



# FIRE RETARDANT R 450 EAU

## General Description:

A two component anti-fire polyurethane cycle which consists of the colourless intumescent base coat FIRE RETARDANT R 450 EAU and the relative protective top coat FIRE RETARDANT R 450 EAU TOP available in different gloss gradations. In the case of fire, the heat and the increase in temperature cause the product to decompose generating a protective foam which insulates the support from the temperature increase and slows down the carbonization of the wood. The transparency, hardness, resistance to scratching and stains, the softness of the finish, and rapidity of hardening of the various coats of this cycle are the main features of this protective system thus ensuring the user of excellent times and results for this type of product.

## Major Uses:

Anti-fire protective system to reduce the reaction to fire of wood and wood derivatives and can be used on matchboard fitted on walls or ceilings, furniture, furnishings, scenography, stands, etc.

## Physical Properties:

Characteristics	Base	Top
Paint cycle	2-component	2-component
Colour	transparent	transparent
Gloss		Matt ( 19-25) Satin ( 57-63) Gloss (>85)
Specific weight	1.08 kg/L - A 1.03 kg/L - B	1.10 kg/L - A 0.99 kg/L - B
Viscosity (FC # 4)	45-55" - A 10-15" - B	105-110" - A 10 - 15" - B
Solid content (W)	60-64% - A 42-46% - B	65-69% - A 33-37% - B
Mixing Ratio	2:1	1:1
Pot life	2h	2-3h
Drying time		
Dust dry	20 min	15 min
Sandable	4h	2h
Cured	12h	8h
Recoat	24h	24h
Storage	12 months	12 months

The above data is purely indicative and refers to the matt finish varnish. The application characteristics of the product have been obtained with an application of 150 micron (20°C, relative humidity 60%). Different thickness and/or temperature and/or humidity might imply data variation.

*The above information is given to the best of our knowledge based on laboratory test and practical experience. However, as the paint is often used under condition beyond our control, we cannot guarantee anything but the quality of the paint itself. We reserve the right to change the given data without prior notice.*

## MAS PAINTS & CHEMICAL INDUSTRY

P.O. BOX NO: 23085, SAJJAH INDUSTRIAL AREA, SHARJAH, U.A.E

TEL NO: 009716 5311777; FAX: 009716 5311330

Website : <http://www.mas-paints.com>

Email: [masuae@emirates.net.ae](mailto:masuae@emirates.net.ae)

## Application Notes:

Information about the utilisation and consumption of FIRE RETARDANT R 450 EAU in every step of the product life cycle is detailed in the relative Safety Data Sheet (SDS); more information about installation is given in the APPLICATION MANUAL.

A concise presentation of standard operative conditions is given below in order to carry out a correct application and installation of this protective product.

## Surface Preparation:

Ensure that the wood is clean and dry, with no traces of resin, grease, dust etc. and that the humidity is lower than 12%; high humidity could cause a patina to form on the dried film. The product can also be used on surfaces previously painted with other products, even if not anti-fire. We recommend that product compatibility is verified before proceeding by carrying out an application test on a small area. If applying to wood with has been pre-treated with a coloured paint or varnish, carry out a compatibility and aesthetics test of the final paint cycle, especially to check out any colour change due to the pre-existing colour.

## Quantity to be applied:

The required quantity of intumescent paint to be applied is set out by fire test performance results. Any wastage and loss of thickness due to intermediate sanding between the coat of primer and the coat of top coat must however be added to the consumption indicated in the respective test certificates in the case of application by spraying. The quantity of paint to be applied (practical consumption) is therefore equal to 300 g/m<sup>2</sup> of FIRE FR WOOD 450 BASE completed by 150 gr/m<sup>2</sup> of FIRE RETARDANT R 450 EAU TOP.

## Dilution:

The products are supplied ready to use; if necessary, dilute with max. 5% Polyurethane Thinner.

Stir the product well whilst the thinner is being added.

## Preparation of the product:

Mix component A well, then add the Catalyst and mix thoroughly.

Application may be carried out by curtain-coating and spraying systems either with traditional drop feed or airless. A brush may also be used, keeping in mind however that the final result may not be optimum.



If curtain-coating is used, the pot life could be shorter due to solvent evaporation (ensure that the product is not left in the machine for any length of time). The product is supplied at optimal viscosity for curtain-coating so it is better to use the recommended quantities in order to avoid any accumulation of the varnish. We therefore recommend the following application cycle:

- Apply a coat of 150 g/m<sup>2</sup> of the intumescent base coat FIRE RETARDANT R 450 EAU.
- After at least 1 hour and within 4 hours, apply the second coat of 150 g/m<sup>2</sup> of the intumescent base coat FIRE RETARDANT R 450 EAU without sanding (if the above period of time is exceeded, then it is necessary to sand the previous coat)
- After 24 hours sand with medium sandpaper grit 180-200 and apply in one coat 150 g/m<sup>2</sup> of the protective top coat FIRE RETARDANT R 450 EAU TOP.

A good adhesion between two coats can be achieved by accurate sanding. The use of warm air during application can accelerate drying time.

#### **Protective finish:**

The application of the top coat FIRE RETARDANT R 450 EAU TOP is an integral part of the application cycle and the fire reaction characteristics of the protective system FIRE RETARDANT R 450 EAU have been verified in combination with the proposed finish. The use of different top coats to those indicated in our paint cycles could compromise the fire protection performance of the anti-fire product and the efficacy of the whole thermal insulation of the system in question.

#### **TECHNICAL ADVICE**

- When storing the product, the intumescent substances tend, over time, to deposit on the bottom of the tin. We therefore recommend that the product is stirred thoroughly with an agitator or metal stick before use
- The product is sensitive to damp therefore in order to avoid aesthetic defects, we recommend that it is not applied in very humid rooms and that the humidity level of the support is verified before application.
- Some types of wood with a high oil content (iroko, palisander etc.) or others like mahogany etc. can cause defects such as air bubbles, patina on the paint film etc. For this reason we recommend that a test is always carried out on this kind of wood and/or that a coat of polyurethane primer is applied.

#### **Storage:**

When preserved in its original packaging, keep away from excessively high and low temperatures. Shelf life of 12 months in a tightly close container.

#### **Testing and Classification:**

The intumescent product has been classified in EUROCLASS B / s1 / d0 on the basis of data from fire reaction tests carried out in conformity with the European norm EN 13501-part 1 and in CLASS 1 based on the norm UNI 9796/90 according to D.M. 6/3/92 ( nr. BL876PVI100003). This classification is valid for the protection of all types of wood-based supports either walls or ceilings, as specified in EN 13823 *Reaction to fire tests for building products exposed to a thermal heat of one single burning item* and EN ISO 11925 *Reaction to fire tests - Ignitability of building products subjected to direct impingement of flame - Part 2: Single-flame source test.*

#### **Cleaning of Tools:**

All tools should be cleaned with Wash Thinner or PU Thinner as soon as possible.

#### **Precautions:**

FIRE RETARDANT R 450 EAU does not contain solvents, nevertheless, good ventilation in working rooms is recommended as well as the use of safety tools and equipment. The mixture, in its liquid state is non – flammable but harmful if swallowed. If contact with eyes occurs, cleanse with fresh water and seek immediate medical advice.

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