

Technical Data Sheet

XA99XX/BB PIGMENTED WATERBORNE CONVERTER FOR TINTOMETRIC SYSTEM - WHITE

Supersedes previous issue dated 07/29/11

DATE 05/30/13

| | |
|----------------|--|
| Versions: | 15, 30, 45, 60 gloss. |
| Area of use: | Door and window frames and wooden parts exposed outdoors. It must be used as a white base for the waterborne tintometric system for exteriors, to be tinted with XA2006/XX waterborne pastes. |
| Method of use: | Spray (conventional, airless, airmix and electrostatic spray guns suitable for waterborne products). |

Technical characteristics

| | |
|--------------------------|---------------|
| Solids content (%): | 44 ± 1 |
| Specific gravity (kg/l): | 1.160 ± 0.030 |

General characteristics

| | |
|--|--|
| Number of coats: | Max. 2 |
| Recommended application weight (g/m²): | From 120 to 225 |
| Drying time (120 g/m² at 20°C): | Dust free: 40 min. Touch dry: 2 hours Sandable: 6 hours Stackable: 24 hours |
| Forced air drying (120 g/m²): | Flash off: 20 min. Hot air at 40°C.: 120 min. Cooling: 20 min. |
| Shelf-life (months): | 15 |

XA99**/BB base shall be tinted with waterborne pastes XA2006/XX according to the mixing ratio shown in the formulation book. In case of application of XA99**/BB as is, thinning up to 5% with drinking water may be required for proper flow.

The product exhibits good thixotropy and can be applied even vertically in thick coats (max. 225 g/m² wet) with no dripping problems. However, we remind you that, in some cases, the addition of pigmented pastes XA2006/XX can reduce the vertical hold of the product, so that the recommended application weight should be adjusted.

XA99**/BB main characteristics are the following:

1. absence of "blocking";
2. absence of spontaneous combustion;
3. absence of lifting problems (even overcoating after very short intervals);
4. protection against UV radiations;
5. application versatility;
6. durability (thanks to the applied film elasticity).

Wood species

The most suitable wood for exterior grade pigmented topcoat application is softwood, provided the species have few knots and are resin-free (resin can seep through the film of coating and damage its aesthetic appearance).

The most suitable timber is hemlock, followed by white fir, which in general has relatively few small, resin-free knots.

Good results can also be obtained with meranti.

Pine gives varying results depending on the place of origin, the period in which the tree was cut and seasoning of the timber. For this reason, not even products with extremely high insulating power can prevent pine resin from eventually seeping out and forming yellow stains.

The same applies to douglas fir.

Iroko, oak, chestnut and cedar create similar problems because of their tannin content, so they are unsuitable for pigmented systems.

Sanding of the bare wood

As a result of the hydrophilic nature of cellulose, waterborne products tend to swell the soft vein of the wood. To minimise this problem, it is important to sand the substrate thoroughly with 150 grit paper or an extra - sanding .

Thickness of the coating

To assure adequate resistance for outdoor exposure, it is essential to apply a layer of minimum dry thickness of 80 µm. Better results are obtained with a dry thickness of 120 µm. We advise against using very thick layers of topcoat in a single application since uneven drying of the film can give rise to cracking, especially in areas of build up (grooves in shaped panels).

Coatings systems

We always recommend the following coating systems with dried coats of about 120 µm.

1) Preservative wood stain + topcoat

- Waterborne colored preservative wood stain (by flow-coating, dipping); 4 – 6 hour-drying.
- Buffing/sanding
- 2 coats of waterborne pigmented thixotropic topcoat (by spray); first coat thinned at 5 – 10% with wet thickness of 125 – 150. The thickness of the second coat must be of 200 – 225 µm. Sanding is necessary only if the interval between the coats exceeds 3 hours, no sanding is necessary for intervals not exceeding 2 hours.

N.B.: DATA PROVIDED ON THIS TECHNICAL DATA SHEET CORRESPOND TO OUR BEST KNOWLEDGE AND EXPERIENCE. WE ASSURE CONSISTENCY ON THE CHEMICAL-PHYSICAL CHARACTERISTICS OF OUR PRODUCTS, WITHIN THE TOLERANCE LIMITS SPECIFIED ON OUR TECHNICAL DATA SHEETS. RESPONSIBILITY OF FINAL RESULT OF PRODUCT APPLICATION IS FULLY UP TO THE USERS, WHO SHALL MAKE SURE THAT THE PRODUCT CORRESPONDS TO THEIR OWN NEEDS WITH REGARD TO APPLICATION SYSTEM, TO SUBSTRATES USED AS WELL AS TO WORKING CONDITIONS.
WARNING: ACTUAL VISCOSITY OF SOME PIGMENTED AND/OR THIXOTROPIC PRODUCTS MAY DIFFER FROM THE VISCOSITY SHOWN ON THE TECHNICAL DATA SHEET. DIFFERENCES ARE TO BE REGARDED AS ACCEPTABLE IF WITHIN 30% MAXIMUM.

2) White preservative barrier basecoat + topcoat

- See point 1). The only change is the use of a white barrier basecoat (instead of a colored one) applied by flow coating or dipping. This system is not recommended if the shims are already mounted since pigmented barrier basecoats, because of their high solids content, tend to stick them on the frame. Therefore, we always recommend applying the barrier basecoats on the shims before mounting them.

3) Preservative wood stain, basecoat and topcoat

- Waterborne colored preservative wood stain (by flow-coating, dipping); 4 – 6 hour-drying.
- Waterborne thixotropic basecoat (by spray) with wet thickness of 150 µm; 4 hour-drying.
- Sanding.
- Waterborne pigmented thixotropic topcoat (by spray) with wet thickness of 200 – 225 µm.

