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Waterborne products for exteriors

Hydroplus

Durability and aesthetics have always been the primary function of Hydroplus exteriorgrade wood coatings. With Hydroplus waterborne coatings, the life of coated joinery is considerably increased and the appearance is enhanced at the same time. These products are designed to reduce

water absorption and protect against solar radiation and demonstrate superb outdoor resistance along with drastic reductions in solvent emissions.



Superior long lasting exterior durability.

Unlike traditional solvent products, waterborne products maintain their elasticity over time, which allows the coating to follow the wood's movement without cracking or flaking.

Hydroplus coatings are low environmental impact products: **solvent emissions are reduced by 95%** compared to synthetic products.

Waterborne coatings **are not flammable,** can be thinned with tap water and are fast drying. All Hydroplus series products for exterior use meet the requirements of the EN 14351-1 regulation governing CE marking.



Advantages arising from the use of water-based coatings in the manufacture of joinery for exteriors

- Low impact on the environment
- Not flammable
- Equipment can be washed with water
- Short drying time
- Durability on outdoor exposure
- Gloss retention
- Non-yellowing film
- Resistance to skin formation
- Maintains its elasticity on ageing
- Lifting resistance (over-coatability)
- No spontaneous combustion
- High film weights

Hydroplus topcoats are thixotropic. This allows a thick coat of product to be applied without sagging or running, maintaining excellent flow and transparency. The applied film maintains a high level of elasticity over time, without being prone to "blocking" phenomenon. In order to ensure a good resistance in outdoor exposure, the clear Hydroplus products are formulated with an optimal dose of UV absorbers to protect against UV rays that damage the exposed timber, reducing any changes in colour and protecting the wood from deterioration. Hydroplus pigmented coatings contain high opacity and light resistant pigments. This type of coating is ideal for high quality,long lasting joinery products.

The most important precautions to be observed in the use of water-based coatings are:

- 1. During application, the product, substrate and ambient conditions should all be maintained at a minimum temperature of 20°C. Films cured below this temperature can exhibit lower mechanical and chemical resistance properties.
- **2.** Waterbased products must be stored in places with a minimum temperature of 5°C.





Wood

Selection

The wood must be healthy and without pith and must exhibit some important features.

- Moisture content between 13-18%
- There must be no traces of fungal attack.
- There must be no traces of insect attack.
- There must be no transverse cracking of the grain.
- Sapwood can be present when it has features similar to those of heartwood (e.g. pine); it should not be present on woods where sapwood and heartwood have very different features.
- A maximum width of 5mm is permitted for resin pockets which were originally present and have been replaced by timber inserts. The timber inserts should not be visible after coating (for pigmented systems) or may be visible if the insert is of the same colour as the timber (for translucent systems).

Timbers rich in natural resin and susceptible to resin exudation include pine, larch, douglas fir.

It is impossible to eliminate or block resin exudation and occasionally the heat of sun can mobilise it sufficiently to lead to exudation through to the surface of the paint. The affect is however, only aesthetic and the durability of the timber remains unchanged. Always check the wood quality before use.

LOCATION **FRIENDLY**

We're proud to be able to provide you a local team with the back up of our global expertise





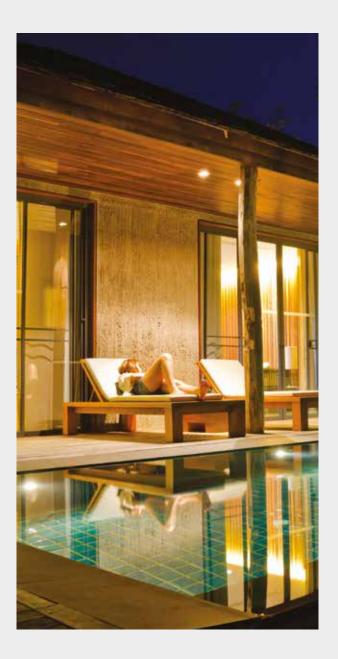
Substrate

Preparation

All preliminary mechanical processes on bare wood produce an irregular profile on the surface; to obtain a good coating result, a regular profile is required, and this can be obtained by sanding with increasingly finer abrasive paper, up to 150 for soft woods, up to 180 for hard woods.

