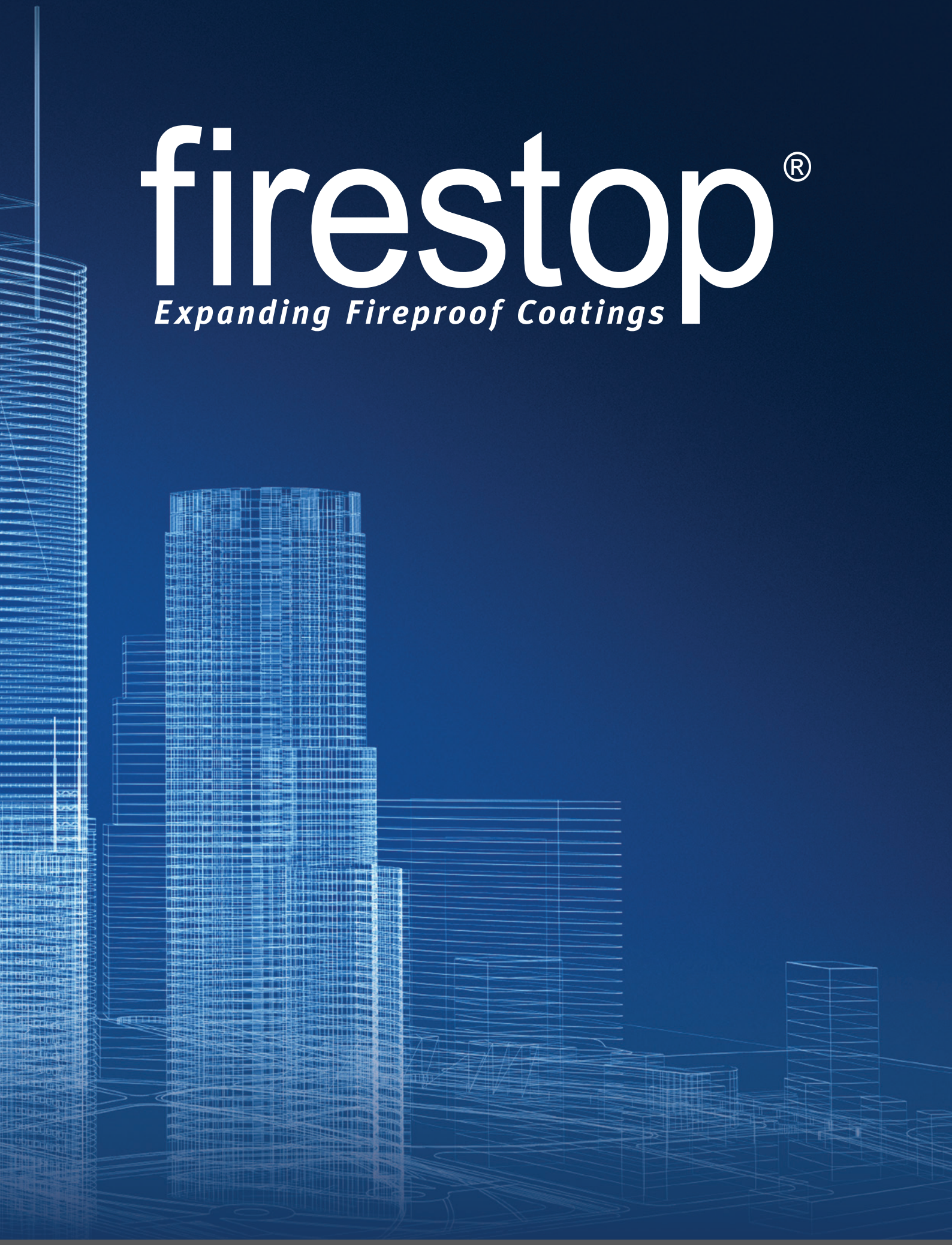
firestop®

Expanding Fireproof Coatings



Firestop INTERNACIONAL

FIRESTOP Expanding Fireproof Coatings

Superior solution for fire protection of building structures

FIRESTOP coatings are expanding (intumescent) coatings designed for effective fire protection of steel and wooden building structures. These modern thin-film coatings are made by innovative technology with function to stop fire spreading and they act within system of passive fire protection.

