

Chemical plant structural steel fireproofing

Switch to Pyrocrete 341 eliminates safety hazard



Owner: Major global chemical manufacturer

Location: Antwerp, Belgium

Asset: Structural steel components

Project size: 200 m²

Primer: Carboguard 893 SG

Passive fire protection:
Pyrocrete 341

Sealer:
Carboguard 1340

Fire rating:
Hydrocarbon pool fire - 90 minutes

Failure spawns safety and performance risks

The incumbent cementitious passive fire protection material applied to structural steel at this large complex was a low-density, lower-cost product. Installed in a part of the complex containing flammable materials, the product had begun to break apart and fall off. Inspectors additionally observed that metal lath surrounding the structural steel was poorly installed and had partially corroded.

This failure introduced a risk to the safety of personnel, diminished the structure's ability to withstand heat, and exposed the structural steel to a corrosive industrial environment beside a brackish river.

Replacement system explanation

Following removal of the failed incumbent material and proper surface preparation of the steel, a primer coat of **Carboguard 893 SG** was applied. Then, new metal lath was installed. Finally, **Pyrocrete 341** was applied by trowel. This hybrid cementitious material represents the state of the art in industrial fire protection. It is rated to withstand hydrocarbon pool and jet fires as well as explosions and cryogenic exposures—all in a single applied layer. Finally, **Carboguard 1340** penetrating sealer was applied over the fireproofing. A sealer is appropriate in this corrosive environment; it also enhances the durability of the fireproofing.

Importantly, this system was installed by a certified specialty contractor deeply experienced in handling cementitious fireproofing materials including Pyrocrete 341. The contractor is well-regarded for the skill and experience of its staff—a critical benefit on any project involving safety-critical infrastructure.



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the product information

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Structural steel columns and beams are shown following application of Pyrocrete 341. A prior passive fire protection product had degraded in this area of the owner's complex, with pieces of material falling from the steel and posing safety risks.



A certified applicator performed hand trowel installation of Pyrocrete 341. The work leading up to and including installation of heavy-duty cementitious fireproofing is highly technical. For best performance, it is recommended that only crews who are trained to handle the material are hired to install it.



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