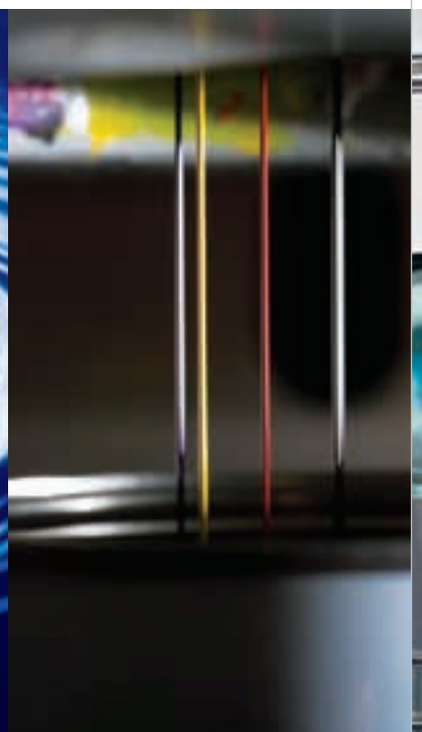
SAYERLACK®
INNOVATIVE WOOD SOLUTIONS

GUIDE



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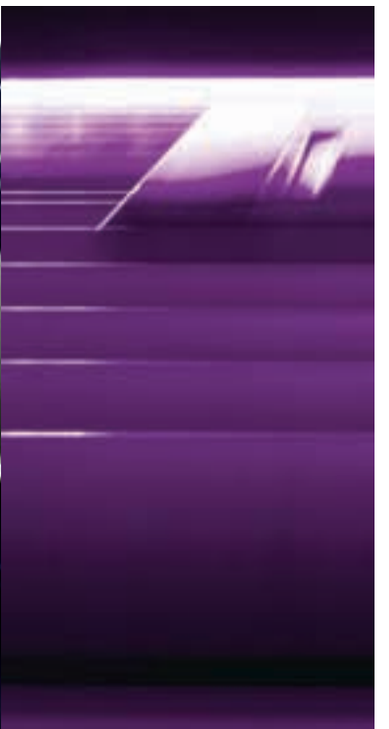

SAYERLACK®
INNOVATIVE WOOD SOLUTIONS

SAYERLACK GUIDE TO THE CHOICE OF WOOD COATING SYSTEMS

SAYERLACK is leader in the production of special wood coatings due to 50 years of manufacturing experience. The production sites are located in Pianoro (Bologna) and Mariano Comense (Como). The SAYERLACK range includes all types of product to meet customer requirements, and is at the cutting edge of the market in the research and development of water-based products. In the chemical research laboratory, expert formulators and analysts work in close collaboration and are committed to their continual improvement, to find innovative solutions and formulate environment friendly coatings. Sayerlack is ISO 9001 and ISO 14001 certified: it controls the quality of all incoming raw materials, produces the coatings using safe automated systems; a team of chemists performs the quality control checks for each production batch with great care, comparing it with the standard both for its chemical-physical and its application characteristics. The range of SAYERLACK products by Arch Coatings is appreciated all over the world thanks to its excellent before and after-sales service network. Customer service is a priority for SAYERLACK and is always provided locally to customers all over the world.

SAYERLACK loves wood: protecting it and improving its appearance is our and your best guarantee.

QUALITY SYSTEMS CERTIFICATION
Compliance with the requirements of the UNI EN ISO 9001:2008 (ISO 9001:2008)


DET NORSKE VERITAS
QUALITY MANAGEMENT SYSTEM CERTIFICATE
SAVERLACK S.r.l.
SINCERT

ENVIRONMENTAL MANAGEMENT SYSTEMS CERTIFICATION
Compliance with the requirements of the UNI EN ISO 14001:2004 (ISO 14001:2004)


DET NORSKE VERITAS
ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE
SAVERLACK S.r.l.
SINCERT

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INNOVATIVE WOOD SOLUTIONS

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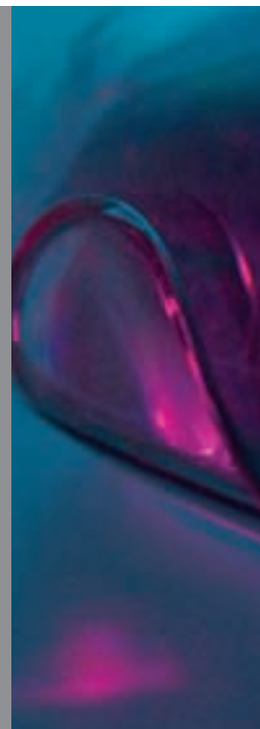


SAYERLACK LABELS

Label sections for codes, symbols and writings are marked by reference numbers explained below. Positions 1 and 2 respectively refer to the family and class of the product while positions 3, 4, 5 and 6 refer, within class and family, to the specific product.

POSITION 1

A: Water-based coatings
D: Thinners
E: Air-drying coatings
G: Extrusion gessoes
P: Polyester coatings
R: UV coatings
S: Nitrocellulose coatings
T: Polyurethane coatings
W: Acid Cured coatings
X: Auxiliary products (Additives-Stains-Pastes-etc.)

POSITION 2

A: French Polishing coatings
C: Stains
F: Basecoats
H: Curing agents-Hardeners
L: Gloss Top Coats
M: Impregnants, Mordants, solvent Stains
P: Pastes
R: Roller application
U: Basecoats
X: Binders
Z: Matt Topcoats

The combination of two letters (in position 1 and 2) belonging to list 1, 2 or of both lists, identifies: 1 (the family) and 2 (the class) of the product.

EXAMPLES:

AC: Water-based Stain, AF: Water-based Topcoat, EM: Impregnating air-drying coating, SU: Nitrocellulose Basecoat, DT: Thinner for polyurethane coatings, PU: Polyester Basecoat, TU: Polyurethane Basecoat, TL: Polyurethane high gloss Topcoat, TZ: Polyurethane matt Topcoat.

POSITIONS 3, 4, 5, 6

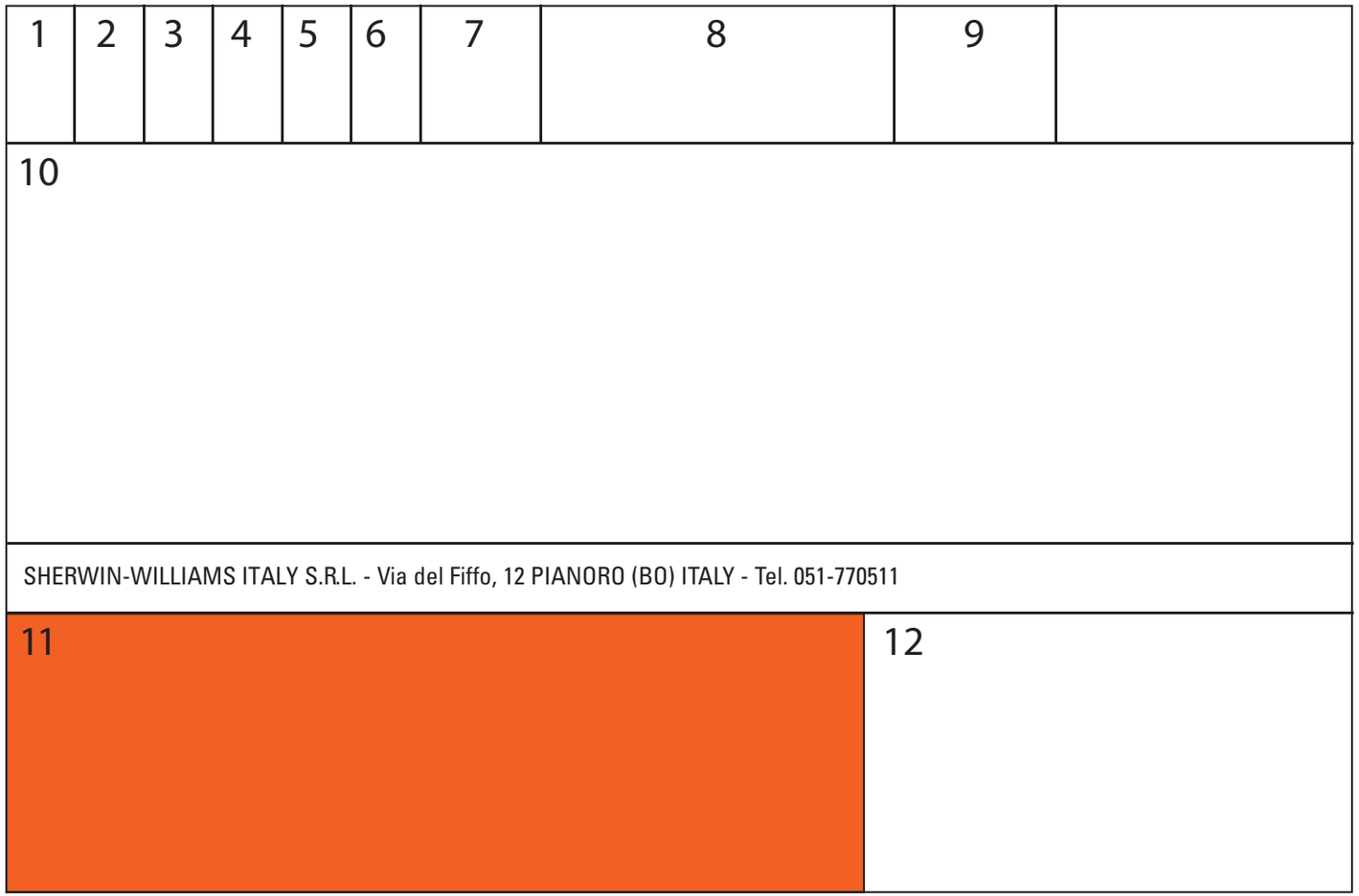
Within family and class of positions 1 and 2, they identify a specific product.
If different gloss levels are available for a Topcoat (or Basecoat/Topcoat) product, they are defined in sections 5 and 6 (example: TZ 2810 = polyurethane matt Topcoat, 10 gloss; TZ 2840 = polyurethane matt Topcoat, same features as TZ 2810, but with 40 gloss).

POSITION 7

Used for colour identification codes: SAYERLACK codes are listed in the colour table along with the respective codes.

POSITION 8

Batch number and product expiration date (Scad IL), if applicable.



POSITION 9
Quantity of product.

POSITION 10
Indication of the mixing procedure and homologation of fire retardant products, when available. Space used for the commercial name of the product and for hazard and warning phrasing. Translated into 6 languages: Italian, English, French, Spanish, Portuguese and German (and also Polish for water-based products). Additional information for USA is also reported.

POSITION 11
Space used for the warnings required by the regulations in force.

O=Comburent	C=Corrosive	Xn=Toxic Xi=Irritating	F=Easily flammable F+=Highly flammable	T=Toxic T+=Highly toxic	N=Dangerous for the environment
					

If a flame is shown in position 11 and "Highly flammable" is written in position 10, the flash point of the product is lower than 21°C. If the flame symbol is not shown but "Flammable" is written in position 10, the flash point of the product ranges between 21°C and 55°C. If the flame symbol is not shown in position 11 and there is not the "Flammable" warning in position 10, the flash point of the product is higher than 55°C. "Flash point" means: "The temperature above which flammable vapours mixed with air set on fire, if triggered". If no symbol appears in position 11, the products are safer to use.

NOTE: workplace conditions must be still suitable for the safe use of the coatings. Since these products contain solvents, even though they are classified as a lower hazard, it is important to have effective local exhaust ventilation and appropriate personal protective equipment eg spray booths, respirators etc. Details are given in our safetly data sheets.

POSITION 12
Used for the optional indication required by the ADR Standards, of a Flammable liquid.
In case of CATAS WKI PREMIUM or ECOLABEL certified products, the relative logos are displayed in this position.

