



# FIREFIGHTER

*We keep you safe*

Verinlegno, innovation, research, development.

Verinlegno chosen Quality as its corporate mission thus ensuring very performing, safe and innovative products.

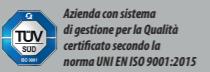
Improvement, evolution and increase of the range are unavoidable to meet customers' need with responsiveness and flexibility.

The awareness for safety and for environment is essential for the whole production path thanks to top level technicians who are able to combine their skills as of the features and as for the use of innovative materials with their accurate knowledge of new technologies.

Verinlegno mission is characterized by its research for eco-sustainability to set up products with a low impact on the environment which safeguard the users' health. We pursue this objective together with the corporate growth, thanks to our investments which have constantly this aim.



**Verinlegno S.p.A.**  
Via Galvani, 7 - 51010 Massa e Cozzile (PT)  
Zona Industriale - Italy  
Tel. +39 0572 92711 - Fax +39 0572 773608  
Partita IVA 00230480477  
Info@verinlegno.it



Azienda con sistema  
di gestione per la Qualità  
certificato secondo la  
norma UNI EN ISO 9001:2015



FEDERCHIMICA  
AVISA  
GRUPPO PITTURE E VERNICI



Responsible Care®  
OUR COMMITMENT TO SUSTAINABILITY

[www.verinlegno.it](http://www.verinlegno.it)

INNOVATION, RESEARCH, DEVELOPMENT



# FIREFIGHTER

*We keep you safe*

**FIREFIGHTER**  
FIRE RETARDANT PAINTS



[www.verinlegno.it](http://www.verinlegno.it)



## TABLE OF CONTENTS

- INTRODUCTION pag. 4
- FIRE RESISTANCE AND FIRE REACTION pag. 5
- VERINLEGNO FIRE REACTION PRODUCTS RANGE pag. 6
- CLASS 1 – ITALIAN LEGISLATION MINISTERIAL DECREE D.M.6/3/92 (UNI 9796) pag. 7
- EUROCLASS – EUROPEAN LEGISLATION UNI EN 13501-1 pag. 8
  - MED 96/98 CE pag.10
- SUMMARY TABLE pag.11

## INTRODUCTION

In case of fire, it is critical to slow down the fire propagation in order to allow the users to evacuate quickly and securely the rooms where a start of a fire should occur. The more and more stringent regulations in this field mandate for the operators of this sector the need to reduce the "fire load" in both public and private locations. As far as the fire RESISTANCE and REACTION are concerned, it is possible to distinguish two macro categories:

### > ACTIVE PROTECTION

Direct actions any individual carries out aiming to prevent and to reduce the consequences of a fire outbreak:

- Use of fire extinguishers and fire hydrants
- Automatic systems (such as sprinkler or foam)

### > PASSIVE PROTECTION

All those actions aiming to slow down and to limit the fire with the purpose to mitigate its effects and to allow to evacuate rooms quickly and securely:

- Use of firewalls
- Use of materials which are classified depending on their fire reaction.

## ACTIVE PROTECTION



4 - FIRE RETARDANT PAINTS LINE

Antifire paints fit exactly in the sphere of material fire reaction for their intrinsic features such as to reduce the combustion capability of a wooden element they are applied on.

Italy, with its very strict regulations, has always been a pioneer in this context, but there is an increasing number of countries that are adapting to that with focused laws and regulations.

**VERINLEGNO**, which has always been in the forefront of the advanced research and of the study of new technologies for the community, has been implementing for more than 20 years the Regulation UNI 9796, acquiring several Ministerial Certifications related to it.

Over the years, in compliance with the regulatory evolution in various countries, the Euroclass and MED 96/98 CE were also implemented.

## PASSIVE PROTECTION



## FIRE RESISTANCE AND FIRE REACTION

Very often, we are inclined to confuse FIRE RESISTANCE with FIRE REACTION.

In both cases, we talk about PASSIVE REACTION, but they lead to two very different fields. Let's try to explain their main aspects.

