Sirca
THE WOOD COATINGS

SIRCA *FLAMESHIELD*

Sirca

Clear and pigmented sealers and **topcoats**

In places where you need to bring down the risk that a trigger of any kind would result in a fire, it is advisable to use coating or furnishing materials that have a self-extinguishing behavior, that is to say that once the trigger is removed, the combustion ceases.
In order to meet the increasing demand from the market of products with these characteristics, Sirca R&D Dept has developed and created a range of both clear and pigmented coatings, able to confer the fire retardant Class 1 to the painted item, according to the Italian regulation **UNI9796**, the fire retardant Class B, according to the European regulation **EN 13501**, and the British standard **BS 476: part 7.**

Clear system

USER PROFILE

These products are recommended whenever it is necessary to paint various type of furniture for public places, or wherever required, where Class 1 or Euroclass B fireproofing of wooden products is mandatory. They are therefore suitable products for hotel furniture, cinemas, theatres, public bodies, hospitals, shopping malls, etc.

Clear PU thixotropic sealer – fire retardant
IT01PRIMER

The base coat **IT01PRIMER** is suitable for fireproofing items of different types of wood with the exception of the items veneered with thermoplastic adhesives or with honeycomb cell structure. The substrate should not be wet (max.12%), it must be clean, free of dust or other substances that would limit the impregnation and consequently an excellent adhesion. The product is characterized by good sandability and transparency, excellent coverage and levelling. It can be applied by brush, spray and curtain coater.

Series of clear PU topcoats – fire retardant
IT01TOP serie

The topcoats **IT01TOP series** are suitable when it is necessary to apply a clear top coat that gives a fire retardant class to the item. The available gloss levels are 10, 30 and 60, the intermediate levels may be achieved by mixing these products between them. The series is characterized by excellent soft feel, transparency and coverage, good surface hardness and typical yellowing resistance of polyurethane products. These topcoats must be applied in one coat on the base coat IT01PRIMER, as per technical data sheet. They can be applied by brush, spray and curtain coater to fireproof items of different types of wood with the exception of the items veneered with thermoplastic adhesives or with cellular structure (honeycomb). The substrate treated with the sanded base coat must be clean, free of dust or other substances that would limit an excellent adhesion.

Pigmented system

USER PROFILE
These products are recommended whenever it is necessary to paint various type of furniture for public places, or wherever required, where Class 1 or Euroclass B fireproofing of wooden products is mandatory. They are therefore suitable products for hotel furniture, cinemas, theatres, public bodies, hospitals, shopping malls, etc.

White PU pigmented thixotropic sealer – fire retardant
IGNIPRIMER30

The base coat **IGNIPRIMER30** is suitable for fireproofing items of various types of wood with the exclusion of items veneered with thermoplastic adhesives or with honeycomb cell structure. The substrate should not be wet (max.12%), must be clean, free of dust or other substances that would limit the impregnation and consequently an excellent adhesion.
The product is characterized by good sanding, excellent coverage and whiteness. It can be applied by brush, spray and curtain coater.

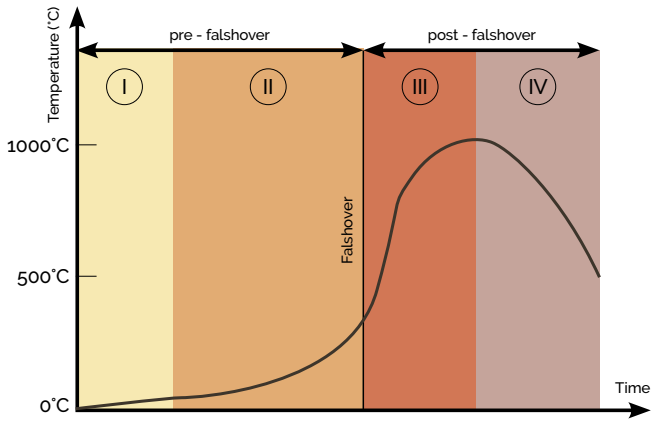
Series of pigmented PU topcoats - fire retardant
IGNITOP30 series

The topcoats **IGNITOP30 series** are suitable when it is necessary to apply a pigmented top coat that confers a fire retardant class to the item.
The range of these products includes seven pigmented bases, whose codes and colours are shown as per the next table.
They have to be applied on IGNIPRIMER30 sealer, properly sanded and free of dust or other substanced that would limit an excellent adhesion.

CODE	DESCRIPTION
IGNITOP30	White fire retardant matt top coat
IGNITOP33	Oxide yellow fire retardant matt top coat
IGNITOP36	Oxide red fire retardant matt top coat
IGNITOP39	Blue fire retardant matt top coat
IGNITOP40	Black fire retardant matt top coat
IGNITOP331	Lemon yellow fire retardant matt top coat
IGNITOP335	Orange fire retardant matt top coat

Italian regulation
UNI 9796

The Italian regulation is divided into six classes of materials for coatings and panels, floors and false ceilings, furnishings and chairs. A **Fire Reaction Class**, ranging from **0** (non-combustible) to **5** (easily flammable) is assigned to them. During a fire in a closed environment, the temperature reaches very high levels. The woody materials begin to emit gases that contribute decisively to the propagation of the fire.