TABLE OF COLOUR CODE NUMBERS

CODES USED FOR IDENTIFYING COLOUR SHADES IN SAYERLACK COATINGS, PAINTS AND STAINS

CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
A1	White	18	Pearl Grey	58	Dark Blue
A2	Ochre	19	Blackboard	59	Brass
A5	Black	2M	Honey	6M	Mahogany
A8	Red	20	Flax	60	Copper
A9	Orange	21	Maize	61	Violet
BB	White	22	Black	62	Sky-Blue
B2	Bright Red	23	Palm	63	Mouse Grey
B3	Amaranth	24	Chinese Red	64	Aquamarine
B5	Violet	25	Flame Red	65	Brown
B6	Blue	26	Bright Red	66	Hedge Green
B7	Golden Yellow	27	Sand	67	Amber
B8	Green	28	Tobacco	68	Extra White
B9	Violet	29	Dark Brown	69	Orange
C4	Lemon Yellow	3N	Walnut	70	Honey
C7	Golden Yellow	30	Forest Green	71	Dark Oak
C9	Orange	31	Olive	72	Black
NN	Clear	32	Pea	73	Silver
N0	Neutral	33	Lawn Green	74	Pure White
R1	Cream RAL 9001 HR	34	Gold	75	Dark Cherry
R5	Moss Green RAL 6005 HR	35	Pale Bronze Gold	76	Wenge
R7	Chocolate RAL 8017 HR	36	Aluminium	77	Maple
R9	Fir Green RAL 6009 HR	37	Bronze Gold	79	Deep Black
S4	Yellow	38	Antique Bronze Gold	80	Oak
S6	Blue	39	Indian Red	81	Cypress
S8	Green	4R	Oak	82	Pine
00	Clear	40	Venetian Green	83	Beech
01	Ivory	41	Ice White	84	American Walnut
02	Grey	42	Green	85	Larch
03	Sky	43	Platinum Grey	86	Oak
04	Yellow	44	Dark Pink	87	Antique Walnut
05	Pastel Green	45	Beige	88	Walnut Brown
06	Elba Blue	46	Cream	89	Teak
07	Golden Yellow	47	Electric Blue	90	Mahogany
08	Red	48	Brown	91	Douglas
09	Orange	49	Brown	92	Walnut
1A	Fir	5C	Cherry	93	Light Walnut
10	Lobster	50	Purple	94	Medium Walnut
11	Pastel Blue	51	Chestnut	95	Dark Walnut
12	Pastel Orange	52	Ochre	96	Rosewood
13	White	53	Amaranth	98	Medium Rosewood
14	Blue	54	Brick Red	99	Dark Rosewood
15	Capri Blue	55	Pink		
16	Light Blue	56	Cherry		
17	Light Yellow	57	Ebony Black		

LIST OF SYSTEMS DIVIDED BY FIELD OF USE

CARPENTRY

WOODEN STRUCTURES FOR INDOOR USE

SKIRTING, ARCHITRAVE, PANELLING AND PROFILES FOR INDOOR USE	B
SKIRTING, ARCHITRAVE, PANELLING, BARGEBOARD, PROFILES FOR INDOOR USE, WAINSCOTS (LAQUERED SYSTEM)	Q
WOODEN FLOORS, WOOD-BLOCK FLOORINGS, PLANKS	I
DOORS FOR INDOOR USE, PANELLING, ARCHITRAVE AND DOOR FRAMES, VENEERED SURFACES	E

WOODEN STRUCTURES FOR OUTDOOR USE

OUTDOOR FRAMES AND CASINGS: WINDOWS, SHUTTERS, COTTAGES, STOCKADES, GAZEBOS, BEAMS (CLEAR SYSTEM)	M
GARDEN FURNITURE (LACQUERED SYSTEM)	R
OUTDOOR FRAMES AND CASINGS: WINDOWS, SHUTTERS, COTTAGES, STOCKADES, GAZEBOS, BEAMS (LAQUERED SYSTEM)	S

WOODEN FLOORING

WOODEN FLOORS, WOOD-BLOCK FLOORINGS, PLANKS	I

FURNISHING

INDOOR FURNISHING

KITCHEN FURNITURE, BATHROOM FURNITURE, SHUTTERS, TOYS AND CHILDREN'S ROOM	A
ASSEMBLED FURNITURE, TABLES	F
ANTIQUE FURNITURE, COUNTRY-STYLE FURNITURE, HANDICRAFT ITEMS AND CLOCKS, MUSICAL INSTRUMENTS	G
RECONSTITUED VENEERS (FINE-LINE), PRE-STAINED VENEERING	K
MDF, PLYWOOD (LACQUERED SYSTEM)	N

FLAT PANELLING

DOORS FOR INDOOR USE, PANELLING, ARCHITRAVE AND DOOR FRAMES, VENEERED SURFACES	E

CHAIRS

CHAIRS, BASES FOR TABLES AND TURNED ITEMS IN GENERAL	D
CHAIRS, BASES FOR TABLES AND TURNED ITEMS IN GENERAL (LACQUERED SYSTEM)	P

LARGE SCALE BESPOKE FORNITURE AND FOR INSTITUTIONAL BUILDINGS

ASSEMBLED FURNITURE, TABLES	F
RECONSTITUED VENEERS (FINE-LINE), PRE-STAINED VENEERING	K
MDF, PLYWOOD (LACQUERED SYSTEM)	N
MELAMINE PAPER, LAMINATES (LACQUERED SYSTEM) AND GLASS	O

KITCHEN AND BATHROOM FURNITURE

KITCHEN FURNITURE, BATHROOM FURNITURE, SHUTTERS, TOYS AND CHILDREN'S ROOMS	A
MDF, PLYWOOD (LACQUERED SYSTEM)	N

OTHER FIELDS OF USE

BOATS AND AIRCRAFTS INTERIORS

INTERIOR FURNITURE FOR BOATS	J

STEERING WHEELS FOR CARS AND ACCESSORIES

STEERING WHEELS AND CAR KITS	H

GARDEN FURNISHING

OUTDOOR FRAMES AND CASINGS: WINDOWS, SHUTTERS, COTTAGES, STOCKADES, GAZEBOS, BEAMS	M
GARDEN FURNITURE (LACQUERED SYSTEM)	R

CHILDREN'S FURNITURE AND TOYS

KITCHEN FURNITURE, BATHROOM FURNITURE, SHUTTERS, TOYS AND CHILDREN'S ROOM	A
MDF, PLYWOOD (LACQUERED SYSTEM)	N

COFFINS

COFFINS	L

CLOCKS AND HANDICRAFT ITEMS

ANTIQUE FURNITURE, COUNTRY-STYLE FURNITURE, HANDICRAFT ITEMS AND CLOCKS, MUSICAL INSTRUMENTS	G

PICTURE FRAMES

PICTURE FRAMES (CLEAR SYSTEM)	C
PICTURE FRAMES (PIGMENTED SYSTEM)	U

MUSICAL INSTRUMENTS

ANTIQUE FURNITURE, COUNTRY-STYLE FURNITURE, HANDICRAFT ITEMS AND CLOCKS, MUSICAL INSTRUMENTS	G

COVERINGS AND FURNITURE OF THE ROOMS SUBJECT TO FIRE-PREVENTION REGULATIONS

COVERINGS, ASSEMBLED FURNITURE, FLAT PARTS AND CHAIRS	T

OTHER SUBSTRATES

MELAMINE PAPERS, LAMINATES (LACQUERED SYSTEM) AND GLASS	O
HANDICRAFT ITEMS IN RIGID FOAM POLYURETHANE	V

○

* NOTE:

SUGGESTED SUBSTRATES

The descriptions of the systems include the indication of the type of appearance that will be achieved (closed or open pore/grain), or an indication of the substrates onto which the products can be applied. The list of substrates that can be used is merely indicative and it's purpose to provide general guidelines. These are not exclusive, so the systems can also be applied on substrates other than those mentioned. With regards to closed-pore systems, the timbers which are generally used are those free of pores or fine grained, for example: Cherry, Tanganika, Beech, Toulipier, Poplar, Maple, Birch. With regards to open pore systems, deep pore timbers are chosen, for example: Oak, Ash, National Walnut tree, Mahogany, Chestnut tree. The timbers suggested for open pore systems can be also used for closed pore systems, if required (for example, an open pore wood may be chosen for aesthetic reasons, but it can also be used in a closed pore system). We advise customers to consult with Sayerlack's technical staff to choose the substrate and system that best fits their needs.

WATER-BASED STAIN AC 600: concentrate water-based general-purpose Stains available in 16 colours. It is made up of high clarity soluble dyes. Specific for the dip coating of chairs, added to Binder XX 4130 in a 5-15% quantity and then diluted by 10-30% with water.

WATER-BASED STAIN AC 1810: harmonising Stains, can be overcoated with water-based coatings, harmonising effect on uneven woods, can be diluted with water and alcohol.

CLEAR WATER-BASED TOPCOAT AF 72:** clear water-based Topcoat suitable for the coating of handicraft items in wood for interiors, boasting excellent chemical resistance, hardness, transparency and resistance to thermo-plasticity. It's thixotropy and hardness, combined with excellent chemical resistance, mean it can be used on structures subject to particularly intense wearing. We suggest curing with XA 4080 to attain the maximum performance level.

HARMONISING WATER-BASED GLAZE AP 1221: Glaze that ensures the maximum evenness of colour on patchy or absorbant woods. Thanks to its high solids content, it fills the pores and also reduces fibre raising more than a conventional water-based Stains. To apply, dilute with water 1:1. If the Stains to reproduce is weak in strength, you can also add AP 1221/00 clear Glaze. Over-coated with water-based products, it exhibits no problems of bleeding.

TWO COMPONENT WATER-BASED TOPCOAT AT 48:** a two pack acrylic Topcoat for use on pigmented and clear water-based Basecoats, used in the coating of interior furniture or furniture components. It boasts anti-yellowing characteristics and resistance to light, considerable surface hardness, good coverage on vertical surfaces and excellent application characteristics. It is available in the Clear (00) and White pigmented (13) versions. It can be used as Converter combined to the entire series of water-based Pastes XA 2006. It can be catalysed with AH 1550 or AH 1545 (see page 57).

WATER-BASED TOPCOAT AT 99:** AT 99** is a single-component matt to gloss water-based Topcoat suitable for coating wooden items for interiors, exhibiting a high hardness and good chemical resistance. This Topcoat maintains its colour over time, keeping the wood colour unchanged (in the neutral version). The good thixotropy and hardness, along with an exceptional matt level evenness and softness, make the AZ 99** a true environment-friendly alternative for any requirement. Available in both the neutral version (NN) and in the white pigmented version (BB). For paint systems, it is possible to use the XA 2006 series of water-based Pastes.

WATER-BASED BASECOAT AU 459: single-component water-based Basecoat suitable for the coating of hand crafted items in wood for interiors, boasting high transparency and high build characteristics. The excellent thixotropy of the product, combined with excellent sanding qualities, make it suitable for the coating of hand crafted items of complex geometry which require extensive manual work, such as turned elements, assembled furniture. It is perfect for electrostatic spray application.

CLEAR WATER-BASED SEALING BASECOAT AU 493: two-component, non-yellowing, high build water-based Basecoat. Confers excellent colour revival and depth to the wooden substrate also resists the formation of air bubbles on porous laminated timber substrates. To catalyze use AH 1550 or AH 1545 (see page 57).

POLYURETHANE BASECOAT TU 3: medium build Basecoat, applied through mixed air spray or airless and also through curtain coater. Suitable for open pore. It dries quickly and it is easy to sand. It has good transparency.

ACRYLIC BASECOAT TU 54: absolutely colourless Basecoat, with good build and sanding characteristics, prepared with resins that do not yellow after exposure to light and also protects the wood from natural yellowing. Therefore this is the ideal Basecoat for the coating of light woods such as Ash, Maple, Oak, Birch. TU 54 is also essential to finish surfaces subject to whitening.

POLYURETHANE BASECOAT TU 137: Basecoat used to reduce the emissions of solvents, boasting excellent thixotropy. The product is ready to use; therefore dilution is not required. It ensures good coverage even when low weights of product are applied.

POLYURETHANE BASECOAT TU 160: high build Basecoat. It is applied through mixed air spray or airless and also through curtain coater. Wait at least 16 hours prior to sanding. Good transparency even when applied in thick films.