The ideal moisture content of the timber should range between 14% and 16%, according to the wood species, but should not be outside 13-18%.

Moisture content should always be checked before coating, using a moisture meter.



Joinery

Design

The edges must be rounded. According to BS644 the profiles must be inclined with a minimum run off angle of 7°.

In practice the higher the angle the better for water shedding characteristics so where possible 10-15° is preferred - see diagram below.

Technical solutions must be devised to minimise wood movement, water stagnation and absorption at joints or horizontal components.



Wood

Protection

Hydroplus protective wood stains penetrate deep into the wood, excluding water penetration and guarantee a long joinery life.



In pigmented systems, the protective wood stain absorbs UV rays, protecting the wood from early signs of aging, and highlights its natural beauty. End grain

Protection

When coating exterior joinery, special care must be taken in the treatment of parts where wood is exposed by its end grain.

End grain is in fact highly absorbent, thus reducing the thickness of the applied coating film, with a consequent lower protection, especially from water (humidity, fog, rain, etc.). Water absorption causes dimensional changes in the wood, which in the end grain zone produce tensions on the coating films, which could crack and lift from the substrate, with permanent damage to the exterior joinery.

To protect the end grain use XA0469 sealant by brush application and XAV2316 elastic sealant in cartridge pack for v-joint protection, in order to seal all end grain. This operation must be carried out after the protective wood stain is applied and dries.





Water-based coatings

Application

Hydroplus water-based coatings can be applied by spray application (airless, airmix, electrostatic) provided that the equipment is suitable for water contact. Water-based coatings are also suitable to be used in application systems where the sprayed material is recovered.

Before starting, always check that the equipment you are using to apply the coatings are in good condition. Equipment not in perfect working order (faulty gaskets, too high pressures) can produce considerable defects in the film (e.g. air bubbles).

SOLUTION FRIENDLY



 Our products are recommended for both hard or soft woods



General recommendations for the application of water-based products*

Air Assisted Airless	Tip sizes 0.011" - 0.013"	Material pressure 90-120 bar. Recommended minimum 30-1 ratio pump. Air pressure 2 bar.
Airless	Tip sizes 0.011" - 0.013"	Material pressure 90-120 bar. Recommended minimum 30-1 ratio pump.

^{*}Please contact our technical team for more specific application recommendations.



Coating

Thickness

To achieve sufficient outdoor resistance, apply a minimum wet film thickness of 175-200 micron. Heavier coats of topcoat should not be applied beyond 300 microns in a single coat since, especially in the accumulation zones (such as grooves and in rebates etc.) Excessive coat weights may not dry in a uniform manner, and can lead to cracking, splitting and/or peeling.

Iron oxide water-based pastes. The addition of the transparent iron oxide pastes XA4034/XX to the Hydroplus clear topcoats considerably extends the coating life. In fact, they absorb the ultraviolet component of the solar radiation, improving the protection of wood.

Coating

Drying

The drying of water-based products must take place in rooms with a minimum temperature of 20°C, good air movement (essential) and relative humidity preferably between 50% and 70%. Outside these limits, the drying is slower and the film could exhibit lower hardness and chemical resistance.

Force drying is preferable with temperatures between 25-35°C.

The coating application method (spray, dip etc.) can influence the drying times and conditions.

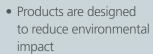
Hydroplus Exterior



- Waterborne coatings specifically designed for the reduction of water absorption and protection from the sun's radiation
- Prevents mould and fungus and protects and isolates from attack by insects and parasites
- Limits tannin bleed and bleeding of various extractive substances of the wood
- Colours the wood with beneficial effects in terms of appearance and protection against UV rays

For more information please call one of our friendly sales team on 0844 561 0070

TECHNICALLY **FRIENDLY**



 Our exterior coatings provide protection against weather when applied correctly



Joinery

Primers



AML3519 White Hardwood Primer

A pigmented one-pack thixotropic primer/ basecoat with excellent isolating power towards extractives such as tannins from timbers such as Oak and Meranti. Easy to apply, with good wetability, filling, drying and sanding properties, also effective on knot free softwood such as laminated redwood.