In case of fire, specially formulated **FIRESTOP** coatings react and form foam insulation that protects steel and wooden structures up to 90 min. In this way they provide necessary time for firefighters and rescue services for evacuation of people and minimize human and material damage.

Benefits of the FIRESTOP coatings:

- **exceptional performance: great fire resistance (certified at 30, 60 and 90 min) at low film thickness**
- **top quality: the uniform expansion of foam; good stability of formed insulator**
- **high ecological standards: water-based products, not containing halogens and synthetic solvents**
- **competitiveness and efficiency: lower consumption compared to other fireproof coatings which results savings of materials and faster work**
- **fast and easy application: directly from the package without further dilution; the interlayer drying - few hours; easy repairment of possible damage**
- **durability: long exploitation life**
- **technical support to customers by the engineering team and training possibilities for contractors**

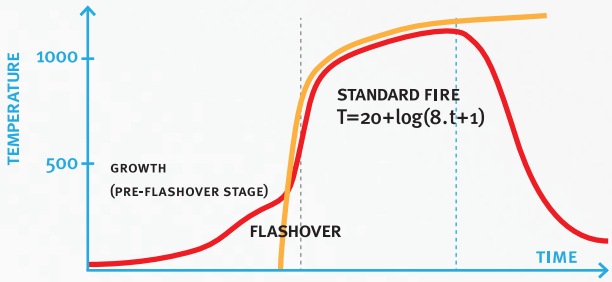
Exceptional performance of **FIRESTOP** coatings are tested and certified by the highest relevant national and international institutes and proven in real fire conditions.

FIRESTOP coatings have been applied in more than 300 buildings across Serbia, which confirmed them as number one choice in fire protection of building structures.

Our company provides training of contractors, consulting of designers and architects, as well as technical support and expertise of our engineering team in solving specific customer requirements.

Passive fire protection, as an important aspect of protecting people and property from fire aims to localize spreading of fire and thus considerably facilitate firefighting i.e. ensure lives and material goods.

Acting within a passive fire protection system, **FIRESTOP** coatings isolate and reduce the temperature of the building structures and significantly affect their fire characteristics - fire resistance.



FIRE LIFE CYCLE	GROWTH (PRE-FLASHOVER STAGE)	FULLY DEVELOPED FIRE	DECAY (COOLING STAGE)
FIRE PROPERTIES	fire controlled by fuel	fire controlled by ventilation	fire controlled by fuel
REACTION OF PEOPLE	escape	death	
FIRE DETECTION	smoke and heat detectors	smoke and flame	
ACTIVE MONITORING OF FIRE	hand held fire extinguisher, sprinklers, or fire department, smoke control	firefighters are monitoring fire	
PASSIVE MONITORING OF FIRE	characteristics of materials **RESPONCE TO FIRE**	characteristics of constructions **FIRE RESISTANCE**	

Diagram of fire life cycle, reaction of materials and fire resistance of constructions

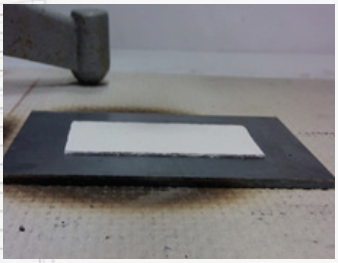
FIRESTOP coatings - The mechanism of action

Intumescent coatings are combination of different compounds, which (as a result of increased temperature in fire) act together and form carbon foam.

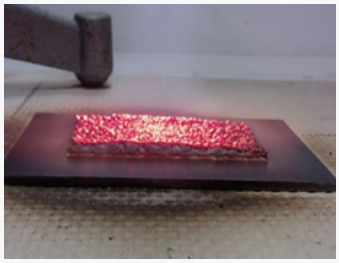
Foam reaches a thickness of 10 to 100 times greater than the initially applied coating and protect and insulate the construction with its low thermal conductivity.

Components of the coating react at relatively low temperatures (150-180°C) - effected by the flame, and release gases (at temperature around 250°C) which cause expansion - swelling.

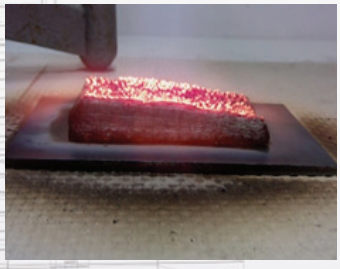
The newly formed foam is a good insulator that provides protection of treated materials for certain period of time.



