

FIRE RATED STEEL PROTECTION

CHARCOAT 1709

EPOXY INTUMESCENT COATING FOR
THE FIRE PROTECTION OF STRUCTURAL
STEEL UP TO 300 MINUTES UNDER
HYDROCARBON CONDITIONS



CHARCOAT

SPECIAL FEATURES

- ✓ Up to 5 hour Fire Rated Coating
- ✓ 100% Epoxy Coating
- ✓ Tested to hydrocarbon fire under UL1709
- ✓ GB14907-2018 Tested and Approved
- ✓ In accordance with API 2218
- ✓ High Build epoxy
- ✓ High Solids content | two component
- ✓ 100% Volume Solids
- ✓ Plural Component or trowel application
- ✓ Solvents free
- ✓ Zero Maintenance Required
- ✓ Resistant to oil, petrol, chemicals, and acids
- ✓ Weatherproof / UV resistant
- ✓ Non-Corrosive
- ✓ 100% UV Stable
- ✓ After completion (full cure) temperature resistant down to -40°C

CHARCOAT 1709 STEEL COATING

CharCoat 1709 – Next Generation Hydrocarbon Fire Protection

Building on CharCoat's reputation for high-performance industrial coatings, CharCoat 1709 enters the market as a UL 1709 tested and approved epoxy intumescent coating, engineered to protect structural steel for up to 5 hours (300 minutes) in the most demanding hydrocarbon fire scenarios.

This two-component, 100% solids flexible epoxy system delivers exceptional passive fire protection to critical assets—structural steel, pipework, vessels, and skirts—ensuring structural stability, integrity, and corrosion resistance when it matters most. By minimizing fire-related damage and downtime, CharCoat 1709 safeguards both people and productivity.

When exposed to hydrocarbon flames at 1100°C, CharCoat 1709 reacts instantly, expanding into a tough, insulating intumescent char that shields the steel substrate. Its advanced chemistry triggers a controlled expansion at approx 150°C - 200°C, forming a thick carbonaceous barrier that absorbs heat and prevents the steel from reaching critical failure temperatures.

Application is simple and versatile—CharCoat 1709 can be applied by plural component spray or trowel, even on vertical and overhead surfaces. Once applied in multiple coats to the required thickness, it bonds seamlessly to primed substrates, provided surfaces are properly prepared and free of contaminants.

Behind the scenes, the science is as powerful as the performance: upon heating, the coating undergoes a chemical transformation into a viscous, gas-expanded matrix. This unique process locks in gases within the char, creating a dense insulating shield that buys crucial time during a fire emergency.

With CharCoat 1709, asset owners gain a durable, high-performance fireproofing solution built for hydrocarbon-intensive industries, ensuring confidence in safety, compliance, and long-term asset protection.

**Underwriters
Laboratories**





TECHNICAL DATA



CharCoat 1709 can also be applied to steel-work in areas such as:

- ✓ Onshore Petroleum
- ✓ Chemical Plants
- ✓ Pipe Racks
- ✓ Tanks
- ✓ Vessel skirts and saddles
- ✓ Transformer Bays / Areas
- ✓ Pipework
- ✓ Marine Applications (ships / rigs)
- ✓ Containers
- ✓ Conveyor Belts

For exterior and interior steel applications, CharCoat 1709 also stops Corrosion under insulation (CUI) and chemical attack on the substrate.

TYPICALLY APPLIED ON THE FOLLOWING (INTERIOR / EXTERIOR)

- : Steel structures
- : Pipelines
- : Tanks and legs

DIRECTION FOR USE (RECOMMENDED CONDITIONS)

- : Material and air temperature > 10°C, humidity < 85%
- : Refer to complete application manual for spray units or trowel application

TRANSPORT / STORAGE

- : Transport and indoor storage - preferably at a minimum of +1°C to a maximum of +30°C
- : Shelf-life of unopened pans - 12 month from date of manufacture

PACKAGING

- : Component A: 20kg Drum | Component B: 8kg Drum
- : 28kg Kit (steel drums) - Consisting of 1 x component A, 1 x component B for plural component application.

WORKING POT LIFE

Coating Temperature:	15°C	25°C
Working pot life	70 mins	45 mins

The above figures are for trowel application. Working pot life is not applicable for plural airless spray application as the product is only mixed at the spray gun, at the point of application.



American
Petroleum
Institute

PRODUCT FIRE RATING (Minutes)

CharCoat 1709 Up to 300 minutes (5 hours)

APPROVALS DESCRIPTION

UL1709 Up to 300 minutes Structural Steel Fire Protection under fire conditions - 1100°C
GB14907-2018 Up to 210 minutes Structural Steel Fire Protection under fire conditions - 1100°C

SURFACE PREPARATION | APPLICATION | DRYING TIME | SAFETY AND THE ENVIRONMENT

“Please refer to the Technical Data Sheet”

Disclaimer: The above data, particularly the recommendations for the application and use of CharCoat Passive Fire Protection products are based on the manufacturer’s knowledge and experience. Due to different materials and conditions of application, which are beyond our control, we recommend in any case to carry out sufficient tests in order to ensure that CharCoat Passive Fire Protection products are suitable for the intended purpose and applications. Therefore, any liability for such recommendations or any oral advice is expressly excluded unless we have acted willfully or by gross negligence. It is always the responsibility of the installer / purchaser to guarantee correct preparation, DFT (CharCoat Coatings) and thickness (CharCoat Firestop Products) of all CharCoat Passive Fire Protection products. CharCoat Passive Fire Protection is not liable for installation or faulty installation. It is always the responsibility of the installer / purchaser to guarantee and certify the installation of materials.



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