When we talk about FIRE RESISTANCE, we refer to the "capability" of a building, or of a single part of it, to keep specific minimum performances of mechanical resistance for a specific period of time if it is subject to the fire action and/or to high temperatures. Therefore, we talk about FINISHED STRUCTURAL ELEMENTS. It is possible to measure this datum in MINUTES and to explain it by means of the French acronym **REI**, where:

- R** shows the degree of "MECHANICAL RESISTANCE"
- E** shows the degree of "HERMETICITY"
- I** shows the degree of "THERMAL INSULATION"

There are specific products, such as the INTUMESCENT PAINTS, which work in this direction. Given their feature, they "get started" swelling up again when they are in contact with fire, creating in fact a kind of barrier thicker than the starting coat.

The FIRE REACTION is defined as the level of participation of a combustible material which is exposed to fire and carries out its main effects during the first fire propagation, with the purpose to limit the ignition and the propagation itself thus facilitating the escape routes. The fire reaction is a characteristic of all the materials and is expressed in Italian and European fire reaction classes. The fire reaction characteristics of a building product do not actively act to extinguish a fire, but they allow to know whether the material can slow down the development of the fire or whether it can avoid its propagation. The fire reaction characteristics are defined depending on the testing methods, checking the following conditions:

- Temperature increase
- Mass loss
- Fire duration
- Gross calorific potential

The FIREFIGHTER line by **VERINLEGNO** offers a wide range of FIRE-RETARDANT paints, depending on the different typologies of regulations.

FIRE RETARDANT PAINTS LINE - 5

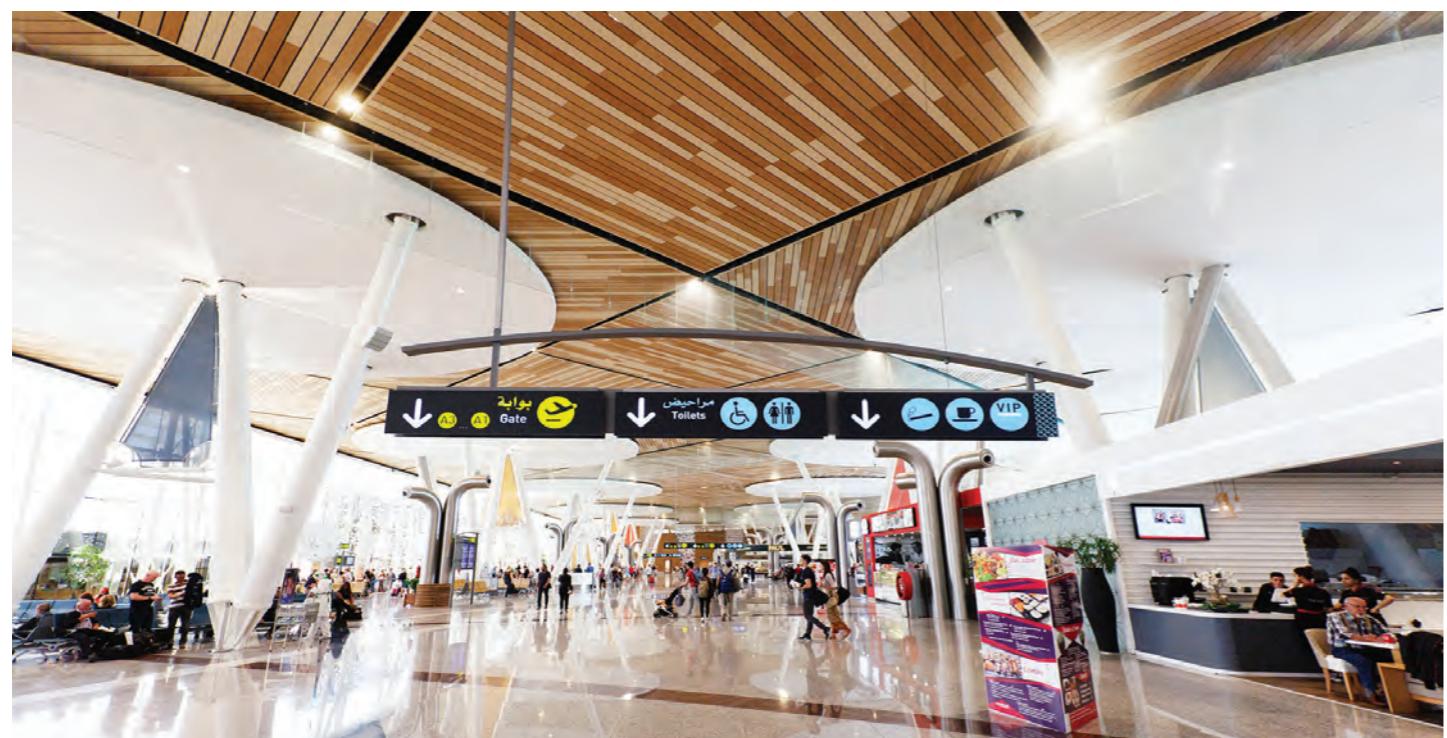
## REACTION TO FIRE PRODUCT RANGE VERINLEGNO