AML3432 White Primer for Softwoods

A pigmented high build one-pack primer specially formulated to combat knot yellowing associated with knotty pine used in the joinery industry. Its unique formulation offers superior performance compared to other softwood primers.

AM0424 Hydroplus Pigmented Primer

A pigmented high build one-pack primer specially formulated to be used on laminated and finger jointed timber. Its unique formulation offers superior performance compared to other softwood primers to obliterate finger-joints to give a smooth even finish

JOINERY PRIMERS PRODUCTS & DESCRIPTIONS

AML3519/13 Hardwood White Primer

AML3432/13 Softwood White Primer

AM0424/13 White Primer

XA0469 Clear End Grain Sealer

XAV2316/NN V Joint Sealer

Topcoat paint

System



AZ9730 Satin, AZ9760 Semi-gloss, AZL3282 Gloss Topcoats

Available as a finish in white and any colour.* This range of thixotropic topcoats has excellent weathering resistance, enduring water resistance, superb flow properties giving a very smooth, flat finish. These topcoats are recommended to be applied by two coats of 175-200 microns



TOPCOAT SYSTEMS - SOLID COLOURS PRODUCTS & DESCRIPTIONS

AZ9730/BB Satin White Topcoat, can also be used as a base for colours

AZ9760/BB Semi-gloss White Topcoat, can also be used as a base for colours

AZL3282/41 Gloss White Topcoat, can also be used as a base for colours

*Any colour can be produced to special order.

Woodstain

Basecoats



AM504 Universal Stain Basecoat

A specialist formulated stain basecoat for all timbers; its unique formulation will produce a very even stained effect on all timber types. The excellent flow and quick drying reduces fibre and grain raising normally associated with water based stains.

AM546 Softwood Stain Basecoat

A specialist formulated stain basecoat for softwoods; its unique formulation will produce a very even stained effect on softwoods such as pine. The excellent flow and quick drying reduces fibre and grain raising normally associated with water based stains.

AM623 Hardwood Stain Basecoat

A specialist formulated stain basecoat for hardwoods, its unique formulation will produce a very even stained effect combined with high protection levels. The excellent flow and quick drying reduces fibre and grain raising normally associated with water based stains.

WOODSTAINS / BASECOATS PRODUCTS & DESCRIPTIONS

AM504 Universal Basecoat Stain for Transparentand Pigmented Stains

AM546 Softwood Basecoat Stain for Transparentand Pigmented Stains

AM623 Hardwood Stain Basecoat for transparent and pigmented stains

Woodstain

Topcoats

AZ3430 and AZ3475 Hydroplus Thixotropic Woodstain Topcoat for Exteriors

A one-pack tinted topcoat with excellent clarity and water resistance. Has a very good flow, build and ease of application, this, combined with excellent clarity of finish, achieves a new milestone in development of waterborne coatings for exteriors. Available in a comprehensive range of wood stain colours.

AZ8130 New Clear Topcoat Finish for Softwoods

Believed to be the only clear system with 5 year testing approval by CATAS. Used with AM504/00 basecoat, AM475 mid-coat then either 2 coats (150 microns per coat) preferred, or 1 coat (300 microns) of AZ8130 with 1% of XA4080 Crosslinker added.



WOODSTAIN TOPCOATS PRODUCTS & DESCRIPTIONS

AZ3430 Translucent Semi-Matt **AZ3475** Translucent Gloss

UNIQUE CLEAR COATING SYSTEM PRODUCTS & DESCRIPTIONS

AZ8130 NEW Clear Topcoat Finish with Catas 5 year testing

AM475 Clear Midcoat

AM504 Clear Basestain

XA4080 Cross Linker for Final Coat

Paint system for exterior

Cladding



SC0730

A one-pack waterborne topcoat specifically designed for industrial application on fast force drying lines, Not suitable for drying below 35°C. It ensures the ideal elasticity and durability required for protection of wood exposed outdoors. To achieve excellent stacking characteristics, 2% of the crosslinker XA4080 is required.