Picture 1



Picture 2



Picture 3

Picture 4

Display of FIRESTOP coatings expansion and formation of carbon foam

The advantage of FIRESTOP coating over competing products is reflected in the proper expansion and excellent stability of the foam insulator that provides long lasting and efficient fire protection.

FIRESTOP steel

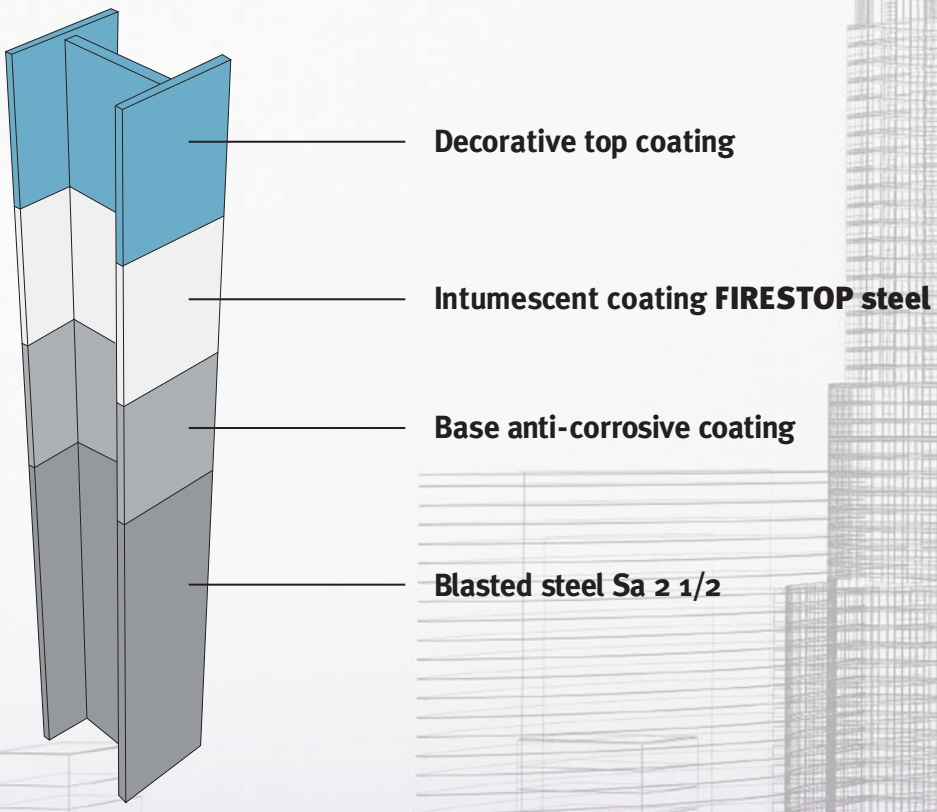
Fire protection of steel and metal elements

Due to its functionality, durability, cost of implementation and an unlimited choice of architectural solutions in building design, steel is one of the most commonly used materials in modern construction.

Steel structures are present in all areas of construction, from industrial buildings, factories and halls, to sports and cultural buildings, shopping malls, airports, hospitals, schools, hotels and office buildings.

However, in the event of a fire, for just a few minutes unprotected steel can reach a critical temperature at which it loses stability and bearing capacity. This can result collapse of buildings and disastrous social and economic consequences.

FIRESTOP system for the protection of steel consists of:
- Base anti-corrosive coating / primer
- Intumescent coating **FIRESTOP steel**
- Decorative top coating.



This system, based on **FIRESTOP steel** coating is an ideal solution for the effective fire protection of steel structures. In combination with the appropriate anti-corrosive primer and decorative top coating, system provides protection of steel against corrosion and weathering, as well as the visual appeal of the treated elements.

Required thickness or consumption of intumescent coating **FIRESTOP steel** depends on the size and geometry of protected steel elements (section factor), number of sides exposed to fire, desired fire protection period and function of the structures.