CLASS 1

ITALIAN REGULATION MINISTERIAL DECREE 6/3/92 (UNI 9796)

CLASSE 1 - UNI9796		
Product	Description	Application fields*
V300 IGF VPKTR	Polyurethane clear matt topcoat	Walls, ceiling, kitchen cabinets and furniture in general.
V400 IGF VPK PARQUET	Polyurethane clear matt topcoat for parquet floors	Floors
V600 IGF VLX PARQUET	Polyurethane clear high gloss topcoat for parquet floors	Floors
V500 IGF KROMAT BIANCO	Polyurethane white matt topcoat	Walls, ceiling, kitchen cabinets and furniture in general.
V510 IGF KROMAT NERO	Polyurethane black matt topcoat	Walls, ceiling, kitchen cabinets and furniture in general.
V560 IGF KROMAT GIALLO	Polyurethane yellow matt topcoat	Walls, ceiling, kitchen cabinets and furniture in general.
V570 IGF KROMAT ROSSO	Polyurethane red matt topcoat	Walls, ceiling, kitchen cabinets and furniture in general.
V580 IGF KROMAT BLU	Polyurethane blue matt topcoat	Walls, ceiling, kitchen cabinets and furniture in general.
V84010 IGF IDROFINISH 10 GLOSS	Water-based matt transparent topcoat	Walls, ceiling, kitchen cabinets and furniture in general.

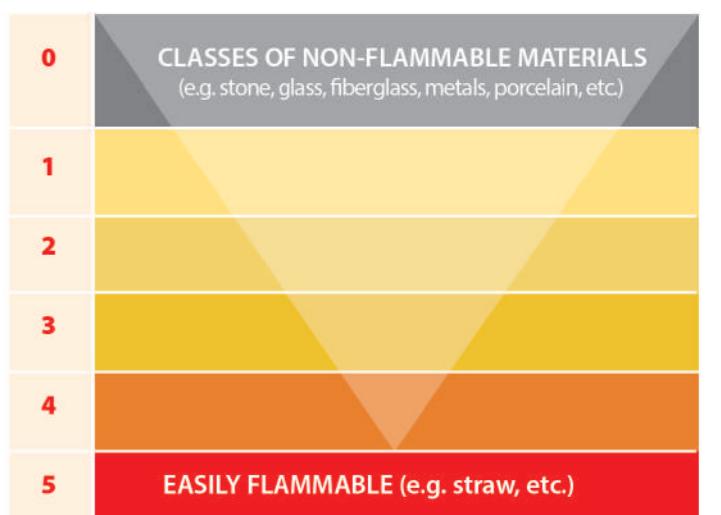
\*Not all wooden substrates are suitable for the purpose of obtaining the fireproof certificate:  
It is accurate duty of the user to take in advance the necessary information in this regard.