POLYURETHANE TOPCOAT TU 61:** product specifically used for the coating of kitchen doors made in Oak and Chestnut, on automated lines. It boasts good chemical resistances. Good grain definition.

ACRYLIC TOPCOAT TU 74:** coat-on-coat system in a variety of gloss levels, which can be used as Basecoat (to apply directly on the wood) and also as a Topcoat. The main use is for open pore/grain coating systems in two coats on Oak, Ash. It can be applied through mixed air spray, airless and curtain coater. It boasts an excellent resistance to light and good chemical-physical performance.

POLYURETHANE TOPCOAT TZ 28:** extremely versatile, matt Topcoat for applications of any type, through curtain coater to mixed air, airless, through oscillating guns to pointing guns for profiles. TZ 28** always renders surfaces which are soft to the touch, boasting good surface hardness. For open pore/grain applications, dilute at least by 50%. Good wettability, even during summer months.

POLYURETHANE TOPCOAT TZ 36:** extremely versatile, easy-to-use Topcoat. Good wettability and thixotropy; good resistance to scratches and good build. TZ 36** was developed for vertical applications and it boasts good wrap around characteristics with the electrostatic systems.

POLYURETHANE TOPCOAT TZ 62:** matt polyurethane Topcoat with good filling properties and high surface hardness. Good wettability and chemical-physical resistances.

POLYURETHANE TOPCOAT TZ 64:** clear polyurethane Topcoat developed to reduce the emissions of solvents. The product is ready to use; therefore dilution is not required. TZ 64** boasts high filling characteristics and consistently achieves even matting of the surface.

ACRYLIC TOPCOAT TZ 70:** absolutely matt product, good build and softness, particularly useful for applications where excellent resistance to yellowing is required. For example, for the coating of light woods (Maple, Birch, Ash, fine-line, etc) and for whitened or bleached woods. The product must be significantly diluted (at least 40-50%) to achieve an open pore/grain effect.

CONCENTRATED WATER-BASED PASTES XA 2006: single-pigment concentrated Pastes, compatible with all our water-based Basecoats and Topcoats, for interior and exterior use, characterized by high performance and good resistance to settling. To make Topcoat colours, we suggest to use the Converters XA 99**/NN or XA 99**/BB and AT 99**/NN or AT 99**/BB. All Pastes of series XA 2006 comply with European Standard EN 71.3 (Toy safety).

WATER-BASED NEUTRAL BINDER XA 4394: Binder to produce a patine that can be steel-wool sanded when dry to leave colour shaded areas on the furniture. To pigment use water-based Pastes XA 2006. It can be applied through spray, in thin films, onto water-based, cellulose, polyurethane, and acrylic coatings. It is also used to achieve a decapé effect.

STAIN XM 7100: Stains made from microfine pigments with good resistance to light which can be used directly onto timber (dilute with DX 986 or DS 1105 from 1:2 to 1:10) or between coats of lacquer (dilute with DT 1150 or DT 1146 from 1:1 to 1:3). Warning: excessive thicknesses between coats of lacquer, in particular when using white white, can create adhesion problems.

STAIN XM 8000: extremely concentrated Stains that must be diluted prior to use from a minimum of 1:2 (dark tones) to a maximum of 1:20 (light tones). DX 1131 can be used as thinner in order to attain the maximum drying rapidity DX 986, which boasts better wettability characteristics and permits wiping of surplus Stains; or water, when maximum wettability and clarity is sought. Binder AX 2004 can be added to the diluted Stains in order to obtain a uniform colour or to increase grain marking in water-based Stains. XM 8000 is available in 16 tones, all suitable to colour the wood for interior use but they are not suitable for use between coats of lacquer due to impairment of adhesion; for the latter, use series XC 1900 (Refer to relative TDS).

GLAZE XP 1950: product suitable to create an antique-Stains effect on surfaces which have already been treated with polyurethane Basecoat. The Glaze must dry up for a few minutes and then removed partially with the aid of a steel wool. The Glaze can be made more powdery by diluting with alcohol, in order to facilitate removal; the opposite is obtained using DX 1131.

SYSTEM	SUBSTRATE®	STAIN	BASECOAT	TOPCOAT	OPTIONAL PRODUCTS
A1 System with matt Topcoat	For closed pore/grain systems.	AC 600 or XM 8000	TU 160 thinning ratio 20-30%	TZ 28** thinning ratio 50% or TZ 36** thinning ratio 10-30%	To obtain the highest resistance to light and uniform the surface, use Stains AC 1810 or XM 7100
A2 System with pore	For open or semi-closed pore systems.	AC 600 or XM 8000	TU 3 thinning ratio 10-30%	TZ 28** thinning ratio 50% or TZ 36** thinning ratio 10-30%	To obtain the highest resistance to light and uniform the surface, use Stains AC 1810 or XM 7100
A3 Quick system with Topcoat	For open or semi-closed pore systems.	AC 600 or XM 8000	TU 61** thinning ratio 10-30%	TU 61** thinning ratio 10-20%	To obtain the highest resistance to light and uniform the surface, use Stains AC 1810 or XM 7100
A4 Anti-yellowing	For open pore systems.		TU 54 thinning ratio 40-60%	TZ 70** thinning ratio 40-60%	Topcoat TU 74** thinning ratio 20-40%
A5 Water-based HYDROPLUS	For open pore systems.	AP 1221 or AC 1810	AU 459 or AU 493 (2 components) thinning ratio 10-15% or AF 72**	AT 48** (2 components) thinning ratio 5% or AF 72**	Topcoat AT 99**
A6 Decapé	Solid wood or veneer, Chestnut, Ash, etc.	AC 600 or XM 8000	TU 54 thinning ratio 50-70%	Glaze XP 1950 or XA 4394 + Pastes XA 2006	Topcoat TZ 70** thinning ratio 30-50%
A7 Specific for shutters	As above.	AC 600 or XM 8000	TU 160 thinning ratio 30-50%	TZ 62** thinning ratio 10-20%	Topcoat TU 61** thinning ratio 30-50%
A8 Low emission system	For closed pore systems.	AC 600 or XM 8000	TU 137	TZ 64**	

® See note on page 9

WATER-BASED STAIN AC 600: see page 10.

WATER-BASED STAIN AC 1810: see page 10.

WATER-BASED TOPCOAT AF 54:** matt water-based Self-Sealer suitable for the coating of hand crafted items in wood for interiors, displaying good hardness, transparency and drying rapidity. Thanks to its peculiarity to perfectly define the wood pore/grain, it is particularly useful for two-coat, open pore systems.

CLEAR WATER-BASED TOPCOAT AF 72:** see page 10.

HARMONISING WATER-BASED GLAZE AP 1221: see page 10.

TWO COMPONENT WATER-BASED TOPCOAT AT 48:** see page 10.

WATER-BASED TOPCOAT HXD TECHNOLOGY AT 96:** Topcoat, extremely resistant to scratches, with excellent chemical resistances. In order to obtain the maximum performance level, it should be used with 1% of XA 4080 and 3% of XA 4095. Available in the Neutral (NN) and White pigmented (BB) versions. For lacquered systems, it is possible to use the series of water-based Pastes XA 2006.

WATER-BASED TOPCOAT AT 99:** see page 10.

WATER-BASED BASECOAT AU 472: two component, clear, water-based Basecoat. It is non-yellowing and suitable for coating hand crafted items in wood for interiors, it has good transparency, high build and good timber colour development characteristics. Catalyze with AH 1550 or AH 1545 (see page 57).

CLEAR WATER-BASED SEALING BASECOAT AU 493: see page 10.

NITROCELLULOSE BASECOAT SU 220: Basecoat characterised by a high content of prime quality nitrocellulose and therefore extremely clear, fast to dry and easy to sand.

NITROCELLULOSE TOPCOAT SZ 13:** matt nitrocellulose product with excellent hardness and softness to the touch, minimum removal of Basecoats and good build.

HIGH BUILD, UNIFORMING, POLYURETHANE TOPCOAT TU 143: fast drying product. It is possible to sand after 90 minutes and overcoating with matt Topcoat after 120 minutes. It is also extremely easy to flatten and sand by hand. Good levelling ability due to its filling properties between the raised and the compacted parts of the wood.

POLYURETHANE BASECOAT TU 148: clear Basecoat generally used for flat surfaces and profiles,having good build and sanding characteristics.

HIGH BUILD POLYURETHANE TOPCOAT WITH OUTSTANDING THIXOTROPY TU 38:** Topcoat with remarkable thixotropy, wettability properties, good build and softness. Quick drying.

POLYURETHANE TOPCOAT TZ 36:** see page 10.

POLYURETHANE TOPCOAT TZ 49:** versatile, easy-to-use Topcoat, with good wettability properties. Its excellent drying speed makes it suitable for application with pointing guns.

STAIN XM 8000: see page 10.

SYSTEM	SUBSTRATE®	STAIN	BASECOAT	TOPCOAT	OPTIONAL PRODUCTS
B1 With Basecoat and Topcoat	Ramin, Fir, Tanganika, Pine, Mahogany.	AC 600 or XM 8000	TU 143 thinning ratio 20-30% or TU 148 thinning ratio 20-30%	TZ 49** thinning ratio 20-30% or TZ 36** thinning ratio 10-30%	
B2 With Topcoat	As above.	AC 600 or XM 8000	TU 38** thinning ratio 20-30%	TU 38** thinning ratio 20-30%	
B3 With nitrocellulose coating	As above.	AC 600 or XM 8000	SU 220 thinning ratio 30-50%	SZ 13** thinning ratio 30-50%	
B4 Water-based HYDROPLUS	As above.	AC 1810 or AP 1221	AF 72** or AF 54**	AF 72** or AF 54**	
B5 Anti-yellowing water-based HYDROPLUS	As above.	AC 1810 or AP 1221	AU 493 (2 components) thinning ratio 10-15% or AU 472 (2 components) thinning ratio 5-10%	AT 99** or AT 96** (HXD TECHNOLOGY product) or AT 48** (2 components) thinning ratio 5%	Topcoat AF 72**

® See note on page 9.

WATER-BASED STAIN AC 600: see page 10.

WATER-BASED STAIN AC 1810: see page 10.

WATER-BASED CLEAR TOPCOAT AF 56:** AF 56** is a matt water-based Topcoat suitable for coating wooden items for interiors; it can be diluted with water and exhibits a good hardness, transparency and good thermo-plasticity resistance. Thanks to its perfect definition of the wood pore/grain, it is especially suited for two-coat open-pore systems. Its thixotropy makes it suitable for coating all those items that require a high manual processing due to their complex structure, such as turned items, assembled furniture, etc. Thanks to its specific formulation, AF 56** is also suitable for hot stamping processes used with mouldings. In fact, this product facilitates quite high stamping speeds.

WATER-BASED BASECOAT AU 465: single-component water-based Basecoat suitable for the coating of hand crafted items in wood for interiors, boasting high sanding, high build and excellent transparency.

EXTRUSION NITROCELLULOSE TOPCOAT GS 522: this is a single-component Topcoat that can be used in sequencial coats, without intermediate sanding.

EXTRUSION POLYURETHANE SEALING BASECOAT GT 1127: a clear Basecoat specific for the coating of picture frames and mouldings. GT 1127 has excellent de-airation characteristics (leaving no bubbles) and excellent transparency.

EXTRUSION POLYURETHANE BASECOAT GT 1159: Basecoat specific for the coating of picture frames and mouldings. GT 1159 is particularly suggested for the first coats (2-3) on particularly porous woods (Samba, Ayous) and de-airation characteristics combined with excellent transparency.

EXTRUSION POLYURETHANE BASECOAT GT 1188: Basecoat specific for the coating of frames for paintings. It is different from our traditional Basecoats due to its greater filling and de-airation characteristics, mainly with regards to the first coat when the extruder template has a wide gap to the moulding.

HIGH GLOSS NITROCELLULOSE TOPCOAT SL 230: SL 230 is a coating used on clear or even pigmented nitrocellulose extruder grade and polyurethane extruder grade Basecoats as an adhesion promoter for cold gold leaf application. It is also available in pigmented versions, in three colours: Red (08), White (74) and Black (79).

NITROCELLULOSE TOPCOAT SZ 13:** see page 12.