Polyurethane 2K

Solvent based

TU0218 Colours

A semi-matt (30% sheen) system specially designed for exteriors. It exhibits exceptional resistance to weathering, temperature changes, ultraviolet rays and chemical attack. Durability tests performed by our company and by specialised institutes have shown that the finish of TU0218 does not deteriorate or crack either in high altitudes or in marine environments, which are known to be the most aggressive. It must be used as a multi coat in conjunction with TU0250 clear barrier basecoat.



PAINT SYSTEMS FOR EXTERIOR CLADDING PRODUCTS & DESCRIPTIONS

SC0730/BB Waterborne White Multicoat for Exterior Wood*

SC0730 Waterborne Multicoat for Exterior Wood Colours*

*Any colour can be produced to special order.

POLYURETHANE 2K FOR EXTERIOR PRODUCTS & DESCRIPTIONS

TU218/BB White Semi-Matt Coat on Coat

TU218/13 White Matt Coat on Coat

TU218/41 White Semi-Gloss Coat on Coat

TU218/COLOURS Semi-Matt Coat on Coat

TU0250/00 Transparent Basecoat

TH720 Hardener for TU218 products

DT1150 Thinner for TU218 products

Champion of Resistance



Seaside or mountains? You choose! TU 218 is not affected by weather, even extreme weather! This incredible product provides versatility and weather resistance, wherever it's used.

TU 218/XX is a two-component opaque pigmented base-top coat with exceptional weather-resistance, for coating wooden doors and door and window frames, garden furniture and products exposed to the elements.

A documented success in the Sayerlack R&D laboratory, TU 218/XX shows incredible performance in its resistance to bad weather, extremes of temperature, UV rays and chemical attack, as well as lasting extremely well, all over the world. Tests carried out by Sayerlack or tests commissioned to specialised institutes reveal that even in the most aggressive seaside and mountain environments the TU 218/XX film does not deteriorate or crack.

The product also survived eight years at an altitude of 1,500 m on Mount Bondone unscathed, as certified by the CNR - National Research Institute for Wood Technology in San Michele all'Adige (Trentino province).

A big easy solution to apply to hard and soft woods

TU 218/XX can be used as a single product to be applied in two coats, one base and one top, after application of the TU 250/00 sealer. Suitable for spray coating, horizontal or vertical, with any equipment, including electrostatic systems.

Easy to apply, it does not raise the wood fibre and is unaffected by temperature or moisture-related issues. The vivid colours, excellent spreading rate and optimum coverage mean that TU 218/XX is one of a kind.

It can be used on both soft and hard woods. The types of wood suggested for outdoor varnishing are softwoods with few knots and without natural resin.

INDUSTRY Friendly

Versatile application for factory finishing. Excellent high build formulation



Colour Ranges

- Full waterbased system EPA compliant.
- Industry-proven quality with high durability, making it easy to maintain.



RAL 9010 AND WHITES. SOFTWOOD & HARDWOOD



ALL SOLID COLOURS. SOFTWOOD & HARDWOOD

FRIENDLY

Extensive range of colours available Italian quality smooth finishes



Softwood range



AM504/85 + AZ3430/67



AM504/89 + AZ3430/80



AM504/85 + AZ3430/93



AM504/90 + AZ3430/67



AM504/84 + AZ3430/67





AM504/90 + AZ3430/75 AM504/56 + AZ3430/80



AM504/56 + AZ3430/93





AM504/88 + AZ3430/92 AM504/56 + AZ3430/92

Hardwood range



AM504/85 + AZ3430/67



AM504/89 + AZ3430/80



AM504/85 + AZ3430/93



AM504/90 + AZ3430/67



AM504/84 + AZ3430/67



AM504/90 + AZ3430/75



AM504/56 + AZ3430/80



AM504/56 + AZ3430/93



AM504/88 + AZ3430/92 AM504/56 + AZ3430/92



Super-hydrophobic water repellant coating

A protective invisible shield

Wood needs lasting protection against the action of water and weather. The innovative superhydrophobic coating developed by the Sayerlack team is the ideal solution for an invisible wood protection. Particularly suited to garden furniture where a natural look is desired.