EUROCLASSE - EN 13501		
Product	Description	Application fields
V300 IGF VPK TR	Polyurethane clear matt topcoat	Walls, ceiling, kitchen cabinets and furniture in general.
V500 IGF KROMAT BIANCO	Polyurethane white matt topcoat	Walls, ceiling, kitchen cabinets and furniture in general.
MED - 96/98 CE		
Product	Description	Application fields
FAT 0150 ACRYLIC TRANSPARENT SEALER 150	Acrylic clear sealer	Surface materials and floor coverings for boats
OAT0250 ACRYLIC TRANSPARENT TOPCOAT 250 VARIGLOSS	Acrylic clear matt topcoat	Surface materials and floor coverings for boats
FPB0113 PU WHITE SEALER 113	Polyurethane white primer	Surface materials and floor coverings for boats
OPB08325 PU WHITE TOPCOAT 83 25 GLOSS	Two-pack polyurethanic white matt topcoat	Surface materials and floor coverings for boats
LPB070 PU WHITE GLOSSY 70	Two-pack polyurethanic white high gloss topcoat	Surface materials and floor coverings for boats



According to Italian law, materials related to furniture, flooring, panelling, seats, false ceiling and other covering are classified in six classes depending on their fire reaction. Each typology of material is given a Class of fire reaction which goes from 0 (not combustible) to 5 (easily flammable):



The FIREFIGHTER paints by VERINLEGNO allow to categorize any finished product in **Class 1**, which represents the best reaction class that a painted wooden artefact can achieve.

V300	IGF VPKTR vari gloss
------	----------------------

TWO-PACK POLYURETHANE CLEAR MATT TOPCOAT

V500 - V580	SERIE KROMAT
-------------	--------------

TWO-PACK POLYURETHANIC PIGMENTED MATT TOPCOATS

CERTIFIED COLOURS: WHITE, BLACK, YELLOW, RED, BLUE

V400 V600	IGF VPK PARQUET IGF VLX PARQUET
--------------	------------------------------------

TWO-PACK POLYURETHANE CLEAR MATT AND HIGH GLOSS TOPCOATS FOR PARQUET FLOORS

V84010	IGF IDROFINISH 10 GLOSS
--------	-------------------------

WATER-BASED MATT TRANSPARENT TOPCOAT

## EUROCLASS

### EUROPEAN REGULATION UNI EN 13501-1

The European regulation UNI EN 13501-1 regulates the classification of the fire reaction for building products and elements. The building products are classified, depending on harmonised testing methods, in the Euro classes A1, A2, B, C, D, E, and F. The materials which are classified in A1 and A2 are non-flammable while those certified from B to F are flammable in ascending order. For all the materials belonging to classes A2, B, C, D an additional classification is also provided, depending on the level of smoke emission and/or of particles/drops burning during the combustion.

The FIREFIGHTER paints by VERINLEGNO acquired the following certifications:

V300	IGF VPK TR VARI GLOSS
TWO-PACK POLYURETHANE CLEAR MATT TOPCOAT	

B s<sub>1</sub> d<sub>0</sub>

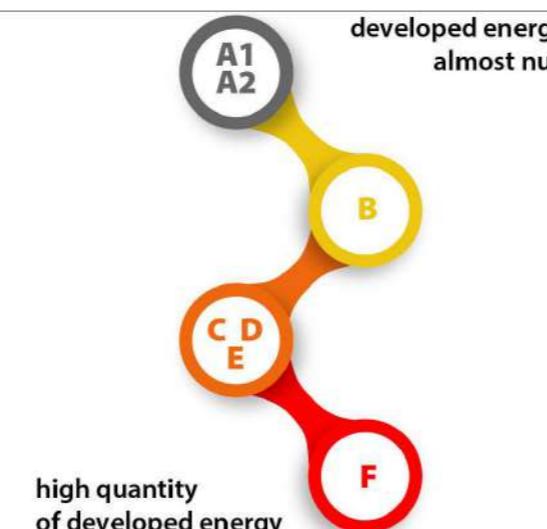
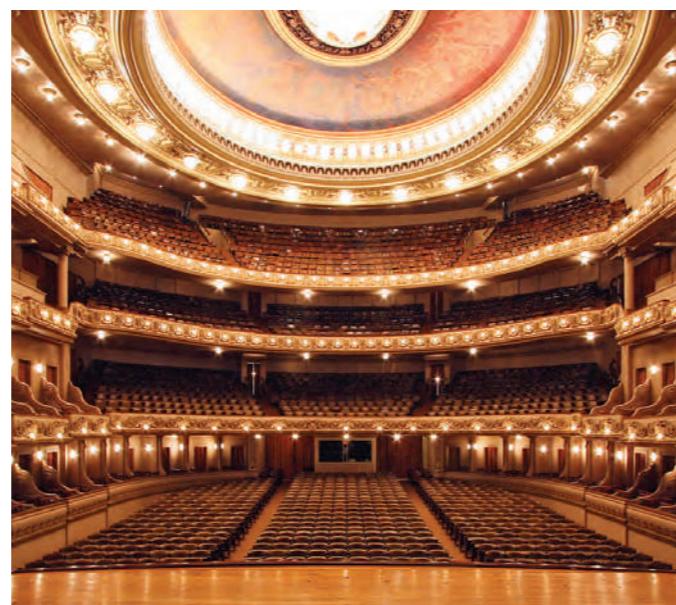
V500	IGF KROMAT BIANCO
TWO-PACK POLYURETHANE WHITE MATT TOPCOAT	

B s<sub>1</sub> d<sub>0</sub>

How can we interpret the certification codes of EUROCLASS?

> The first letter shows the quantity of energy which develops during the combustion:

A1	Classes of non-flammable materials (e.g. stone, glass, metals, porcelain, etc.)
A2	
B	Non-flammable combustible materials
C	
D	
E	
F	Easily flammable materials



> The second letter refers to the level of smoke emission (S = SMOKE) which emanates during the combustion, with values from 1 (absent/weak) to 3 (high).

This factor is extremely important since it defines the visibility level of the user during the fire.

To better understand, observe the following images:



The minimum accepted level is S2. The transparent product of the FIREFIGHTER line by VERINLEGNO reached the level S1 that is an extremely low quantity of smoke produced.

> Finally, the third letter shows the level of "dropping" (D=DROP) that is the capability for a product to give off drops of liquefied material after and/or during the exposure to a source of heat.

Values are set from 0 (absent) to 2 (high), following the scheme below:

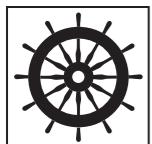
> d<sub>0</sub> NO DROPPING WITHIN 600 SECONDS

> d<sub>1</sub> DEVELOPMENT OF INCANDESCENT DROPS WITH A DURATION SHORTER THAN 10"

> d<sub>2</sub> DEVELOPMENT OF INCANDESCENT DROPS WITH A DURATION LONGER THAN 10"

The products of the FIREFIGHTER line by VERINLEGNO reached the level d<sub>0</sub> that is the total lack of dropping.





## MED 96/98 CE

The MED regulation (Marine Equipment Directive) 96/98/CE aims to harmonize the compliance procedures concerning the maritime equipment for passenger ships as well as for cargo ships. The reference laws are international ones since they refer to I.M.O., International Maritime Organization, the UN agency responsible for the navigation security and the prevention of marine pollution.

The three cycles provided by **VERINLEGNO**, PU WHITE HIGH GLOSS, PU WHITE MATT, ACRYLYC TRANSPARENT acquired the certification of the production system FORM D.

The certification acquired by **VERINLEGNO** are acknowledged not only by EU member states but also by the U.S. in compliance with the international agreement of mutual recognition.

