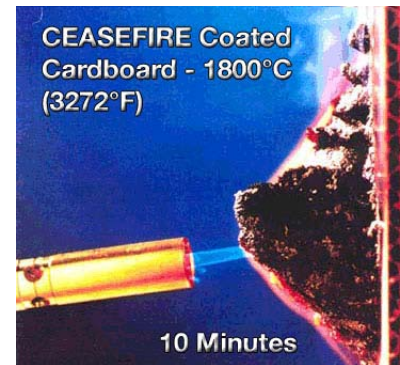
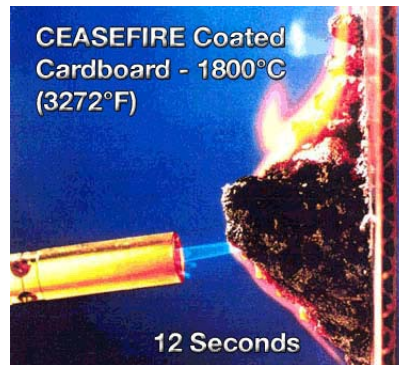
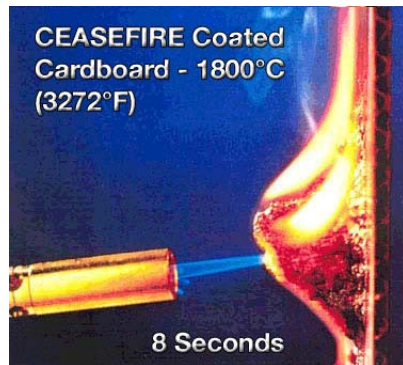
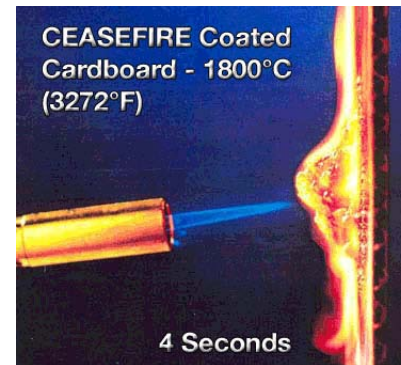
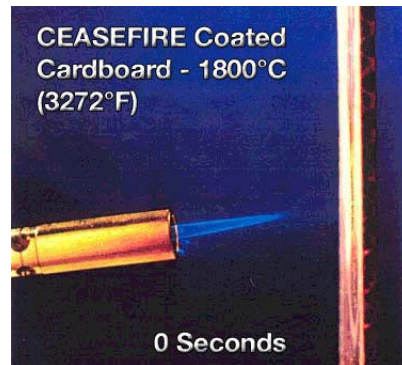




# CEASEFIRE





# CEASEFIRE

**CeaseFire is the name of an advanced intumescent technology. CeaseFire has roots in the fire retardant technology from the Apollo spaceship. While not the only intumescent fire retardant technology on the market, CeaseFire is by far the most economical, achieving and exceeding with small quantities the performance of more expensive alternatives.**

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**COTE-L Industries is honored to be given this opportunity to introduce our state-of-the-art intumescent fire retardant technology for your consideration. As a manufacturer of high tech products for maintaining and protecting human safety, we are confident that you will find our products and technologies to be a valuable asset to your current and upcoming projects.**

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## COTE-L PRODUCT LINE

COTE-L Industries' product line includes the following:

1. **Durabak/Durabak 18/Durabak-M26/Durabak 18-M26** - our non-skid non-slip one-part moisture cured polyurethane coatings, including the M26 series which has been approved for military specification by the US Navy.
2. **Safty-Trax Mats/Safty-Trax Plastic Sheets** - two parallel systems of truncated domes. These totally-retrofit systems meet the Americans with Disabilities Act standards for detectable warnings for the blind.
3. **CeaseFire** - our unique fire-retardant technology



## COTE-L'S CEASEFIRE TECHNOLOGY

**Cote-L's full line of CeaseFire fire-retardant products are all based on the same intumescent technology. The various CeaseFire powders incorporate variations of the same ingredients in different ratios, supplemented with an assortment of other chemicals to enhance the results. Each is designed to answer the specific requirements of a particular resin system, and, accordingly, require different compliance tests to validate their effectiveness as a flame-retardant compound.**

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## **CEASEFIRE PRODUCTS AND APPLICATIONS**

Our CeaseFire technology is basically being used in two ways:

(1) Our full line of ready-to-use CeaseFire coatings have the intumescent technology built in and offer ease of application with a minimum of Class A protection. This is customarily achieved with less than a 10mil thickness. In most cases, a greater level of fire protection can be achieved, depending on the thickness of the application, the type of resin system, and the required fire specification. The products in this line include:

- (a) CeaseFire two-part epoxy for Structural Steel
- (b) CeaseFire Waterborne two-part epoxy
- (c) CeaseFire DBK for our Durabak polyurethane coating
- (d) CeaseFire Latex - a latex-based coating
- (e) CeaseFire High Performance two-part epoxy
- (e) CeaseFire Superior two-part epoxy
- (f) CeaseFire Clear two-part epoxy

Each one of these coatings serves different applications and have undergone an array of different and independent ASTM fire-retardant tests.



**INDUSTRIES, INC.**  
We put safety at your feet!



**(2) Our CeaseFire powder additives are designed for incorporation into other resin systems, which include, but are not limited to:**

- (a) Different kinds of plastics**
- (b) Fiberglass**
- (c) PVC**
- (d) A variety of nylon products (nylon 66, nylon 48, and others)**
- (e) A variety of construction materials, including foams**
- (f) Paints and coatings produced by other manufacturers**

**Although our powder additives incorporate the same technology as our epoxy coatings, some modifications have been made to the formulation to produce four different varieties: AC2, AC3, AC3-WM, and DBK. These four types can be used independently, or in a blend, depending on the resin system it is to go into and the nature of the fire protection sought. Quite often, we recommend the incorporation of additional chemicals or materials in order to enhance the final performance of the compound.**

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## **CEASEFIRE ADVANTAGES**

While intumescent technology has been well established since the 1950's, our chemists have greatly improved the technology, enabling widespread use of the technology in varying materials. Our CeaseFire technology has clear advantages over other intumescent technologies:

- (1) Our coatings require a very thin layer, in most cases, to achieve the same results that other systems can only achieve with a much thicker application.
- (2) The intumescent system is characterized by the creation of a char foam once the substrate is exposed to a high temperature. Our CeaseFire coatings are formulated to form thick, dense chars to prevent flame spread and to insulate from heat. However, when the CeaseFire powder is being incorporated into other resin systems, the degree of char will vary depending on the materials used.
- (3) Unlike many other fire-retardant technologies, CeaseFire technology is non-toxic. When it is incorporated in or applied to intrinsically toxic materials, it can help reduce the amount of toxicity inherent in the resulting smoke. This is an especially important factor to consider, as statistics show that most of the fatalities caused by fire are the result of the inhalation of toxic fumes.



**COTE-L would like to assure you that we will work with you and your chemists very closely, and spare no effort, in order to meet the fire retardant requirements of your projects. With our variety of CeaseFire coatings, we feel confident we can satisfy your fire-retardant coating requirements. Should you choose to incorporate our additives into your own resin systems, our technical staff will be available for consultation and follow-up technical support, as we work together to find the perfect synergy of our technologies.**

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## REMARKABLE TEST RESULTS

One of the most amazing test results you will see here is that of UL1709, conducted on our two-part water-based epoxy. This test is designed particularly for the petroleum industry, for the use of our technology on oil rigs. The nature of the test is similar to that of ASTM E119, which is designed for the construction industry, where the temperature is cycled from low to high levels. ASTM E119 was also conducted on our water-based epoxy, where, on 1/4" steel, with a coating of 230mil thick (1mil=1/1000inch) built up from three layers, we achieved an 80-minute fire protection rating. The UL 1709 works in reverse in that the heat is cycled from the highest level (2,000°F) to a lower temperature. As a point of reference, it should be noted that the estimated temperature in the Twin Towers in Manhattan (before they collapsed) was about 2,000 °F. Our water-based epoxy, with 2 layers of 16mil each in wet film, (or 10mil each layer in dry film), received a 25min fire protection rating at these very high temperatures. Additionally, our CeaseFire two-part epoxy for structural steel in buildings passed the ASTM E119 with ONE layer - a thickness of only 3/8 inches - and a fire rating of 2 hours 20 minutes.