CLEAR MATT NITROCELLULOSE TOPCOAT SZ 2135: nitrocellulose opaque Topcoat with good build, softness, resistance to scratches and quick drying.

GLOSSY ANTI-SCRATCH THIXOTROPIC TL 345: it is significantly different from other glossy products due to its fast drying time and surface hardness.

POLYURETHANE BASECOAT TU 160: see page 10.

POLYURETHANE TOPCOAT TZ 28:** see page 10.

POLYURETHANE TOPCOAT TZ 36:** see page 10.

STAIN XM 8000: see page 10.

SYSTEM	SUBSTRATE®	STAIN	BASECOAT	TOPCOAT	OPTIONAL PRODUCTS
C1 Polyurethane, by spray	Ramin, Obece, Pine, Ayous, Samba and various veeners, etc.	AC 600 or XM 8000	TU 160 thinning ratio 10-30% 1-2 coats	TL 345 thinning ratio 30-50%	Matt Topcoat TZ 36** thinning ratio 10-30%
C2 Polyurethane/nitrocellulose by spray	As above.	AC 600 or XM 8000	TU 160 thinning ratio 10-30% 1-2 coats	SZ 13** thinning ratio 10-30%	Topcoat for hot stamping SZ 2135 (matt) thinning ratio 30% or SL 230 (gloss) Cold Gold leaf topcoat SL 230 thinning ratio 30-40%
C3 Polyurethane by extruder	As above.	AC 600 or XM 8000	GT 1159 2-3 coats or GT 1127 2-3 coats or GT 1188 2-3 coats followed by TU 160 by spray thinning ratio 10-30% 1-2 coats	TZ 28** thinning ratio 10-30%	Topcoat for hot stamping SZ 2135 (matt) or SL 230 (gloss) Gold leaf Topcoat SL 230 thinning ratio 10-25%
C4 Nitrocellulose by extruder	As above.	AC 600 or XM 8000	GS 522 2-3 coats	GS 522	
C5 Water-based HYDROPLUS, by spray	As above.	AC 1810	AU 465 thinning ratio 0-5%	AF 56** thinning ratio 0-5%	

® See note on page 9.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

WATER-BASED STAIN **AC 600**: see page 10.

WATER-BASED STAIN **AC 1810**: see page 10.

HARMONISING WATER-BASED GLAZE **AP 1221**: see page 10.

TWO COMPONENT WATER-BASED TOPCOAT **AT 48****: see page 10.

WATER-BASED TOPCOAT **AT 67****: AF 67** is a water-based Topcoat suitable for coating wooden items for interiors; extremely soft to the touch with good hardness and transparency. Its thixotropy makes it suitable for coating items that require a high manual processing due to their complex structure, such as turned items, assembled furniture, etc.

WATER-BASED TOPCOAT HXD TECHNOLOGY **AT 96****: see page 12.

WATER-BASED TOPCOAT **AT 99****: see page 10.

WATER-BASED BASECOAT **AU 459**: see page 10.

WATER-BASED BASECOAT **AU 472**: see page 12.

CLEAR WATER-BASED SEALING BASECOAT **AU 493**: see page 10.

NITROCELLULOSE BASECOAT **SU 220**: see page 12.

NITROCELLULOSE TOPCOAT **SZ 13****: see page 12.

HIGH BUILD POLYURETHANE TOPCOAT WITH OUTSTANDING THIXOTROPY **TU 38****: see page 12.

POLYURETHANE BASECOAT **TU 9801**: Basecoat with excellent thixotropy and wettability properties and high build. Quick drying times; it can be sanded and a matt Topcoat applied, after only 2 hours drying.

HIGH BUILD ELECTROSTATIC POLYURETHANE BASECOAT WITH OUTSTANDING THIXOTROPY **TU 9803**: Basecoat with good thixotropy and wettability properties, with high levelling power. Quick drying.

POLYURETHANE TOPCOAT **TZ 36****: see page 10.

MATT POLYURETHANE TOPCOAT **TZ 58****: Topcoat characterised by an outstanding thixotropy, which heavy coats to be applied without sagging. It is particularly recommended for the coating of chairs by electrostatic application. The thixotropy results in excellent build properties, softness to the touch and a waxy aspect.

SYSTEM	SUBSTRATE®	STAIN	BASECOAT	TOPCOAT	OPTIONAL PRODUCTS
D1 With polyurethane products	Beech, Ash, Oak, etc.	AC 600 or AC 1810	TU 9801 thinning ratio 10-20% or TU 9803 thinning ratio 20-30%	TZ 36** thinning ratio 10-30% or TZ 58** thinning ratio 10-30%	Topcoat TU 38** thinning ratio 20-30%
D2 With nitrocellulose products	As above.	AC 600 or AC 1810	SU 220 thinning ratio 30-50%	SZ 13** thinning ratio 10-30%	
D3 Water-based HYDROPLUS	As above.	AC 1810	AU 459	AT 67**	
D4 Anti-yellowing water-based HYDROPLUS	As above.	AP 1221 or AC 1810	AU 493 (2 components) thinning ratio 10-15% or AU 472 (2 components) thinning ratio 10-15%	AT 99** or AT 96** (HXD TECHNOLOGY product) or AT 48** (2 components) thinning ratio 5%	

® See note on page 9.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

WATER-BASED STAIN **AC 600**: see page 10.

WATER-BASED STAIN **AC 1810**: see page 10.

CLEAR WATER-BASED TOPCOAT **AF 72****: see page 10.

HARMONISING WATER-BASED GLAZE **AP 1221**: see page 10.

TWO COMPONENT WATER-BASED TOPCOAT **AT 48****: see page 10.

WATER-BASED TOPCOAT **AT 67****: see page 16.

WATER-BASED TOPCOAT HXD TECHNOLOGY **AT 96****: see page 12.

WATER-BASED TOPCOAT **AT 99****: see page 10.

WATER-BASED BASECOAT **AU 459**: see page 10.

WATER-BASED BASECOAT **AU 472**: see page 12.

CLEAR WATER-BASED SEALING BASECOAT **AU 493**: see page 10.

POLYURETHANE BASECOAT **TU 3**: see page 10.

ACRYLIC BASECOAT **TU 54**: see page 10.

HIGH BUILD, LEVELLING, POLYURETHANE TOPCOAT **TU 143**: see page 12.

POLYURETHANE BASECOAT **TU 161**: Basecoat recommended for the coating of doors and door frames. It is a Basecoat which has high filling power with good thixotropy, good sanding characteristics and excellent resistance to removal. It can be used through spray with air mixed and airless gun.

POLYURETHANE BASECOAT FOR OPEN PORE **TU 4118**: polyurethane Basecoat for open pore/grain. It is made with special resins of prime quality; it boasts excellent wettability characteristics, pore cut and good sanding characteristics.

ACRYLIC TOPCOAT **TU 74****: see page 10.

ACRYLIC TOPCOAT **TZ 13****: a fast drying acrylic Topcoat, characterised by an excellent uniformity of the matting agent. It is particularly useful in non-yellowing systems and/or for the coating of stained substrates of light colour. It ensures excellent softness to the touch and excellent surface hardness.

POLYURETHANE TOPCOAT **TZ 28****: see page 10.

POLYURETHANE TOPCOAT **TZ 36****: see page 10.

ACRYLIC TOPCOAT **TZ 70****: see page 10.

STAIN **XM 7100**: see page 10.

STAIN **XM 8000**: see page 10.

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SYSTEM	SUBSTRATE®	STAIN	BASECOAT	TOPCOAT	OPTIONAL PRODUCTS
E1 Polyurethane	For closed pore system.	AC 600 or XM 8000	TU 161 thinning ratio 10-20%	TZ 28** thinning ratio 20-30%	TU 143 as Basecoat thinning ratio 20-30% TZ 36** as Topcoat thinning ratio 10-30%
E2 Polyurethane	For open pore system.	AC 600 or XM 8000	TU 4118 thinning ratio 10-30% or TU 3 thinning ratio 10-30%	TZ 28** thinning ratio 20-30%	When the highest resistance to light is required, use Stains XM 7100 in place of XM 8000 TZ 36** as Topcoat thinning ratio 10-30%
E3 Acrylic	For open pore system.	AC 600 or XM 8000	TU 54 thinning ratio 20-30% or TU 74** thinning ratio 20-40%	TZ 70** thinning ratio 15-30% or TU 74** thinning ratio 20-40%	TZ 13** as Topcoat thinning ratio 10-30%
E4 Water-based HYDROPLUS	For open pore system.	AC 1810 or AP 1221	AU 459 or AU 493 (2 components) thinning ratio 10-15%	AT 48** (2 components) thinning ratio 5% or AT 67**	
E5 Non-yellowing water-based HYDROPLUS	For closed pore system.	AC 1810 or AP 1221	AU 493 (2 components) thinning ratio 10-15% or AU 472 (2 components) thinning ratio 5-10%	AT 99** or AT 96** (HXD TECHNOLOGY product) or AT 48** thinning ratio 5%	Topcoat AF 72**

® See note on page 9.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

WATER-BASED STAIN AC 600: see page 10.

WATER-BASED STAIN AC 1810: see page 10.

HARMONISING WATER-BASED GLAZE AP 1221: see page 10.

TWO COMPONENT WATER-BASED TOPCOAT AT 48:** see page 10.

WATER-BASED TOPCOAT AT 67:** see page 16.

WATER-BASED TOPCOAT HXD TECHNOLOGY AT 96:** see page 12.

WATER-BASED TOPCOAT AT 99:** see page 10.

WATER-BASED BASECOAT AU 459: see page 10.

WATER-BASED BASECOAT AU 472: see page 12.

CLEAR WATER-BASED SEALING BASECOAT AU 493: see page 10.

POLYESTER BASECOAT PU 377: non-paraffin polyester with high build and excellent application, on flat and vertical surfaces. It boasts excellent transparency, good elasticity, absence of shrinking and good sanding properties.

POLYESTER BASECOAT PU 386: non-paraffin polyester with a slight odour of styrol, having good build and excellent application characteristics, both on flat and vertical surfaces. It has good transparency, good elasticity, reduced shrinkage, excellent sanding properties and a long pot life.

GLOSSY CLEAR POLYURETHANE TOPCOAT TL 335: glossy clear Topcoat with excellent wettability and application properties, combined to good thixotropy and rapid release of solvent. It is suitable for the coating of assembled furniture, hoods, frames, etc. After 72 hours from application, it can be brushed and polished. Best applied by spray (air mix or airless).

GLOSSY ANTI-SCRATCH THIXOTROPIC TL 345: see page 14.

SEALING BASECOAT TR 4027: Basecoat to be used in combination with XT 4028 with ratio 100:20, diluted by 50-100% with Thinner DT 1145. It can be applied by spray and with a cloth. It can also be over-coated with polyester Basecoats. Product specific for resinous woods.

POLYURETHANE BASECOAT TU 160: see page 10.

POLYURETHANE BASECOAT TU 161: see page 18.

SEALING BASECOAT TU 565: its main feature is the excellent pore wettability, which is particularly evident in vertical applications at low application weights. TU 565 therefore is the ideal Sealer for timbers such as Mahogany feather and briarwood, which exhibit wide open pores and those which release air forming bubbles (Zebrawood, Elmwood, etc). With resinous woods, TU 565 exhibits good barrier properties. It is possible to over-coat using polyester products.

POLYURETHANE TOPCOAT TZ 36:** see page 10.

POLYURETHANE TOPCOAT TZ 62:** see page 10.

CLEAR POLYURETHANE TOPCOAT HXD TECHNOLOGY TZ 90:** Topcoat characterised by significant hardness, very high resistance to scratch and abrasion and it is fast drying. Particularly recommended for office furniture.

CLEAR POLYURETHANE TOPCOAT HXD TECHNOLOGY TZ 93:** Topcoat characterised by a uniform matting agent, softness to the touch and excellent surface hardness thanks to its formula with special resins. It can be applied by spray. It is particularly useful for non-yellowing systems and/or for the coating of stained substrates.

STAIN XM 8000: see page 10.