I INITIAL OR IGNITION PHASE

It occurs when one or more combustible objects come into contact with a heat source.

II PROPAGATION

Other combustible objects are involved in combustion.

III GENERALIZED FIRE

The fire is extended to all combustible materials

IV EXTINCTION OR COOLING

The effects of the fire decreases due to the progressive consumption of combustible materials.

Class 1 is the best one, which better protects the materials involved in the fire. Class 1 Sirca's fire resistant systems slowly decrease fire propagation time by using different chemical-physical mechanisms.
Italian standards place in **Class 1** those combustible materials that, properly treated or formulated, allow a slowdown in the propagation of a fire or its extinction. Even painting products - both clear and pigmented ones - belong to this class. They can act as a protective barrier for the wooden items (passive protection). This classification was created to increase the safety of entertainment venues (cinemas and theaters), and was subsequently extended to other public places (hotels, schools, gyms, hospitals, etc.)

Suggested painting system
Class 1 according to UNI9796:

Clear system

- Sanding of the substrate
- **IT01PRIMER/IT01BPRIMER/DPU809 – 100/50/10 – 150 g/sqm**
- Wait at least two hours (for drying times over 24 hours it is necessary to sand the first coat of the base coat)
- **IT01PRIMER/IT01BPRIMER/DPU809 – 100/50/10 – 150 g/sqm**
- Wait at least 24 hours (better 48 hours), sand with 320-360 paper grit
- **IT01TOP/IT01BTOP/DPU809 – 100/50/10 – 150 g/sqm**

The drying times have been evaluated with environmental conditions of 20-25°C and 65% of relative humidity.
THE QUANTITIES / PROPORTIONS AND TIMES MUST BE STRICTLY RESPECTE

Pigmented system

- Sanding of the substrate
- **IGNIPRIMER30/IGNIB/DPU809 – 100/40/20 – 220 g/sqm**
- Wait at least two hours (for drying times over 24 hours it is necessary to sand the first coat of the base coat)
- **IGNIPRIMER30/IGNIB/DPU809 – 100/40/20 – 220 g/sqm**
- Air drying for at least 24 hours, waiting further 24 hours ensures a better sandability of the surface, sanding with 320-360 paper grit.
- **IGNITOP30/IGNIB/DPU809 – 100/40/20 – 120 g/sqm**

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IGNITOP30	White fire retardant matt top coat
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IGNITOP39	Blue fire retardant matt topcoat
IGNITOP40	Black fire retardant matt topcoat
IGNITOP331	Lemon yellow fire retardant matt topcoat
IGNITOP335	Orange fire retardant matt topcoat

The range of these products includes seven pigmented bases, whose codes and colours are shown as per the table.

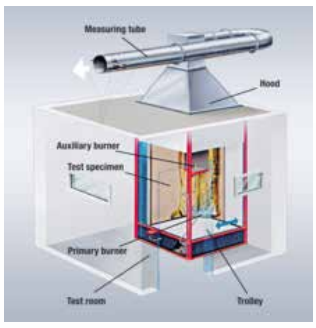
The drying times have been evaluated with environmental conditions of 20-25°C and 65% of relative humidity.
THE QUANTITIES / PROPORTIONS AND TIMES MUST BE STRICTLY RESPECTED

European regulation
EN 13501

The European standard **EN 13501** regulates the classification of reaction to fire of products and building elements (not to be confused with fire resistance). Even if there is a European classification, a national approval is still required in Italy, except for products for which there is a European product standard and therefore the CE marking requirement.
In this case, materials are classified according to the Euro classes A1, A2, B, C, D, E, F.
Materials classified as A1 and A2 are non-combustible and those certified from B to F burn in ascending order.
The European classification also includes the classification of fumes (s) and dripping (d), which is expressed in values between 0 and 3.

ALL THE PRODUCTS		FLOORS		LINEAR ISOLATIONS		ELECTRIC CABLES	
CLASSE	AGGIUNTA	CLASSE	AGGIUNTA	CLASSE	AGGIUNTA	CLASSE	AGGIUNTA
A1	-	$A1_{FL}$	-	$A1_{L}$	-	$A1_{CA}$	-
A2	FUMES PRODUCTION (S1, A2, S3) DRIPPING (d0, d1, d2)	$A2_{FL}$	FUMES PRODUCTION (S1, A2, S3) DRIPPING (d0, d1, d2)	$A2_{L}$	FUMES PRODUCTION (S1, A2, S3) DRIPPING (d0, d1, d2)	$A2_{CA}$	FUMES PRODUCTION (S1, A2, S3) DRIPPING (d0, d1, d2) ACIDITY (a1, a2, a3)
B		B_{FL}		B_{L}		B_{CA}	
C		C_{FL}		C_{L}		C_{CA}	
D		D_{FL}		D_{L}		D_{CA}	
E		E_{FL}		E_{L}		E_{CA}	-
F	NPD	F_{FL}	NPD	F_{L}	NPD	F_{CA}	NPD

Sirca's painting system on MDF in class 1 reaches the class **Bs2d0**.



