

KESEM Technology LLC



CEASEFIRE™ for Structural Steel EPOXY FIRE PROTECTIVE COATING

CEASEFIRE™ for Structural Steel is a unique two-component epoxy fire retardant – intumescent coating based on our proprietary non-halogenated phosphate technology. All of our phosphates are manufactured in house for our exclusive use.

When exposed to heat and/or fire, **CEASEFIRE™ for Structural Steel** forms a robust, dense char insulation layer that protects a variety of substrates from the effects of heat and flame. The active ingredients in **CEASEFIRE™** products are not water-soluble and will not leach out over time.

CeaseFire has the following characteristics:

- Cross linking allows handling within four hours
- Highly Impact resistant
- Water and Chemical resistant
- Interior and Exterior Use
- Strong adhesion; pull values in excess of 2300 psi
- Ease of application; designed to be applied to vertical walls at a 1/2 in. on vertical surface with no sag or drip in single pass
- Can be applied with single stage pump
- Factory application
- Cost effective
- Castable
- Very low smoke
- Non Toxic per BSS7329 protocol

Post 9/11 evaluations of fireproofing materials lead to the conclusion that adhesion, weathering, impact resistance, in addition to installed cost and hourly ratings, are requirements that must be considered in selection of fireproofing materials.

Steel grade CeaseFire is the most complete fire resistive material available today. All test have been run on 1/4 inch steel materials. The thicker the steel the thinner the coating since the test is for steel heat up and it takes more time to heat a larger steel mass.

The steel grade CeaseFire can be sprayed with a modified 28:1 president single leg paint sprayer. If 10% xylene added to mixed material, a 3/16 lamb skin roller can be use, trowel or brushes for application. Xylene is slow to evaporate and will slow the cure time. For clean up MEK works well.

Specifications:

	%Solids	100%
	Mix Ratio (A:B)	100:7
	Part A Viscosity @ 25°C	Paste Highly
thixotropic	Part B Viscosity @ 25°C	
140cps	Mix Viscosity @ 25°C	88,000cps
	Working life @ 25°C	2 hours
	Tack free set time @ 25°C	4 hours
	Full Cure @ 25°C	72 hours

PERFORMANCE DATA

In House Lab test

- 122 minutes with one coat at 3/8" thick on 1/4 inch steel**
- 67 minutes with one coat 1/16" thick on 1/4 inch steel**

Out of Lab certified tests results:

ASTM E119 Fire Rating

- 90 minutes @ 3/8" thick applied in one coat to unprepared steel (total time 1hr 54min)
- 2 hours @ 1/2" thick applied in one coat to untreated/unprimed steel (total time 2 hr 20 min)

ASTM E662 Smoke Generation Test

	<u>Non-Flaming</u>	<u>Flaming</u>
Ds @ 1.5 min.	0.5	1.7
Ds @ 4.0 min.	1.1	51.7

BSS 7239 Toxic Gas Testing @ 72.2° F, 52% relative humidity, and 30.07 in. Mercury

<u>Gas</u>	<u>Ave PPM</u>
CO	325.0
HCN	20.0
SO ₂	10.0
HCL	27.5
HF	0.0
NO	57.5
NO ₂	8.0

ASTM E162 *Flame Spread Test*

Class A

ASTM D256 *(Method A) Izod Impact Testing*

Energy Consumption (foot-pounds) 0.47

Impact Strength (foot-pounds-force per inch) 0.93

ASTM 2240 *Shore D Hardness*

70

ASTM G53 *1000 Hr UV Exposure*

After 1000 hours no visual cracking melting or spotting

ASTM B117 *720 Hrs Salt Spray*

No loss of coating adhesion. No defects.

*Surface should be prepared in accordance with SSPC SP2 or SSPC SP3. Care should be taken to ensure the removal of any / all contaminates such as loose materials, scale, primers, coatings, solvents, oils and grease and any other contaminates that may interfere with the adhesion of **CEASEFIRE™ for Structural Steel**. However, **CEASEFIRE™ for Structural Steel** is extremely tolerant of compromised surfaces and will provide excellent protection over tight adhering rust or most existing coatings in sound condition.*

CEASEFIRE™ for Structural Steel is the most complete fire resistive material today.

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