This new high transparency coating has a strong waterproof effect and good outdoor resistance. It is outstanding at repelling water, with good permeability and wet on wet adhesion, making it perfect for outdoor furniture, buildings and fences.

It comes clear and ready for use (over coloured stains if needed), creating good results on various types of wood. The coating works just like new generation fabrics used for clothing, allowing moisture out, but not in.

The technology is based on a special organic - inorganic hybrid polymer with a self-crosslinking mechanism. Applying the coating is easy with brush, spray and dipping applications and best of all, it's in the most environmentally friendly solvent available: water!

The product is suitable either for vertical or angled substrates, making it easy for water to run away.

For detailed advice on end use application please contact our technical team.

Colour	Clear, ready to use
Substrates	Softwood and hardwood.
Application	Brush, spray, dipping

Technical Plus Factors:

- New technology.
- Low gloss level.
- Easy to apply.
- Excellent adhesion.

Advantages

- Repelling water effect.
- Natural effect and excellent clarity.
- Industrial use.
- No need for sanding between coats.



Additives

Code	Description	Application
XA 0469	Sealant	For brush application to seal end grain before the topcoat
XA 4024	Anti-foam for flow-coating	Protective wood stains and washcoats
XA 4026	Retardant thinner	Clear and pigmented topcoats and basecoats, protective stains, washcoats
XA 4034/ 04, 08, 22, 52, 54, 57, 65, 84	Iron oxide pigment pastes	Tinting clear topcoats and basecoats, protective stains, washcoats
XA 4060	Detergent/cleaner	To clean the application equipment
XAV2316	Sealant	Cartridge sealant for application on V-joint
XA4080	Cross linker	For improvement of sanding of primers and stackability of topcoats



Cleaning and

Maintenance

Windows and doors must be cleaned and inspected at least twice a year to prolong their life. The following guidelines apply to both interior and exterior surfaces.

Cleaning

On a vertical painted surface streaking will be minimised if the surface is washed from top to bottom. Superficial surface dirt can be removed by washing with water and a damp cloth. Remove heavier accumulations with a mild solution of household detergent. Always wipe the surface well with clean water to remove excess detergent.

- Do not allow abrasive tools, strong detergents, ammonia, bleach or other harsh cleaning chemicals to come into contact with finished surfaces.
- Avoid solvents.
- Avoid leaving detergents and other liquid cleaners on wood substrates to prevent possible absorption.
- Avoid saturating the product.

Redecoration

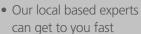
Surfaces that have been damaged or where the paint film has some other form of defect should be treated with an exterior quality coating following the manufacturer's guidelines. Any blistering, cracking or flaking should be dealt with immediately, as follows:

- Wash the window frame/door with a mild alkaline cleaning solution.
- Sand away cracked and flaking paint, and scrape off any resin that may have seeped out of the wood.
- Fill any cracks that may have developed in the corner joints of the frame/casing, or on the windowsill, with elastic filler.
- Spot repair the freshly sanded surface, using an exterior primer. Repaint the entire exterior of the window frame/door using an alkyd or acrylic topcoat paint, suitable for exterior application on window frames/doors.
- Avoid painting in rain or when the window frame/door is damp.



TIME Friendly







General recommendations

- Any surface cut, particularly those with exposed end grain must be brush coated with preservative and then coated with at least one full coat of an alkyd or acrylic paint suitable for exterior application before the joinery is in a fixed position.
- If the paint finish film is damaged it must be repaired immediately. Failure to do so will result in reduced durability of the coating system.
- Frames should not be rubbed down with coarse sanding paper. If a key is required use a fine sanding cloth.
- Avoid painting in rain or when the joinery/ timber is damp. Also avoid painting in direct sunlight and extreme temperatures.

Durability Guidelines

Sherwin-Williams coating systems are designed to protect exterior joinery for many years. To get the most from coated joinery a good cleaning and maintenance schedule must be followed to ensure the coating remains intact throughout its life. Provided maintenance guidelines are followed joinery finished with Sherwin-Williams exterior systems should perform well according to the tables below before full redecoration should be considered.