SYSTEM	SUBSTRATE®	STAIN	SEALER	BASECOAT	TOPCOAT
F1 Non-yellowing water-based HYDROPLUS for assembled furniture	Solid wood or Veneer.	AP 1221 or AC 1810		AU 493 (2 components) thinning ratio 10-15% or AU 472 (2 components) thinning ratio 5-10%	AT 99** or AT 96** (HXD TECHNOLOGY product) or AT 48** (2 components) thinning ratio 5%
F2 For assembled furniture	As above.	AC 600 or AP 1221 or XM 8000		TU 161 thinning ratio 10-20%	TZ 36** thinning ratio 10-30%
F3 Matt system for assembled furniture and tables	As above.	AC 600 or AP 1221 or XM 8000	TR 4027 thinning ratio 50-100% or TU 565 thinning ratio up to 30%	PU 386 thinning ratio 10-20% or PU 377 thinning ratio 5-15%	TZ 36** thinning ratio 10-30%
F4 Gloss system for assembled furniture and tables	As above.	AC 600 or AP 1221 or XM 8000	TR 4027 thinning ratio 50-100% or TU 565 thinning ratio up to 30%	PU 386 thinning ratio 10-20% or PU 377 thinning ratio 5-15%	TL 345 thinning ratio 20-40% or TL 335 thinning ratio 10-20%
F5 For tables	As above.	AC 600 or AP 1221 or XM 8000	TR 4027 thinning ratio 50-100% or TU 565 thinning ratio up to 30%	TU 160 thinning ratio 10-20% or PU 386 thinning ratio 10-20%	TZ 90** (HXD TECHNOLOGY product) thinning ratio 10-20% or TZ 93** (HXD TECHNOLOGY product) thinning ratio 30-50% or TZ 62** thinning ratio 10-30%
F6 Water-based HYDROPLUS for assembled furniture	As above.	AC 1810 or AP 1221		AU 459 or AU 493 (2 components) thinning ratio 10-15%	AT 67**
F7 Water-based HYDROPLUS for tables	As above.	AC 1810 or AP 1221		AU 493 (2 components) thinning ratio 10-15%	AT 96** (HXD TECHNOLOGY product)

® See note on page 9.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

WATER-BASED STAIN AC 600: see page 10.

WATER-BASED STAIN AC 1810: see page 10.

WATER-BASED TOPCOAT AF 54:** see page 12.

CLEAR WATER-BASED TOPCOAT AF 72:** see page 10.

HARMONISING WATER-BASED GLAZE AP 1221: see page 10.

EXTRA NITROLAC FOR TOPCOAT SA 40: product made with 100% pure lac and nitrocellulose. It can be defined as a universal coating for pad Topcoats, to apply after SA 1000 in order to obtain a fuller and shinier finishing. SA 40, after being diluted with thinning ratio 1:1 and alcohol 94, must be applied with a pad in two-three coats, using a few drops of oil so that the pad rubs more smoothly.

GLOSSY FRENCH POLISHING COATING SA 1000: it is generally applied after the sanded Sealer. A wool swab wrapped in a very thin cloth is used for application.

NITROCELLULOSE BASECOAT SU 220: see page 12.

NITROCELLULOSE TOPCOAT SZ 13:** see page 12.

POLYURETHANE BASECOAT TU 3: see page 10.

POLYURETHANE BASECOAT FOR OPEN PORE TU 4118: see page 18.

POLYURETHANE TOPCOAT TZ 28:** see page 10.

POLYURETHANE TOPCOAT TZ 36:** see page 10.

CONCENTRATED WATER-BASED PASTES XA 2006: see page 10.

WATER-BASED NEUTRAL BINDER XA 4394: see page 10.

STAIN XM 8000: see page 10.

WATER REPELLENT WAX XP 566: this air-drying water repellent Wax is especially designed for the treatment of veneered or solid parts requiring a natural bare appearance but with a good softness to the touch. XP 566 can be applied by spray, brush and cloth, and once dried it is very thin, leaving the treated item with a bare appearance but very soft and smooth to the touch.

HARMONSING GLAZE XP 1880: can be applied by spray or by cloth and still have the maximum evenness on uneven woods. Thanks to its high solids content, it fills the pores and reduces fibre raising more than a normal Stain. Dilute with DT 41 or XS 7 for better wiping.

GLAZE XP 1950: see page 10.

LAC-BASED NITROCELLULOSE TOPCOAT XZ 60*: lac-based Topcoat applied through spray, which can be used on a nitrocellulose or polyurethane Basecoat.

SYSTEM	SUBSTRATE®	STAIN	BASECOAT	PATINA/BASECOAT	TOPCOAT
G1 For country-style furniture and "arte povera"	Solid wood or veneer in various essences.	AC 600 or XM 8000 or XP 1880 or AP 1221	TU 3 thinning ratio 10-20% or TU 4118 thinning ratio 20-30%	XP 1950 or XA 4394+ water-based pigmented Pastes XA 2006	TZ 28** thinning ratio 50% or TZ 36** thinning ratio 10-20%
G2 For antique furniture	As above.	AC 600 or XM 8000 or XP 1880 or AP 1221	SU 220 thinning ratio 30-50%	XP 1950 or XA 4394+ water-based pigmented Pastes XA 2006	SZ 13** thinning ratio 30-40%
G3 French polishing	As above.	AC 600 or XM 8000 or XP 1880 or AP 1221	SU 220 thinning ratio 30-50%		1 coat SA 1000 thinning ratio 50-100% + 1 coat SA 40 thinning ratio 100%
G4 Wax Topcoats	As above.	AC 600 or XM 8000 or XP 1880 or AP 1221	SU 220 thinning ratio 30-50%		XP 566
G5 Water-based "arte povera"	As above.	AC 1810 or AP 1221 or XM 8000	AF 54** or AF 72**	XP 1950 or XA 4394+ water-based pigmented Pastes XA 2006	AF 54** or AF 72**
G6 Lac by spray	As above.	AC 600 or XM 8000 or XP 1880 or AP 1221	SU 220 thinning ratio 30-50%	XP 1950 or XA 4394+ water-based pigmented Pastes XA 2006	XZ 60*

® See note on page 9.

BURNISHABLE CLEAR POLYESTER BASECOAT PU 317: PU 317 is a high build polyester exhibiting excellent transparency and elasticity, It can be polished, it is especially good for coating briarwood, steering wheels and other automotive wood interior components.

HIGH GLOSS POLYURETHANE TOPCOAT SC 599: SC 599 is a high-quality gloss coating which is very elastic yet hard and scratch resistant. It contains slow solvents for dip application avoiding blisters and bubbles. It is used for coating steering wheels.

POLYURETHANE GLOSS TL 599: TL 599 is a high-quality gloss coating, very elastic, hard and abrasion resistant. It contains slow solvents for an easy application by brush, roller and spray, without blisters and retouch problems. At least two coats should be applied.

SEALER TR 5008: TR 5008 is barrier that ensures a good adhesion on almost all melamine papers and on other supports that are not easily adhered to by other Sealers. It can be applied by spray or roller coater.

CLEAR POLYURETHANE BASECOAT TU 141: TU 141 is a polyurethane Basecoat exhibiting excellent transparency, good adhesion to the substrate and high cold-check resistance. Given its particular formulation, it is mainly used when maximum transparency, elasticity and adhesion to the substrate are required (for example stairs), for dipping systems for steering wheels and as a sealing Basecoat for coffins.

SEALING BASECOAT TU 565: see page 20.

SYSTEM	SUBSTRATE®	SEALER	BASECOAT	TOPCOAT	OPTIONAL PRODUCTS
H1 Dipping	For closed pore system. Walnut, Briarwood, etc.	TR 5008 thinning ratio 50%	TU 141 thinning ratio 30-40%	SC 599 thinning ratio 20-40%	
H2 Spray	As above.	TU 565 thinning ratio 30%	PU 317 thinning ratio 10-20%	TL 599	

® See note on page 9.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

WATER-BASED TOPCOAT AF 53:** AF 53** is a water-based clear single-component Topcoat suitable to be used on parquet timbers where elasticity, hardness, abrasion resistance, easy application by spray or roller, easy retouch and maintenance are needed. For maintenance operations on parquet already coated with either AF 53** or other coatings (solvent based also), it is sufficient to sand well with 150 grain abrasive paper, then clean the substrate and apply one or two coats of AF 53** as already described.

WATER-BASED TOPCOAT AF 60:** non-yellowing water-based clear single or two component Topcoat. It is ideal to be used on parquet, where elasticity, hardness, resistance to abrasion, easy application through roller and brush, easy revival and maintenance are required. The product catalysed with AH 1547 has improved chemical resistance, resistance to abrasion and final hardness.

CLEAR WATER-BASED SEALING BASECOAT AU 493: see page 10.

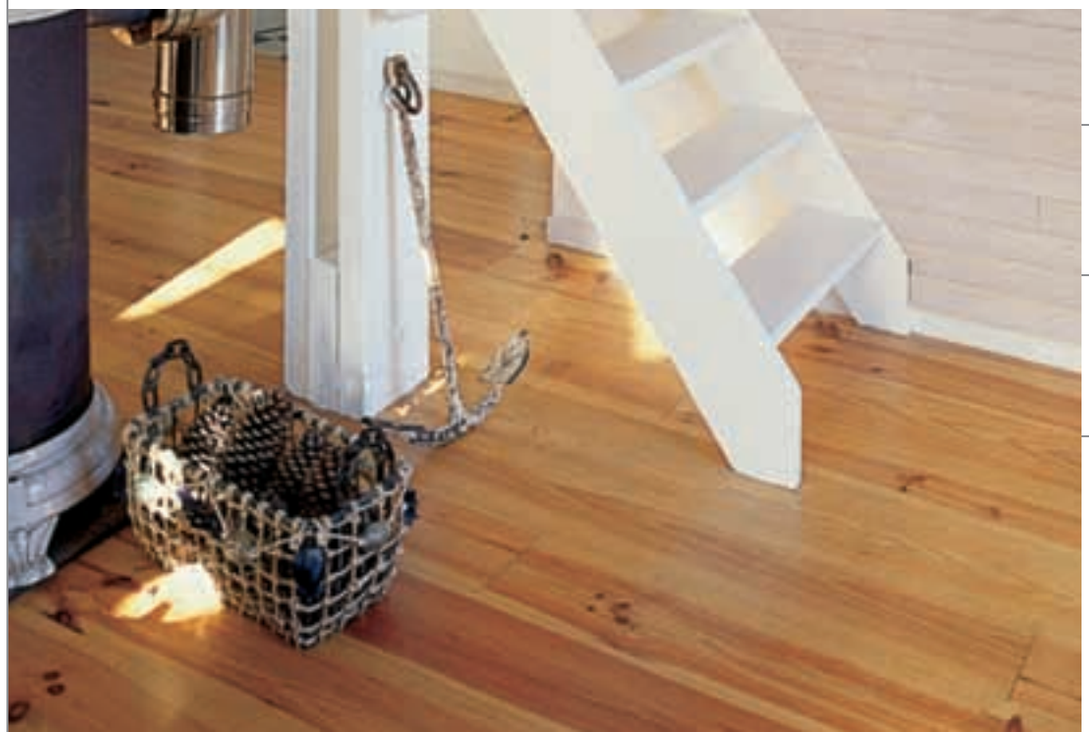
POLYURETHANE GLOSS TL 599: see page 24.

POLYURETHANE BASECOAT TU 325: TU 325 is a zinc stearate-free perfectly clear Sealer Basecoat. It exhibits exceptional elasticity, adhesion and chemical-physical resistance and therefore it is suitable for parquet and flooring in general. It is easy to brush and roll.

SEMIGLOSS POLYURETHANE TOPCOAT TZ 66:** this is a high-quality coating available in matt (20 and 40 gloss) and semi gloss (70 gloss) versions. It is very elastic, hard and scratch resistant. It contains slow solvents for an easy application by brush and roller without blisters, streaks and retouch problems. It gives an evenly matted finish which is very resistant to wear, even on large surfaces. It can be applied in two coats.

MATT ACRYLIC TOPCOAT HXD TECHNOLOGY TZ 93:** see page 20.

