

MAGMA FIRESTOP FRA-30

PRODUCT DATA SHEET

Magma Firestop® FRA-30, is an intumescent, fire retardant powder composition, comprising a mixture of inorganic and phosphorous fire retardant additives.

This fine powder can be used as an additive in a wide range of industrial applications like fire retardant coatings, MDF, particle board, adhesives, plastics, foams and sealants. This powder is not soluble in water. When materials which contain **Magma Firestop® FRA-30** are exposed to an accidental fire or heat, the flame retardant starts to decompose.

A carbon foam is built up on the surface against the heat source (charring). The carbon barrier acts as an insulation layer, preventing further decomposition of the material.

Magma Firestop® FRA-30 exhibits good process ability, good retention of mechanical properties and good electrical properties in thermoplastic formulations

This powder should be incorporated into the base formulation, to ensure that an effective blend is achieved in order to maximize the fire retardant properties of the final product. **Magma Firestop® FRA-30** is free of halogens and borates.

Chemical and Physical Characteristics

Composition:	Fine powder
Appearance:	White/greyish
Odour:	Odourless/light ammonia smell
Density (20°C):	1.44 gr./cm ³
pH:	Slightly basic
Solubility:	Insoluble in water

Advantages

Magma Firestop® FRA-30 provides good fire retardant properties to a range of materials, by dry application/blending. Examples of dry blending applications are cellulosic based products like particle board and MDF where the flame retardant properties are governed by national and international specifications & standards.

When materials which contain **Magma Firestop® FRA-30** are exposed to fire, the fire retardant additive starts to decompose at approx. 300° Celsius. A carbon foam layer will expand (charring) and build up an insulating layer on the surface which prevents from further decomposition of the material.

Application / Use Levels

Application levels always depend on the type of material and the fire safety standards you require. A very general advice would be to start testing with an addition level of 15% of the material dry weight. The right addition level could be monitored from that starting point.

Most production processes have unique properties which will make it difficult to describe precisely how to use this product. Therefore it is recommended to contact us for advice and discuss a tailor made solution.

Resins

Generally the additive is included in amounts between 15-25% to comply with building standards but between 8-15% the materials will show already a fire retardant effect. The fire retardant material is added to the composition, generally after dissolution, and before curing.

PU Foams

Magma Firestop® FRA-30 can be used as an efficient fire retardant additive in many different Polyurethane applications. In general, PU compositions, which contain a higher percentage of a polyester polyol, are easier to protect than PU compositions with polyether polyol.

To achieve a FR rating for rigid and/or flexible PU foams, a loading between 7% and 15% Magma Firestop® FRA-30 is needed. Magma Firestop® FRA-30 has to be dispersed into the polyol before injection moulding.

Particle board

The best method to produce a fire-retardant particle board is to add Magma Firestop® FRA-30 to the wood particles during the production of the board. Magma Firestop® FRA-30 can be added in the blender prior pressing, as a dry powder but when it's only possible to use liquid additives, contact us. The operating temperatures are no problem for Magma Firestop® FRA-30.

The percentage Magma Firestop® FRA-30 that will be required to reach your target test standard depends on the thickness and the density of the particle-boards and the technical conditions of the board production plant.

MDF

Every MDF or HDF production line is unique and requires almost always a tailor-made method to achieve the targeted FR standard. In general, Magma Firestop FRA-30 is used in a solid form or as watery suspension, as an in-line dosage of additives to the wood fibres in the blow line. FR MDF boards can be manufactured at a similar line-speed as the standard boards. When Magma Firestop® FRA-30 is not suitable for your production line, please contact us and ask for alternatives.

Coatings

Magma Firestop® FRA-30 can be used in solvent and waterborne, opaque coating formulations. One of the main advantages of Magma Firestop® FRA-30 is the low addition rate compared to many other FR additives. A part of the filler content can be replaced by this product and best results were obtained by addition at the grind stage. In general, a percentage of 15-20% will give your coating an intumescent reaction when exposed to fire. Tip! A low addition of glass fibre to your formulation will have a positive effect on the stability and strength of the carbon char layer which will give a better result in fire tests.

Important notes

Through addition of **Magma Firestop® FRA-30**, the reaction-to-fire behaviour of many materials can be improved and required fire standards can be reached. The achieved fire classifications are always a combination of the combustibility of the base material and the percentage of the fire retardant addition.

Packaging / Storage / Transport / Regulatory Approvals

Packaging:	25 kg bags and/or 1000 kg large bags (WPP/PE)
Shelf Life:	24 months when stored in closed packaging. Limited when packaging has been opened
Availability:	Ex stock
Storage:	Store in the original packaging in roof covered dry warehouses and protect from extremes of humidity and temperatures.
Transportation:	Classified as non hazardous for transport & storage

Safety / Labelling / Toxicology

For detailed information on the safety and handling of **Magma Firestop® FRA-30**, please refer to the separate Material Safety Data Sheet. It is important and recommended to take notice of general safety & hygiene precautions also for safe, environmental friendly chemicals.

Do not eat, drink or smoke during application. Do not flush unused chemicals but dispose this in accordance with local waste disposal regulations.

This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application.