Characteristics of **FIRESTOP steel** coating:

- **exceptional performance**
- **quick and easy application**
- **long-term and effective protection**
- **environmentally-friendly product**
- **consumption less than 20% compared to competitive products**

*Thanks to these characteristics **FIRESTOP steel** won the leading position in the Serbian market in fire protection of steel constructions.*

*Application of **FIRESTOP steel** on site*

Fire protection of wood and wooden structures

Wood is natural and traditionally very popular material in construction. Untreated wood is flammable material. However, wood and wooden structures can be successfully protected with **FIRESTOP** intumescent coatings and thus pass into the category of materials that are not flammable.

We offer two systems of fire protection of wood: opaque white and transparent.

FIRESTOP wood

FIRESTOP white system for wood protection consists of:
- Base coat - primer
- Intumescent coating **FIRESTOP wood**
- Decorative top coating

This system, based on **FIRESTOP wood** coating provides effective fire protection of wood and wooden structures. Selecting the proper primer and decorative finish paint, this system provides protection of wood from weathering and visual attractiveness of the treated elements.

FIRESTOP wood - T

FIRESTOP transparent system for fire protection of wood in the interior consists of:
- Base coat - primer
- Transparent intumescent coating **FIRESTOP wood - T**
- Decorative clear coat

Using **FIRESTOP wood - T** coating wood structures remain visible, i.e. coated surfaces remain transparent appearance which has a significant aesthetic effect in interior design.

THE RANGE OF FIRESTOP INTUMESCENT COATINGS

FIRESTOP steel

One-component coating for fire protection of steel

- Provides protection from cellulosic fire up to 90 min
- White matte coating, water-based
- Consumption 1.9 kg/m² for 1000µm DFT
- Application: compressor gun, airless spray, brush, roller
- Certified fire resistance of 30, 60 and 90 min

FIRESTOP wood

One-component coating for fire protection of wood

- Provides protection from cellulosic fire up to 90 min
- White matte coating, water-based
- Consumption 0.45-2.34 kg/m2 for 250-1300 µm DFT
- Application: compressor gun, airless spray, brush, roller
- Certified fire resistance of 30, 60 and 90 min

FIRESTOP wood-T

Transparent one-component coating for fire protection of wood

- Provides protection from cellulosic fire up to 60 min
- Transparent coating, water-based
- Consumption: 0.875-1.75 kg/m² for 500 - 1000µm DFT
- Application: compressor gun, airless spray, brush, roller
- Certified fire resistance of 30 and 60 min

Base coatings

PRIMTEC steel
Alkyd quick drying anti-corrosive zinc phosphate primer in **FIRESTOP** system for steel protection. Produced in gray and red.

PRIMTEC wood
Water based primer in **FIRESTOP** system for wood protection. It is diluted with water in a ratio of 1:4 - 1:6.

ŽIŽOL and ŽIŽOL NEO PROTECT
Efficient water-soluble solvent for protection of timber and wooden structures from the harmful insects and woodworm.

Top coatings

Depending on the selected **FIRESTOP** system, as well as the type and function of building construction, top coating is selected.
The role of the topcoat is to provide decorative effect for treated elements and protection of fireproof coatings from moisture and weather conditions.

Additional program

PRIMTEC thinner
Synthetic thinner, intended for dilution of base anti-corrosive coating PRIMTEC steel.

Nitro thinner
Synthetic thinner, designed for diluting and dissolving nitrocellulose paints and varnishes.

Paint remover/striper
For removal of synthetic paints from wood and metal surfaces, as well as from walls, without surface damaging.

Paint remover WB REMOVER
Universal solvent for removing acrylic, polyvinyl acetate and water-based fireproof coatings on metal, plastic, wood, glass and other surfaces - effectively removes dried stains of fireproof coatings from tools and surrounding areas.

ANTIKOROZION
Agent for removing and neutralizing corrosion on iron and steel elements.

MOTOFUS
Effective agent for cleaning car and other engines, cleaning and degreasing of metal surfaces and parts.

PLAY OX
Universal concentrated degreaser for cleaning and degreasing metal, plastic, wood and combined surfaces and parts.

FIRESTOP filler
Coating for damage repairment after white **FIRESTOP** coatings application.

TERMABOND
Heat resistant adhesive for mineral wool and insulating-foil. It is used in the construction industry in the production of insulating sheathing.

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INTERNACIONAL

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