BINDING AGENT XT 590: binding agent specially developed to mix with wood powder (obtained from initial sanding of the timber flooring), for application as a filler for small holes and cavities in the parquet. The Pastes obtained must be applied with a spatula.



SYSTEM	SUBSTRATE®	STAIN	SEALER	BASECOAT	TOPCOAT
11 Matt Topcoat	Veener of various essences.	XT 590	TU 325 thinning ratio 100%	TZ 6640 thinning ratio 5-10%	TZ 93** (HXD TECHNOLOGY product) thinning ratio 30-50%
12 Semi-gloss Topcoat	As above.	XT 590	TU 325 thinning ratio 100%	TZ 6670 thinning ratio 5-10%	TZ 93** (HXD TECHNOLOGY product) thinning ratio 30-50%
13 Gloss Topcoat	As above.	XT 590	TU 325 thinning ratio 100%	TL 599 thinning ratio 5-10% 2 coats	
14 Water-based to tannic woods From matt to semi-gloss	As above.	XT 590	AU 493 (2 components) thinning ratio 10-15%	AF 53** thinning ratio 5-10% 2 coats	
15 Anti-yellowing water-based to tannic woods From matt to semi-gloss	As above.	XT 590	AU 493 (2 components) thinning ratio 10-15%	AF 60** (2 components) thinning ratio 5-10% 2 coats	
16 Water-based From matt to semi-gloss	As above.	XT 590	AF 53** thinning ratio 5-10%	AF 53** thinning ratio 5-10%	
17 Anti-yellowing water-based From matt to semi-gloss	As above.	XT 590	AF 60** (2 components) thinning ratio 5-10%	AF 60** (2 components) thinning ratio 5-10%	

® See note on page 9.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

BURNISHABLE CLEAR POLYESTER BASECOAT PU 317: see page 24.

POLYESTER BASECOAT PU 6019: polyester Basecoat that is applied by spray in one or two coats, horizontally and/or vertically. It is easy to apply, it boasts high build and excellent sanding properties and it's also highly elastic and has high clarity.

GLOSSY CLEAR POLYURETHANE TOPCOAT TL 335: see page 20.

POLYURETHANE GLOSS TL 599: see page 24.

SEALING BASECOAT TR 4027: see page 20.

ACRYLIC BASECOAT TU 54: see page 10.

ACRYLIC BASECOAT TU 55: acrylic Basecoat boasting excellent build, high filling power and excellent sanding properties.

CLEAR POLYURETHANE BASECOAT TU 141: see page 24.

SEALING BASECOAT TU 565: see page 20.

POLYURETHANE TOPCOAT TZ 28:** see page 10.

POLYURETHANE TOPCOAT TZ 62:** see page 10.

POLYURETHANE TOPCOAT TZ 66:** see page 26.

ACRYLIC TOPCOAT TZ 70:** see page 10.

SYSTEM	SUBSTRATE®	SEALER	BASECOAT	TOPCOAT	NOTES
J1 Matt acrylic	Veneer of various essences, Mahogany, etc.	TU 565 thinning ratio up to 30% or TR 4027 thinning ratio 50-100%	TU 54 thinning ratio 20-30% or TU 55 thinning ratio 20-30%	TZ 70** thinning ratio 20-30%	Do not use on Teak and oily wood
J2 Gloss polyurethane	As above.	TU 141 thinning ratio 30-40%	TU 141 thinning ratio 30-40%	TL 599 thinning ratio 5-10% or TL 335 thinning ratio 10-20%	
J3 Semi-gloss polyurethane	As above.	TU 141 thinning ratio 30-40%	TU 141 thinning ratio 30-40%	TZ 6670 thinning ratio 5-10% or TZ 62** thinning ratio 20-30%	
J4 High build	Various.	TU 565 thinning ratio up to 30% or TR 4027 thinning ratio 50-100%	PU 6019 thinning ratio 5-10% or PU 317 thinning ratio 15-20%	TL 335 thinning ratio 10-20% or TZ 28** thinning ratio 10-30%	

® See note on page 9.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

TWO COMPONENT WATER-BASED TOPCOAT **AT 48**:** see page 10.

WATER-BASED TOPCOAT HXD TECHNOLOGY **AT 96**:** see page 12.

WATER-BASED BASECOAT **AU 472:** see page 12.

CLEAR WATER-BASED SEALING BASECOAT **AU 493:** see page 10.

POLYESTER BASECOAT **PU 386:** see page 20.

SEALER **TR 5008:** see page 24.

ACRYLIC BASECOAT **TU 54:** see page 10.

CLEAR POLYURETHANE BASECOAT **TU 141:** see page 24.

SEALING BASECOAT **TU 565:** see page 20.

ACRYLIC TOPCOAT **TZ 13**:** see page 18.

POLYURETHANE TOPCOAT **TZ 28**:** see page 10.

ACRYLIC TOPCOAT **TZ 70**:** see page 10.

SYSTEM	SUBSTRATE®	SEALER	BASECOAT	TOPCOAT	OPTIONAL PRODUCTS
K1 Highly clear	Reconstituted veneers, pre-stained veneers.	TU 565 thinning ratio up to 30%	TU 141 thinning ratio 20-30%	TZ 28** thinning ratio 10-20%	
K2 Anti-yellowing	Light-coloured reconstituted veneers.	TR 5008 thinning ratio up to 50%	TU 54 thinning ratio 30-50% for open pore	TZ 70** thinning ratio 20-40% or TZ 13** thinning ratio 10-30%	For closed pore systems PU 386 thinning ratio 10-20%
K3 Water-based HYDROPLUS	Reconstituted veneers and veneers.	AU 493 (2 components) thinning ratio 10-15%	AU 472 (2 components) thinning ratio 5-10%	AT 96** (HXD TECHNOLOGY product) or AT 48** (2 components) thinning ratio 5%	

® See note on page 9.

WATER-BASED STAIN AC 600: see page 10.

WATER-BASED STAIN AC 1810: see page 10.

CLEAR WATER-BASED TOPCOAT AF 72:** see page 10.

HARMONISING WATER-BASED GLAZE AP 1221: see page 10.

WATER-BASED TOPCOAT AT 67:** see page 16.

WATER-BASED CLEAR SEALING BASECOAT AU 392: two component sealing water-based Basecoat. It boasts high thixotropy and exceptional timber colour development properties; it provides excellent build without using any Sealer. To catalyze with AH 1545 (see page 57).

HIGH GLOSS POLYESTER TOPCOAT PL 243: PL 243 is a Topcoat exhibiting excellent flow and such hardness as to be recommended for the application of table surfaces to be polished. Thanks to its excellent flow, PL 243 can be used as an 'off the gun' gloss, but it can also be polished two days after the application. This polyester Topcoat is generally appreciated for its final film hardness and for the absence of surface defects such as bittiness and pinheads but its long dust-free drying time may require the use of pressurised booths.

CLEAR EXTRA-VERTICAL POLYESTER BASECOAT PU 342: non-paraffin polyester with high thixotropy and excellent application and build on flat and vertical surfaces. It has excellent transparency, good elasticity, absence of shrinking and excellent sanding properties. It can only be applied by spray using two component pumps.

NON-PARAFFIN POLYESTER PU 374: non-paraffin polyester having high thixotropy and excellent application and build on flat and vertical surfaces. Despite its high thixotropy characteristics, it is highly transparent with fairly good sanding properties. It can only be applied by spray using two component pumps.

GLOSSY CLEAR POLYURETHANE TOPCOAT TL 335: see page 20.

GLOSSY ANTI-SCRATCH THIXOTROPIC TL 345: see page 14.

CLEAR POLYURETHANE BASECOAT TU 141: see page 24.

POLYURETHANE BASECOAT TU 161: see page 18.

SEALING BASECOAT TU 565: see page 20.

MATT POLYURETHANE TOPCOAT TZ 58:** see page 16.

STAIN XM 8000: see page 10.

SYSTEM	SUBSTRATE®	STAIN	SEALER	BASECOAT	TOPCOAT
L1 Polyester Basecoat and polyurethane Topcoat	Oak, Fraké, Larch, Mahogany, Walnut, Chestnut, etc.	AC 600 or XM 8000	TU 565 thinning ratio up to 30% or TU 141 thinning ratio 30-40%	PU 374 thinning ratio 5-15% or PU 342 thinning ratio 5-20%	TL 335 gloss thinning ratio 10-20% or TL 345 gloss thinning ratio 20-40% or TZ 58** matt thinning ratio 20-50%
L2 Polyester Basecoat and Topcoat	As above.	AC 600 or XM 8000	TU 565 thinning ratio up to 30% or TU 141 thinning ratio 30-40%	PU 374 thinning ratio 5-15% or PU 342 thinning ratio 5-20%	PL 243 thinning ratio up to 30%
L3 Polyurethane Basecoat and Topcoat	As above.	AC 600 or XM 8000	TU 565 thinning ratio up to 30% or TU 141 thinning ratio 30-40%	TU 161 thinning ratio 10-30%	TL 335 gloss thinning ratio 10-20% or TL 345 gloss thinning ratio 20-40% or TZ 58** matt thinning ratio 20-50%
L4 Water-based system	As above.	AC 1810 or AP 1221 or XM 8000	AU 392 (2 components)	AU 392 (2 components)	AF 72** or AT 67**

® See note on page 9.

HARMONISING WATER-BASED PRESERVATIVE WOODSTAIN HYDRO GOLD AM 303: AM 303 is a top quality and durability water-based preservative wood Stains suitable for protecting the wood against fungi and moulds for exteriors. Along with Basecoat AM 603 and Topcoat AZ 9030/XX, it is an essential component for the pigmented systems that exhibit an incomparable life in the exterior.

HARMONISING WATER-BASED PRESERVATIVE WOODSTAIN HYDRO GOLD AM 306: AM 306 is a top-quality and long-lasting water-based preservative wood Stains against fungi and moulds, suitable for broad-leaved woods rich in extracts, such as iroko, oak, chestnut, in exteriors.

WATER-BASED INTERMEDIATE BASECOAT AM 473: AM 473 is a thixotropic water- based Basecoat exhibiting good sandability, high solid content and build, to be applied by spray to casings or frames to prepare them before Topcoat application. It is especially suited for industrial systems requiring fast drying. AM 473 can be pigmented (up to 3%) with Pastes XA 2006 to obtain a wide range of colours. This feature makes it especially useful in the lacquered systems, to obtain a Basecoat of the same colour as the Topcoat.

WATER-BASED INTERMEDIATE BASECOAT AM 475: AM 475 complements the existing AM 473 series, enhancing its build and sandability features.

PROTECTIVE AND UNIFORMING WATER-BASED PRIMER AM 507: Primer for Softwood, Meranti, Okoumé woods, characterised by a high harmonising power, in particular on softwoods such as Fir and Hemlock where the absorption differences are significant. It is ideal for the preservation of finger joint wood. It ensures a good preservation against fungi and moulds and reduced swelling of the wood fibre.

WATER-BASED PRIMER FOR EXTERIORS AM 512: water-based Primer made with special acrylic resins for manual wood preservation. Thanks to its high solids content , it provides great build and protection. The most suitable woods are softwoods: Fir, Pine, Yellow Pine, Douglas, Hemlock and Meranti. With woods such as Oak, Chestnut and Iroko, the presence of extractives may cause flow and run off defects.

PROTECTIVE AND DECORATIVE WATER-BASED PRESERVATIVE WOODSTAIN AM 546: AM 546 is a water-based preservative wood Stains for protecting conifer wood for exteriors. It results in even colouration, reduced run marks on top rails and window heads and reduced greying on soft woods such as Fir and Hemlock. Clear iron oxides are used to colour the product, as besides having a high resistance to light, they absorb UV radiations and therefore protect the wood. For this reason, colourless systems (i.e. the use of the clear /00 base) is not recommended. Product certified with the CATAS QUALITY AWARD PLUS and the CATAS WKI PREMIUM, in a system combined with Topcoat AZ 21**.