Opaque systems

A surface coated with an opaque system will normally last up to 8 years depending on the degree of exposure. These guidelines apply to water based coating systems, white and pastel shades. Dark colours and solvent based coatings have lower durability expectations. Please contact SW technical department for further advice.

Opaque Finishes	Climate Moderate: This would include non coastal areas at low altitude.	Climate Hard: This would include areas within ½ mile of coastline.	Climate Extreme: Any areas of high altitude, e.g. Snowdonia or Northern Scotland, or exposed coastal areas.
Construction Sheltered e.g. beneath porch or large roof overhang	8 Years	8 Years	7 Years
Construction Partly Sheltered e.g. window built back in reveal	8 Years	7 Years	6 Years
Construction Not Sheltered e.g. face of building	7 Years	6 Years	5 Years

Translucent systems

A surface coated with a translucent system will normally last up to 5 years depending on the degree of exposure. These guidelines apply to waterbased tinted translucent coating systems.

Translucent finishes	Climate Moderate: This would include non coastal areas at low altitude.	Climate Hard: This would include areas within ½ mile of coastline.	Climate Extreme: Any areas of high altitude, e.g. Snowdonia or Northern Scotland, or exposed coastal areas.
Construction Sheltered e.g. beneath porch or large roof overhang	5 Years	5 Years	4 Years
Construction Partly Sheltered e.g. window built back in reveal	5 Years	4 Years	3 Years
Construction Not Sheltered e.g. face of building	4 Years	3 Years	2 Years

Clear system

Clear systems by their nature allow higher exposure of the joinery to UV and natural daylight.

Sayerlack's clear exterior system is designed with optimum UV absorbers to allow excellent clarity and provide exceptional protection.

A surface coated with the clear system will normally last up to 3 years depending on the degree of exposure.

Translucent Finishes	Moderate: This would include non coastal areas at low altitude.	Hard: This would include areas within ½ mile of coastline.	Extreme: Any areas of high altitude, e.g. Snowdonia or Northern Scotland, or exposed coastal areas.
Construction Sheltered e.g. beneath porch or large roof overhang	3 Years	3 Years	2 Years
Construction Partly Sheltered e.g. window built back in reveal	3 Years	2 Years	1 Years
Construction Not Sheltered e.g. face of building	2 Years	1 Years	1 Years

Further durability guideline information:

- The durability guidelines above relate to the Sayerlack waterbased systems detailed in the application and drying recommendations available on request. Please contact our technical team.
- As stated the guidelines show expected performance for pigmented white and pastel shades, translucent systems and the clear system.
- Dark colours and solvent based systems have reduced durability performance please contact our technical team for further advice.
- Exterior durability relies on good joinery design and construction to ensure that water is not allowed to pool on the surface.
- Designs which allow excessive water ingress will reduce the performance of the coating system and the joinery itself.
- Certain timbers with wild grain structures such as oak require careful sealing to prevent water ingress which can lead to blacking of the pores, again reducing the durability performance of the coating system and the joinery itself.
- These durability expectations are guidelines and as such Sayerlack and Sherwin-Williams do not accept responsibility for coating failures through water ingress as outlined above.

DISCI AIMER

The information contained in this document is provided as a guide only to the expected durability of the Sherwin-Williams coating systems described herein, when stored, applied and maintained in accordance with the manufacturer's full specification and guidelines. The actual durability of coating systems is dependent upon a number of factors outside Sherwin-Williams' control, such as product storage, substrate quality, surface preparation, application and use. Accordingly, due to the wide variety of substrates, substrate properties, surface preparation methods, equipment and tools, application methods, and environments, the customer should test and approve the product as suitable for their specific processes and end use prior to full scale production.

Whilst Sherwin-Williams has taken reasonable skill and care to ensure that these guidelines are accurate at the date they are written, the information herein is provided without any warranty or representation of any kind, whether express or implied.

Before purchasing, customer should consult with Sherwin-Williams Technical Dept to discuss the expected durability under specific conditions in which the coating systems are to be used.



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