Since the methods and the evaluation criteria are different from the Italian standard, it is not possible to establish a direct correlation between the classifications, but the D.M. March 15, 2005, however, introduces a comparison table between Italian and European classes.

Suggested painting system
Bs2d0 according to UNI EN 13501

Clear system

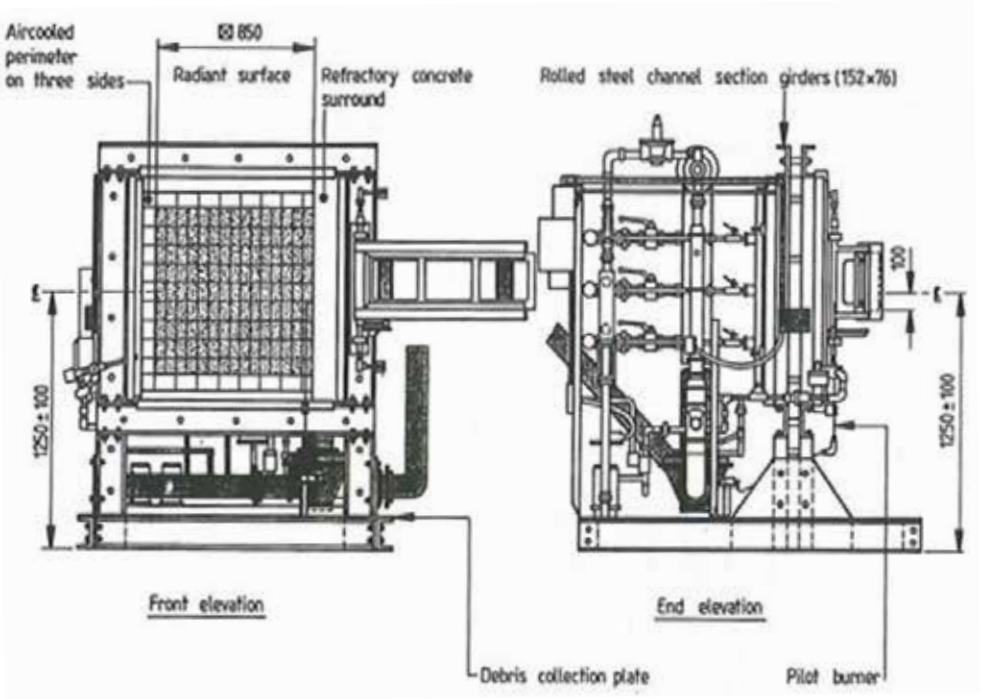
- Substrate in MDF Class 1
- **IT01PRIMER/IT01BPRIMER/DPU809 – 100/40/20 – 150 g/sqm**
- Drying 24 hours.
- Sanding with 320-360 paper grit
- **IT01TOP/IT01BTOP/DPU809 – 100/50/10 – 120 g/sqm**

Pigmented system

- Substrate in MDF Class 1
- **IGNIPRIMER30/IGNIB/DPU809 – 100/40/20 – 150 g/sqm**
- Drying 24 hours.
- Sanding with 320-360 paper grit
- **IGNITOP30/IGNIB/DPU809 – 100/40/20 – 120 g/sqm**

British Standard
BS 476: part 7

British Standard **BS 476: Part 7: 1997** specifies a method of test for measuring the lateral spread of flame along the surface of a specimen of a product orientated in the vertical position, and a classification system based on the rate and extent of flame spread. It provides data suitable for comparing the performances of essentially flat materials, composites, or assemblies, which are used primarily as the exposed surfaces of walls and ceilings.



In this method, specimens of the product are subjected to a specific heating process and ignition regime. The test result is a function of the distance and rate of the lateral flame spread, and it is classified according to performance as classes 1 to 4.

Materials classified from 1 to 4 burns in ascending order.

Sirca's painting system on MDF in class 1 reaches the **Class 1.**

Suggested coating system
Class 1 according BS476: Part 7

Clear system

- Substrate in MDF Class 1
- **IT01PRIMER/IT01BPRIMER/DPU809 – 100/50/10 – 150 wet µm**
- Drying 12 hours
- Sanding with 320-360 paper grit
- **IT01PRIMER/IT01BPRIMER/DPU809 – 100/50/10 – 150 wet µm**
- Drying 12 hours
- Sanding with 320-360 paper grit
- **IT01TOP/IT01BTOP/DPU809 – 100/50/10 – 125 wet µm**

Pigmented system

- Substrate in MDF Class 1
- **IGNIPRIMER30/IGNIB/DPU809 – 100/40/10 – 175 wet µm**
- Drying 12 hours
- Sanding with 320-360 paper grit
- **IGNIPRIMER30/IGNIB/DPU809 – 100/40/10 – 175 wet µm**
- Drying 12 hours
- Sanding with 320-360 paper grit
- **IGNITOP30/IGNIB/DPU809 – 100/40/10 – 150 wet µm**

CODE	DESCRIPTION
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The range of these products includes seven pigmented bases, whose codes and colours are shown as per the table.

Notes

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