PROTECTIVE AND DECORATIVE WATER-BASED PRESERVATIVE WOODSTAIN AM 549: AM 549 is a water-based preservative wood Stains for protecting against fungi and moulds of tannin rich timbers (Iroko, Oak, Chestnut) for exteriors. Its special formulation allows the flow-coating and dipping of tannin-rich woods without the need of Sealers and without problems of drip marks and bad flow.

WATER-BASED BASECOAT AM 562: two component thixotropic Basecoat, available in transparent and pigmented version, catalyzed with 10% of AH 1545 or AH 1550. Excellent for blocking extractives and resin, also good for woods which are more difficult to coat. It is different from the other Basecoats due to its high resistance to chemical substances and also due to the hardness of the film. Good sanding characteristics.

WATER-BASED WASHCOAT HYDRO GOLD AM 603/91: prime quality and long lasting water-based washcoat, suitable for the coating of handmade articles in wood for outdoor use, which can be applied by flow-coating and having good sanding characteristics. It is particularly useful for manual and mechanical sanding with brushes.

WATER-BASED CLEAR TOPCOAT AZ 20:** AZ 20** is a water-based single-component Topcoat exhibiting elasticity and long service life that make it ideal for the protection of wood for exteriors. AZ 20** complements the existing series, posessing those features required in industrial use, such as flow, transparency, and water resistance, without the need of adding a cross-linking agent. Also available in pigmented versions.

WATER-BASED CLEAR TOPCOAT AZ 21:** it exhibits a good build, water resistance, and excellent performance with automatic or manual application systems. Product certified with the CATAS QUALITY AWARD PLUS and the CATAS WKI PREMIUM, in a system with Topcoat AZ 546.

HIGH SOLID AND CLARITY THIXOTROPIC WATER-BASED TOPCOAT AZ 32:** single-component, water-based Topcoat boasting elasticity and long-lasting properties which make it suitable for the protection of exterior timbers. AZ 32** boasts excellent application characteristics, transparency and resistance to water.

WATER-BASED CLEAR TOPCOAT HYDRO GOLD AZ 9030: AZ 9030 is a top-quality water-based single-component Topcoat exhibiting elasticity and long service life that make it ideal for the protection of wood for exteriors.

DECORATIVE PROTECTIVE PRIMER EM 556: Primer suitable to protect and decorate outdoor and indoor wood. It prevents damage caused by staining fungi and moulds. It is resistant against bad weather. It does not flake. Surfaces previously treated with EM 556 are easy to maintain, without the need to strip off and re-sand. Please note that for Clear EM 556/00, the absence of pigment provides little protection of the wood to damaging UV rays. It is preferably applied by brush or dipping.

PRESERVATIVE WOODSTAIN EM 557: EM 557 is a single-component product with biocide and UV absorbers that can be used in 2 ways: as a dipping Basecoat or flow-coating onto timbers treated with coloured wood Stains (EM 556), and as a first coat in a two-coat woodstain system (Basecoat+ thixotropic Topcoat). It does not give high protection against moulds.

TOP-FINEST EZ 55:** they are defined "TOP water-resistant" due to the protective action that they perform when they are applied on the Basecoat. This protection occurs without the need for high film thicknesses which also lets the wood "breath". The protective film of EZ 55** is totally resistant to liquid water, but is permeable to water vapour; it is elastic and insensitive to temperature and humidity changes. , The product has a low viscosity so it can be applied by brush and spray, spraying onto vertical surfaces is not recommended.

THIXOTROPIC AIR DRYING TOPCOAT EZ 80:** EZ 80** is a single-component air-drying Topcoat characterised by a very high thixotropy and resistance to lifting. If properly applied on the coloured Primers (EM 556 or AM 548) and on well-seasoned wood, EZ 80** will last for 2 to 4 years depending on the thickness of application, on the type of wood used and on the exposure conditions. Natural systems (with clear EZ 80**) are not recommended as they have significantly reduced durability. EZ 80** is especially suitable for electrostatic and airless application.

WAXY WATER-BASED PRESERVATIVE WOODSTAIN HI 22 (LINEA BLU):** HI 22** is a waxy water-based preservative wood Stains for finishing and maintaining the natural appearance of external timbers (thin film). The Wax contained in the product provides excellent water-repellency with a water droplet beading effect when wet.

SYSTEM	SUBSTRATE®	PRIMER	BASECOAT	TOPCOAT	NOTES
M 1 Clear HYDRO GOLD series	Softwood, hardwood.	AM 303 or AM 306	AM 603/91	AZ 9030	The HYDRO GOLD series is guaranteed by a Patent for Industrial Invention
M 2 CQAP-CWP system	Softwood.	AM 546 thinning ratio 5-10%		AZ 21**	The CQAP-CWP system, certified with the CATAS QUALITY AWARD PLUS and the CATAS WIKI PREMIUM, guarantees an exceptional durability.
M 3 Water-based HYDROPLUS	Pine, Douglas, Fir, Hemlock, Larch, Meranti, etc.	AM 549 thinning ratio up to 10% or AM 546 thinning ratio up to 10% or AM 507	AM 473 or AM 475 thinning ratio up to 10%	AZ 21** or AZ 32** or AZ 20** thinning ratio up to 10%	Total elimination of solvents; excellent resistance outdoors.
M 4 Water-based HYDROPLUS	Oak, Chestnut, Idigbò, Niangon, etc.	AM 549 thinning ratio up to 10%	AM 473 or AM 475 thinning ratio up to 10%	AZ 21** or AZ 32** or AZ 20** thinning ratio up to 10%	Total elimination of solvents; excellent resistance outdoors.
M 5 Water-based HYDROPLUS for Iroko and Russian Larch	Iroko, Russian Larch, etc.	AM 549 (Iroko) thinning ratio up to 10% or AM 546 (Russian Larch) thinning ratio up to 10% or AM 507 (Russian Larch)	AM 562/85 Catalysed with AH 1545 or AH 1550 thinning ratio up to 20% 2 coats	AZ 21** or AZ 32** or AZ 20** thinning ratio up to 10%	Total elimination of solvents; excellent resistance outdoors.
M 6 Water-based HYDROPLUS with Primer only	Softwood, hardwood.	AM 512	AM 512	AM 512	Ideal for balustrades, walls of chalet, benches, gazebos, etc.
M 7 With Primer only	As above.	EM 556 thinning ratio up to 10%	EM 556 thinning ratio up to 10%	EM 556 thinning ratio up to 10% or EM 557 thinning ratio up to 20%	Ideal for balustrades, walls of chalet, benches, gazebos, etc.
M 8 With Primer and TOP-FINEST	As above.	EM 556 thinning ratio up to 10%	EZ 55** thinning ratio up to 30%	EZ 55** thinning ratio up to 30%	Good build; easy to maintain; it is applied by brush and spray on flat surfaces.
M 9 With Primer and TIX-TOP	As above.	EM 556 thinning ratio up to 10%		EZ 80** thinning ratio up to 10%	One coat less is required; easy to apply consistent thicknesses by spray on vertical surfaces.
M 10 LINEA BLU	As above.	HI22**	HI22**	HI22**	Ideal for "Do-It-Yourself"

® See note on page 9.

TWO COMPONENT WATER-BASED TOPCOAT AT 48:** see page 10.

WATER-BASED TOPCOAT HXD TECHNOLOGY AT 96:** see page 12.

WATER-BASED TOPCOAT AT 99:** see page 10.

TWO COMPONENT NEUTRAL SPRAY-APPLIED PRIMER FOR INTERIORS AU 471/N0: two component Basecoat applied by spray directly on MDF or Masonite substrates It is a Neutral Converter that can be pigmented up to 5% with Pastes XA 2006 to produce any colour. Thanks to the high solids content, excellent filling of the substrate is guaranteed. It can be used as single-component, but it is suggested to combine it with 4% Hardener AH 1550 to improve its sanding properties and loss by absorbtion into porous substrates.

TWO COMPONENT WHITE SPRAY-APPLIED PRIMER FOR INTERIORS AU 472/13: two component Basecoat applied by spray directly on MDF or Masonite supports. Due to its high content of pigment and solids content, excellent filling of the substrate is achieved. It can be used as single-component, but it is suggested to combine it with 4% Hardener AH 1550 to improve its sanding properties and loss by absorbtion into porous substrates. It can be pigmented with Pastes XA 2006 in order to obtain pastel colours.

WHITE POLYESTER BASECOAT PU 388/13: PU 388/13 is high hiding power polyester Basecoat whose features make it different from both polyurethane and conventional polyester Basecoats. The long pot-life, its elasticity, thixotropy and excellent mechanical sandability are its main features. PU 388 has a very wide field of applications, from medium density boards to even very absorbant substrates, from chairs to profiles of any kind.

WHITE POLYESTER BASECOAT FREE OF STYRENE PU 637/13: Basecoat free of monomer styrene and aromatic solvents. It has excellent build, application and good sanding characteristics.

GLOSS POLYURETHANE PIGMENTED TOPCOATS TL 99: TL 99 is a glossy Topcoat exhibiting excellent wettability and flow with good thixotropy and solvent release. It is suitable for coating shutters, frames, flat surfaces, etc. Very glossy and with good scratch resistance, brushable and polishable. Available in the White and Neutral versions; all colours can be obtained by adding solvent-based pigmented Pastes.

INSULATING PRIMER TU 100/N0: semi-transparent polyurethane Basecoat very quick to dry, mainly used as Primer in pigmented, polyurethane and polyester systems applied on MDF to reduce absorption and the lifting of the support fibre. TU 100/N0 can be sanded by hand just after 15 minutes from application, mainly in the milled parts of the MDF. It can be over-coated with polyurethane or polyester Basecoat without any adhesion problem, also in non-sanded parts. Since TU 100/N0 has a semi-transparent aspect, it is not suitable for transparent systems, especially stained ones.

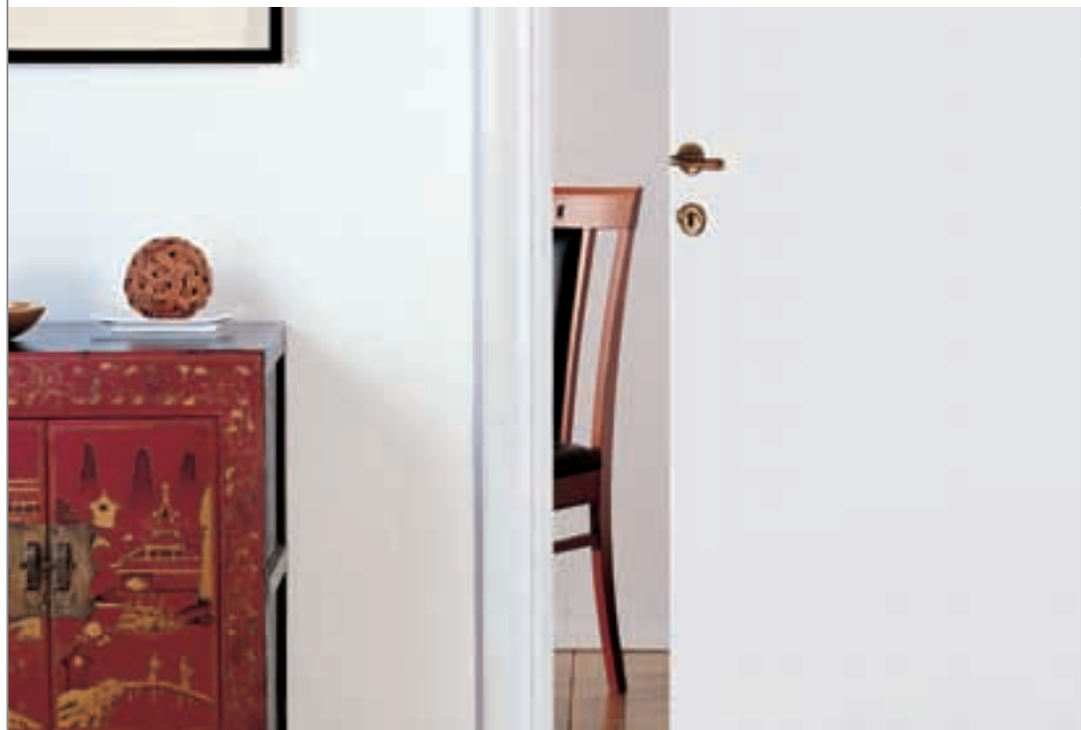
WHITE POLYURETHANE BASECOAT TU 148/13: white Basecoat generally used for flat parts and profiles. It has excellent build and sanding characteristics.