## **DURABAK / DURABAK 18**

**Our Durabak products can be coupled with our CeaseFire DBK powder for fire-retardant protection. Durabak comes in two versions: Durabak (for indoor applications) and Durabak 18 (for outdoor environments). Durabak 18 has excellent UV resistance, is tough, durable, and will withstand the harsh elements of a diverse environment. As two-part epoxy products may not be as tough in an outdoor application, we recommend top coating the application with our Durabak 18 in order to give it extra protection against the elements. The Durabak/Durabak 18 products come in both a non-skid textured and a smooth version.**

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*CEASE***FIRE**

**Ready-to-Use Coatings**

**Two-part Epoxy Coatings**

**Latex Coating**

**One-part Polyurethane Coatings**

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# CEASEFIRE

## White 2-part Epoxy Coating

CeaseFire High Performance is recommended for use as a base resin for specialty coatings. The viscosity is easily reduced by the addition of solvents. Pigments, anti-settling agents and other flame retardants may also be incorporated.

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# CEASEFIRE

## Clear 2-part Epoxy Coating

**CeaseFire Clear Epoxy is recommended for use as a base resin for specialty coatings. The viscosity is easily reduced by the addition of solvent (xylene). Pigments, anti-settling agents and other flame retardants may also be incorporated.**

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# CEASEFIRE

## Superior 2-part Epoxy Coating

CeaseFire Superior Epoxy is recommended for use as a base resin for specialty coatings. The viscosity is easily reduced by the addition of solvents (xylene). Pigments, anti-settling agents and other flame retardants may also be incorporated.

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# CEASEFIRE

## 2-part Epoxy Coating for Structural Steel

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.

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# CEASEFIRE

## Waterborne 2-part Epoxy Coating

**CEASEFIRE's Waterborne Epoxy is a two-part intumescent coating. It is engineered to be a protective coating that combines toughness and wear resistance with low flame spread, low heat transfer, and low smoke. In addition, the smoke generated is low in toxicity.**

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# CEASEFIRE

## Latex Coating

**CeaseFire Latex is recommended for use as a coating for wood, composites, plastics or metals. The viscosity is easily reduced by the addition of tap water. Water-based paste pigments for tinting or color, anti-settling agents, and other flame retardants may also be incorporated.**

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# CEASEFIRE

## DURABAK Polyurethane with DBK

DURABAK™ is a tough, single-pack polyurethane with self-contained recycled rubber granules for an attractive tough-textured finish. When exposed to atmospheric moisture, DURABAK™ undergoes a chemical curing process which changes it from a liquid to a tough polyurethane membrane. It has excellent abrasion and chemical resistance as well as non-slip properties. DURABAK™ will chemically bond to most clean and dry surfaces. These include, but are not limited to, concrete, wood, fiberglass, metal, rubber and sound-painted materials. Some metal and extremely porous surfaces may need to be primed. DURABAK™ is applied by roller, brush or spray.

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*CEASE***FIRE**

## Powder Additives

**AC-2**

**AC-3**

**AC-3WM**

**DBK**



# CEASEFIRE

## AC-2 Powder Additive

**CeaseFire AC2 is ideal for incorporation into thermoset coatings and foams, potting compounds, fiberglass reinforced structures, as well as electronic laminates and many other applications. CeaseFire AC2 has been proven successful in epoxy, phenolic, acrylic, vinyl acetate, urethane and PVC resin systems.**

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# CEASEFIRE

## AC-3 Powder Additive

**CeaseFire AC3 is recommended for use in both indoor and outdoor application in resins including epoxies, acrylates, polyvinyl acrylate, PVA emulsions, and PVC. Applications where CeaseFire AC3 has found utility vary greatly from waterborne paints and adhesives to wire and cable.**

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# CEASEFIRE

## AC-3WM Powder Additive

CeaseFire AC-3WM is a unique amino phosphate that can be used to suppress smoke and prevent burning in polyolefin such as polypropylene and polyethylene. It is also effective in polyurethane foams and coatings.

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# CEASEFIRE

## DBK Powder Additive

**CEASEFIRE DBK is recommended for use in both indoor and outdoor application in two part urethanes. Applications where CEASEFIRE DBK has found utility vary greatly from urethane adhesives, non-skid coatings, and urethane potting and encapsulating systems.**

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## **THE NEXT STEP**

**Should you choose to work with our finished CeaseFire coatings, it would be a simple matter of supplying you with the materials. However, should you choose to work with the CeaseFire powder additives, incorporating them into your own products, we would need to sign a mutual non-disclosure agreement so that information can be freely exchanged between our companies.**

**Should you require additional information, please contact us. We wish you good luck with your projects and look forward to serving you.**

**COTE-L Industries, Inc.**

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**Thank you for your time.**

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