The MED Directive, in our case, regulates the covering materials and the covers, with a limited capability of flame propagation, existing into the ship locations, showing their tests for flammability of the surface, for smoke opacity and for gas toxicity:

- Heat release - FTP code 307 (88) Ed. 2010 Annex 1 Part 5
- Smoke opacity and toxicity - FTP Code 307 (88) Ed. 2010 Annex 1 Part 2



## SUMMARY TABLE

FAT0150 ACRYLIC TRANSPARENT SEALER 150
ACRYLIC CLEAR SEALER
OAT0250 ACRYLIC TRANSPARENT TOPCOAT 250 VARI GLOSS
ACRILYC CLEAR MATT TOPCOAT
FPB0113 PU WHITE SEALER 113
POLYURETHANE WHITE PRIMER
OPB08325 PU WHITE TOPCOAT 83 25 GLOSS
TWO-PACK POLYURETHANIC WHITE MATT TOPCOAT
LPB070 PU WHITE GLOSSY 70
TWO-PACK POLYURETHANIC WHITE HIGH GLOSS TOPCOAT
W730M FO FI IDRO TX 5081 MED VARI GLOSS
WATER BASED TRANSPARENT SELF SEALER
W740M FO FI IDRO BIANCO 5133 MED VARI GLOSS
WATER BASED WHITE SELF SEALER

PRODUCTS	CLASSE 1 (g/sqm - coats)	EUROCLASSE (g/sqm - coats)	MED (g/sqm - coats)
V300 IGF VPK TR VARI GLOSS + 100% V010 +20% P730	170 g/sqm - 3 coats	100 g/smq – 2 coats	
V400 IGF VPK PARQUET +100%V020+ 50% P090 roller; + 40% P040 spraygun	130 g/sqm - 3 coats		
V600 IGF VLX PARQUET + 100% V020 + 50% P090 roller; + 40% P040 spraygun	130 g/sqm - 3 coats		
V500 IGF KROMAT BIANCO +100% V030 + 30% P730	130 g/sqm - 3 coats	120 g/smq – 2 coats	
V510 IGF KROMAT NERO +100% V030 + 30% P730	170 g/sqm - 3 coats		
V560 IGF KROMAT GIALLO +100% V030 + 30% P730	170 g/sqm - 3 coats		
V570 IGF KROMAT ROSSO +100% V030 + 30% P730	170 g/sqm - 3 coats		
V580 IGF KROMAT BLU +100% V030 + 30% P730	170 g/sqm - 3 coats		
V84010 IGF IDROFINISH TX 10 GLOSS + 10% W440 + 0-10% WATER	220 g/sqm - 3 coats		
CYCLES	CLASSE 1 (g/sqm - coats)	EUROCLASSE (g/sqm - coats)	MED (g/sqm - coats)
ACRYLIC TRANSPARENT VARI GLOSS			220 g/smq – (total)
FAT0150 ACRYLIC TRANSPARENT SEALER 150 VARI GLOSS + 20% B420 + 20% P730			110 g/smq – 1 coat
OAT0250 ACRYLIC TRANSPARENT TOPCOAT 250 VARI GLOSS + 20% B420 + 20% P730			110 g/smq – 1 coat
PU WHITE GLOSS			250 g/smq – (total)
FPB0113 PU WHITE SEALER 113 + 30% B400 + 20% P730			150 g/smq – 1 coat
LPB070 PU WHITE GLOSSY 70 + 90% B900 + 4 5% P990			100 g/smq – 1 coat
PU WHITE MATT			250 g/smq – (total)
FPB0113 PU WHITE SEALER 113 + 30% B400 + 20% P730			150 g/smq – 1 coat
OPB08325 PU WHITE TOPCOAT 83 25 GLOSS + 50% B580 + 20% P730			100 g/smq – 1 coat
WATER BASED TRANSPARENT			240 g/smq – (total)
W730M FO FI IDRO TX 5081 MED VARI GLOSS +0-5% WATER			120 g/smq - 2 coats
WATER BASED WHITE			260 g/smq – (total)
W740M FO FI IDRO BIANCO 5133 MED VARI GLOSS +0-10% WATER			130 g/smq - 2 coats