Application

Pigmented bases can be applied by means of the conventional spraying systems (airless, airmix and electrostatic spray guns) suitable for waterborne products.

For electrostatic application, an equipment expressly designed for waterborne coatings is required.

Application devices

- For conventional spray guns: 2.2-2.5 mm nozzle, pressure 3-4 atm.
- For airmix spray guns: 9-11 nozzle, material pressure 90-120 atm., air pressure 1-2 atm.
- For airless spray guns: 9-11 nozzle, material pressure 90-120 atm.

It is also possible to use fan or cone nozzles equipped with a pre-atomiser.

Equipment that is not in perfect condition (faulty seals, too high pressures) or pumps with low capacity can cause serious defects in the coating film (in particular air bubbles).

Drying

Waterborne products must be dried in rooms with temperatures not below 15°C and relative humidity no greater than 60%. Outside this range drying is slower and/or the film is formed with poorer hardness and chemical resistance. For good drying it is advisable to use a forced flow of dry air initially at room temperature and subsequently at 20-30°C.

Chemical resistance and cross-linker

In view of the poor resistance of waterborne products to alcohols and ammonia, door and window frames coated with these products should be cleaned with neutral detergent solutions in lukewarm water. The possible addition while stirring of 1% of XA4080/00 crosslinker in the topcoat makes the film very resistant against chemical agents. After its addition, the cross linker has a pot life of 16 hours, after which it must be revived.

Adhesives, seals, silicones and packaging materials

Sticking must be done very accurately using waterproof glues (preferably from class D4 according to EN 204) since waterborne products show sticking problems with the following detachment and/or swelling of the veneer.

We advise against using PVC based seals (even as the supporting base for trolleys) since they release plasticisers that attack and soften the film of coating.

Neutral silicone is the most suitable type for mounting glass in door or window frames coated with waterborne products. Acetic silicones provide poor adhesion.

N.B.: DATA PROVIDED ON THIS TECHNICAL DATA SHEET CORRESPOND TO OUR BEST KNOWLEDGE AND EXPERIENCE. WE ASSURE CONSISTENCY ON THE CHEMICAL-PHYSICAL CHARACTERISTICS OF OUR PRODUCTS, WITHIN THE TOLERANCE LIMITS SPECIFIED ON OUR TECHNICAL DATA SHEETS. RESPONSIBILITY OF FINAL RESULT OF PRODUCT APPLICATION IS FULLY UP TO THE USERS, WHO SHALL MAKE SURE THAT THE PRODUCT CORRESPONDS TO THEIR OWN NEEDS WITH REGARD TO APPLICATION SYSTEM, TO SUBSTRATES USED AS WELL AS TO WORKING CONDITIONS.
WARNING: ACTUAL VISCOSITY OF SOME PIGMENTED AND/OR THIXOTROPIC PRODUCTS MAY DIFFER FROM THE VISCOSITY SHOWN ON THE TECHNICAL DATA SHEET. DIFFERENCES ARE TO BE REGARDED AS ACCEPTABLE IF WITHIN 30% MAXIMUM.

Expanded polystyrene, bubble film and PVC-based plastic materials are unsuitable for packaging door and window frames coated with waterborne products.

Expanded polyethylene is the packaging material giving the best results.

Instructions for color preparation: the 0.5% of antifoam XA4059/00 is recommended to be added to prevent foam formation caused by stirring while incorporating pigmented pastes. Easy to incorporate, it shall be added before the pastes and can be mixed also with a gyroscopic mixer

Special instructions

- Do not store the product at temperatures lower than 5°C.: keep from freezing.
- Coating residues must be disposed of in accordance with current legislation. Do not pour residues down drains.
- When switching from a solvent-based to a waterborne coating system it is always advisable to contact suppliers' technical departments to check whether equipment and components are appropriate. In particular, check: electrostatic guns, pumps, seals, silicones, glues, booth treatment water products and packaging materials.
- Once the can has been opened, the coating is susceptible to the attack of bacteria commonly present in the air, which can cause rotting, as evidenced by the foul smell and increase in viscosity of the product in the can. To avoid this problem, do not pour used coating back into cans with fresh product and do not leave cans open for more than a week, especially in hot weather. To increase the storage life of products add Hydroplus bactericides.

N.B.: DATA PROVIDED ON THIS TECHNICAL DATA SHEET CORRESPOND TO OUR BEST KNOWLEDGE AND EXPERIENCE. WE ASSURE CONSISTENCY ON THE CHEMICAL-PHYSICAL CHARACTERISTICS OF OUR PRODUCTS, WITHIN THE TOLERANCE LIMITS SPECIFIED ON OUR TECHNICAL DATA SHEETS. RESPONSIBILITY OF FINAL RESULT OF PRODUCT APPLICATION IS FULLY UP TO THE USERS, WHO SHALL MAKE SURE THAT THE PRODUCT CORRESPONDS TO THEIR OWN NEEDS WITH REGARD TO APPLICATION SYSTEM, TO SUBSTRATES USED AS WELL AS TO WORKING CONDITIONS.
WARNING: ACTUAL VISCOSITY OF SOME PIGMENTED AND/OR THIXOTROPIC PRODUCTS MAY DIFFER FROM THE VISCOSITY SHOWN ON THE TECHNICAL DATA SHEET. DIFFERENCES ARE TO BE REGARDED AS ACCEPTABLE IF WITHIN 30% MAXIMUM.