume of thinner

Typically, between 0 – 5% (0 to 0.7 L), but the quantity shall never exceed 10% (1.4 L)

Notes:

- The addition of thinner will affect sag resistance, working pot life and overcoating intervals
 - Material (mixed) temperature needs to be between 23°C (73°F) and 35°C (95°F)
 - The maximum length of the hoses should not exceed 30 m (or 100 ft)
 - Use of spray equipment with a ratio higher than 65:1 is recommended
 - After airless application, the surface may be smoothened using a roller and recommended thinners
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Trowel

- See PPG PITT-CHAR NX APPLICATION GUIDELINES for full details

Recommended thinner

THINNER 91-92

Volume of thinner

0 – 2% (0 to 0.3 L)

Cleaning solvent

- THINNER 91-92
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ADDITIONAL DATA

Overcoating interval for solvent-free coatings							
Overcoating with...	Interval	5°C (41°F)	10°C (50°F)	15°C (59°F)	20°C (68°F)	30°C (86°F)	40°C (104°F)
itself	Minimum	None	None	None	None	None	None
	Maximum	3 months	3 months	3 months	2 months	2 months	1 month
tiecoat, polyurethane or epoxy top coat	Minimum	22 hours	16 hours	12 hours	8 hours	3 hours	2 hours
	Maximum	3 months	3 months	3 months	2 months	2 months	1 month

Notes:

- If solvent thinners have been added, minimum over-coating intervals should be extended to prevent solvent entrapment
- Surface must be dry and free from any contamination
- Typical application method is wet on wet to achieve the fire rating in a single application. See PPG PITT-CHAR NX APPLICATION GUIDELINES for full details.

Curing time for solvent-free application			
Substrate temperature	Dry to touch	Dry to handle	Full cure
5°C (41°F)	22 hours	35 hours	9 days
10°C (50°F)	16 hours	26 hours	7 days
15°C (59°F)	12 hours	19 hours	6 days
20°C (68°F)	8 hours	13 hours	5 days
25°C (77°F)	5 hours	8 hours	4 days
30°C (86°F)	3 hours	5 hours	3 days
40°C (104°F)	1 hours	2 hours	24 hours

Notes:

- Drying times need to be doubled from dry to handle time for walk-on
- Curing times may vary depending on substrate, ambient and material temperature
- Adequate ventilation must be maintained during application and curing
- See PPG PITT-CHAR NX APPLICATION GUIDELINES for full details

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Pot life (at application viscosity)	
Mixed product temperature	Pot life
30°C (86°F)	60 minutes
40°C (104°F)	30 minutes
50°C (122°F)	15 minutes

Notes:

- Pot life is not applicable for plural spray application
- Pot life is dependent on many variables including material temperature, substrate temperature, mixing time, addition of solvent, etc. Figures provided are for guidance only.

SAFETY PRECAUTIONS

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

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.

REFERENCES

- Information sheet | Explanation of product data sheets
- Guide | PPG PITT-CHAR NX | Application guidelines

WARRANTY

PPG warrants (i) its title to the product, (ii) that the quality of the product conforms to PPG's specifications for such product in effect at the time of manufacture and (iii) that the product shall be delivered free of the rightful claim of any third person for infringement of any U.S. patent covering the product. THESE ARE THE ONLY WARRANTIES THAT PPG MAKES AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, UNDER STATUTE OR ARISING OTHERWISE IN LAW, FROM A COURSE OF DEALING OR USAGE OF TRADE, INCLUDING WITHOUT LIMITATION, ANY OTHER WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR USE, ARE DISCLAIMED BY PPG. Any claim under this warranty must be made by Buyer to PPG in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life of the product, or one year from the date of the delivery of the product to the Buyer, whichever is earlier. Buyer's failure to notify PPG of such non-conformance as required herein shall bar Buyer from recovery under this warranty.

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