July 30, 2020 (Revision of February 18, 2020)

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. Compatible with Cryogenic Spill Protection systems.

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
- Highly durable, epoxy intumescent coating that provides excellent corrosion protection
- 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 fire test standards including: ASTM E-84, BS 476, GB 14907, GOST R 53295, GOST R EN 1363-2, IMO FTP Code, ISO 834, ISO 22899-1, ISO 12944, ISO 20902-1, NFPA 290, NORSOK M501 Edition 6 and UL 1709 Rev.5
- Type approval and certification by industry leading certification bodies
- Operating Temperature Limits: -40°C (-40°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

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 1999/13/EC, SED: max. 0.0 g/kg EPA Method 24: 0.0 g/ltr (0.0 lb/USgal) EUR Directive: 2004/42/IIA(i)(500) 0 g/l)

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Data for mixed product	
Shelf life	Base: at least 24 months when stored cool and dry Hardener: at least 24 months when stored cool and dry

Notes:
- Material should be stored in dry conditions, out of direct sunlight and at temperatures above 0°C (32°F) and below 35°C (95°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

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Substrate must be sound, dry and free from any contamination and surface prepared in accordance with 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 PITT-CHAR NX shall be used, please refer to a PPG representative
- Optional aesthetic topcoats, where used, shall be qualified for use with 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 PITT-CHAR NX is necessary, this should be carried out in accordance with the 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 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 strictly in accordance with 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 ± 10%. When applying by single feed spray pump or trowel application, it is recommended that full 20kg kits are mixed

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Airless Spray – Heated Plural Component (Preferred)

- See PITT-CHAR NX APPLICATION GUIDELINES for full details

Recommended thinner

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

Notes:

- Hoses should be kept as short as possible ; Suitable insulated and/or heated hoses should be used
- Base and hardener need to be pre-heated to a minimum of 45 - 50°C (113 - 122°F) while circulating through the unit
- After spray application the PITT-CHAR NX should be finished using a trowel and/or rollers lightly dampened with solvent

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Airless Spray – Single Feed Pump

- See 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 potlife 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 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

Note: Contact a PPG representative for alternative cleaning solvents

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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:
- Surface must be dry and free from any contamination
- If solvent thinners have been added, minimum over-coating intervals should be extended to prevent solvent entrapment
- Typical application method is wet on wet to achieve the fire rating in a single application. See 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 hour	2 hours	24 hours

Notes:
- Adequate ventilation must be maintained during application and curing (please refer to INFORMATION SHEETS 1433 and 1434)
- Curing times may vary depending on substrate, ambient and material temperature
- Drying times have to be doubled from dry to handle time for walk-on
- See PITT-CHAR NX APPLICATION GUIDELINES for full details

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
25°C (77°F)	30 minutes
35°C (95°F)	15 minutes

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

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SAFETY PRECAUTIONS

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

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
• CLEANING OF STEEL AND REMOVAL OF RUST	INFORMATION SHEET	1490
• RELATIVE HUMIDITY – SUBSTRATE TEMPERATURE – AIR TEMPERATURE	INFORMATION SHEET	1650
• CONVERSION TABLES	INFORMATION SHEET	1410
• SPECIFICATION FOR MINERAL ABRASIVES	INFORMATION SHEET	1491

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