HIGHLY DRY WHITE POLYURETHANE BASECOAT TU 276/13: white Basecoat of general use, of limited emissions. This high solids Basecoat complies with M.D. 44 for mass balancing, thus reducing the VOC. The product is ready to use; therefore dilution is not required. TU 276/13 has excellent thixotropy and it also offers excellent build on edges and milled parts.

HIGH SOLIDS WHITE POLYURETHANE TOPCOAT TZ 67/13:** white Basecoat for general use, limited VOC emissions. This high solids Basecoat complies with M.D. 44 for mass balancing, thus reducing the VOC. The product is ready to use; therefore dilution is not required. It boasts good edge build, application characteristics, excellent levelling of the matting agent.

MATT POLYURETHANE LACQUERED TOPCOATS TZ 99:** it is a matt white Topcoat with excellent flow on level surfaces and excellent hiding power on edges. It is available in various colours, also in White and Neutral versions; all the colours can be obtained by adding solvent-based pigmented Pastes.

CONCENTRATED WATER-BASED PASTES XA 2006: see page 10.



SYSTEM	SUBSTRATE®	PRIMER	BASECOAT	TOPCOAT	AVAILABLE COLOURS
N1 Polyurethane mixed system free of styrol	MDF and similar.		PU 637/13 (50% solid) thinning ratio 10-20% 2 coats	TZ 99** thinning ratio 20-30% or TL 99 thinning ratio 20-70%	Neutral and White + solvent-based pigmented Pastes
N2 Polyurethane system	As above.	TU 100/NO (optional) thinning ratio 30-50%	TU 148/13 thinning ratio 10-30% or TU 276/13	TZ 99** thinning ratio 20-30% or TL 99 thinning ratio 20-70%	Neutral and White + solvent-based pigmented Pastes
N3 Polyurethane polyester mixed system	As above.		PU 388/13 thinning ratio 10-20%	TZ 99** thinning ratio 20-30% or TL 99 thinning ratio 20-70%	White + solvent-based pigmented Pastes
N4 Water-based system	As above.		AU 472/13 (2 components) thinning ratio 5-10% 2 coats AU 471/N0 2 coats	AT 99** or AT 96** or AT 48** (2 components) thinning ratio 5%	Neutral and White + XA 2006 water-based pigmented Pastes
N5 Polyurethane system according to Ministry Decree 44 (limited emissions)	As above.		TU 276/13	TZ 67**/13	White (13)

® See note on page 9.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

SINGLE-COMPONENT WATER-BASED TOPCOAT AV 19:** Topcoat developed for application onto melamine papers and glass. It ensures excellent adhesion when used with 3% Additive XA 4095. It can be pigmented with concentrated water-based Pastes XA 2006.

WHITE POLYESTER BASECOAT PU 388/13: see page 36.

POLYURETHANE SEALER TI 1211: Sealer suitable for application on melamine papers. It can be over-coated with polyurethane products, redox polyesters and UV fillers, in order to ensure good adhesion.

GLOSS POLYURETHANE PIGMENTED TOPCOATS TL 99: see page 36.

SEALER TR 5008: see page 24.

POLYURETHANE BASECOAT TU 160: see page 10.

POLYURETHANE TOPCOAT TZ 28:** see page 10.

MATT POLYURETHANE LACQUERED TOPCOATS TZ 99:** see page 36.

CONCENTRATED WATER-BASED PASTES XA 2006: see page 10.

CROSS-LINKER ADDITIVE XA 4095: it promotes the adhesion of water-based products on glass or critical surfaces.

SYSTEM	SUBSTRATE®	SEALER	BASECOAT	TOPCOAT	AVAILABLE COLORS
01 Mixed lacquered system for large production	Melamine papers, laminates and glass	TR 5008 thinning ratio up to 50% or TI1211 thinning ratio 5-10%	PU 388/13 thinning ratio 10-20%	TZ 99** thinning ratio 20-30% or TL 99 thinning ratio 20-70%	Neutral and White + solvent-based pigmented Pastes
02 Clear system	As above.	TR 5008 thinning ratio up to 50% or TI1211 diluizione 5-10%	TU 160 thinning ratio 20-30%	TZ 28** thinning ratio 10-20%	
03 Water-based system for melamine papers and glass	As above.			AV 19** + 3% XA 4095	All the colours of XA 2006 series water-based concentrated Pastes

® See note on page 9.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

TWO COMPONENT WATER-BASED TOPCOAT AT 48:** see page 10.

WATER-BASED TOPCOAT HXD TECHNOLOGY AT 96:** see page 12.

WATER-BASED WHITE BASECOAT FOR INTERIORS AU 459/13: single-component water-based Basecoat suitable also to be over-coated with traditional, catalysed, solvent-based Topcoats. Excellent thixotropy, sanding characteristics, quick drying.

WHITE POLYURETHANE BASECOAT TU 229/13: Basecoat boasting high viscosity and exceptional thixotropy, for ease of application on vertical surfaces without sagging. It also dries quickly, it has high opacity, good build of sharp edges and excellent sanding properties.

HIGHLY DRY WHITE POLYURETHANE BASECOAT TU 276/13: see page 36.

HIGHLY DRY WHITE POLYURETHANE TOPCOAT TZ 67/13:** see page 36.

OPAQUE POLYURETHANE LACQUERED PRODUCTS TZ 96:** Topcoats developed for applications with electrostatic systems, manual guns and robots. High thixotropy to permit maximum build on vertical surfaces without sagging.

CONCENTRATED WATER-BASED PASTES XA 2006: see page 10.

SYSTEM	SUBSTRATE®	BASECOAT	TOPCOAT	AVAILABLE COLOURS
P1 Matt lacquered	Beech, Oak, Ash, etc.	TU 276/13 or TU 229/13 thinning ratio 10-30%	TZ 96** thinning ratio 10-30%	White (13), Black (57)
P2 Mixed system	As above.	AU 459/13	TZ 96** thinning ratio 10-30%	White (13), Black (57)
P3 Water-based HYDROPLUS	As above.	AU 459/13	AT 96** (HXD TECHNOLOGY product) or AT 48** (2 components) thinning ratio 5%	All colours using XA 2006 series water-based concentrated Pastes
P4 Polyurethane system according to Ministry Decree 44 (limited emissions)	As above.	TU 276/13	TZ 67**/13	White (13)

® See note on page 9.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

TWO COMPONENT WATER-BASED TOPCOAT AT 48:** see page 10.

WATER-BASED TOPCOAT AT 99:** see page 10.

SPRAY PRIMER FOR MDF AU 454/13: AU 454/13 can be applied by spray directly on MDF or Masonite substrates. It has a high content of pigments and of solids, resulting in excellent substrate filling and imparting an even colour to it.

WATER-BASED PRIMER FOR MDF AU 472: Primer that can be applied by spray directly on MDF supports. It is characterised by excellent build and resistance to loss by absorbtion. It also boasts excellent sanding properties. The use of 5% Hardeners AH 1550 or AH 1545 is suggested (see page 57).

WHITE POLYESTER BASECOAT PU 388/13: see page 36.

WHITE POLYURETHANE BASECOAT TU 148/13: see page 36.

HIGH SOLIDS WHITE POLYURETHANE BASECOAT TU 276/13: see page 36.

HIGH SOLIDS WHITE POLYURETHANE TOPCOAT TZ 67/13:** see page 36.

MATT POLYURETHANE LACQUERED TOPCOATS TZ 99:** see page 36.

SYSTEM	SUBSTRATE®	BASECOAT	TOPCOAT	AVAILABLE COLORS	
Q1 Polyurethane system	Ramin, MDF, etc.	TU 148/13 thinning ratio 10-30%	TZ 99** thinning ratio 10-30%	Neutral and White + solvent-based pigmented Pastes	
Q2 Polyester - polyurethane system	As above.	PU 388/13 thinning ratio 10-20%	TZ 99** thinning ratio 10-30%	White + solvent-based pigmented Pastes	
Q3 Water-based HYDROPLUS	As above.	AU 454/13 thinning ratio up to 5% or AU 472 (2 components) thinning ratio 5-10%	AT 99** or AT 48** (2 components) thinning ratio 5%	White + solvent-based pigmented Pastes	
Q4 Polyurethane system according to Ministry Decree 44 (limited emissions)	As above.	TU 276/13	TZ 67**/13	White (13)	

® See note on page 9.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

WATER-BASED PIGMENTED BASECOAT AM 436: water-based Basecoat having excellent build and sanding characteristics. After pigmenting with water-based Pastes, it is applied by spray onto joinery which have already been treated with a coat of water-based Primer from the HYDROPLUS series, in order to prepare them for the next finishing phase. The high solids content makes it particularly suitable for finger joint wood and where a high build is required.

WATER-BASED PRIMER BASECOAT FOR EXTERIORS AM 475: thixotropic water-based Basecoat exhibiting excellent sanding and build , for application by spray onto timbers which have already been treated with a coat of water-based Insulating Primer AM 541, in order to prepare them for the next finishing stage, which should be done using the water-based pigmented HYDROPLUS AZ 21**.

PIGMENTED ISOLATING PRIMER AM 541: water-based single-component Primer. It confers an excellent aesthetic aspect to handmade articles. It can be applied by spray, dipping or flow-coating. It is available in White (13), Green (66) and Neutral (N0) colours that can be pigmented. Thanks to its good build, the White colour (13) is resistant to the yellowing or reddening problems of white lacquered water-based Topcoats caused by extractives, and it also confers an excellent aesthetic aspect to the handmade article.

WATER-BASED BASECOAT AM 562: see page 34.

WATER-BASED CLEAR TOPCOAT AZ 21:** see page 34.

MATT WHITE TOPCOAT TU 218: TU 218 is a matt Topcoat designed for systems in exteriors. It exhibits an exceptional resistance to weather, sudden changes of temperature, ultraviolet rays and chemical attack. The exposure testing carried out for Sayerlack by independant laboratories have shown that the TU 218 film is not subject to degradation in the most aggressive mountainous or coastal environments. The White colour (13) has obtained a special Certification by the Institute of San Michele all'Adige (over 8 year long exposure on Monte Bondone). Since the dry film appearance is a low gloss, TU 218 can be used as Basecoat and as Topcoat directly on TU 250.

SINGLE-COMPONENT PRIMER BASECOAT TU 250: it is most commonly used as Insulating Primer which causes minimal wood fibre raising resulting in reducing sanding activities. For joinery and garden furniture, it is essential to use TU 250 not just for its sandability, but because it constitutes a barrier against humidity. It can be applied by dipping (best method) and also by brush and spray.

CONCENTRATED WATER-BASED PASTES XA 2006: see page 10.

WATER-BASED CONVERTER FOR EXTERIORS XA 99:** Converter for tintometric systems, which can be pigmented with the water-based Pastes of the XA 2006 series. It was developed for outdoor applications; it is long-lasting thanks to the protection from UV rays and the high elasticity of the system.

SOURCE: ALBERTINI

SYSTEM	SUBSTRATE®	PRIMER	BASECOAT	TOPCOAT	
R1 Matt water-based HYDROPLUS	Softwood.	AM 541 thinning ratio up to 30%	AM 475 thinning ratio up to 10% or AM 436 thinning ratio up to 10%	AZ 21** or XA 99** (Converter for tintometric system) + XA 2006 Pastes thinning ratio up to10%	
R2 Water-based HYDROPLUS	Iroko, Russian Larch, etc.	AM 541 thinning ratio up to 30%	AM 562 catalysed with AH 1545 or AH 1550 2 coats thinning ratio up to 20%	AZ 21** or XA 99** (Converter for tintometric system) + XA 2006 Pastes thinning ratio up to10%	
R3 Water-based HYDROPLUS	Hemlock, ecc.	AM 541 thinning ratio up to 30%	AM 562 catalysed with AH 1545 or AH 1550 thinning ratio up tol 20%	AZ 21** or XA 99** (Converter for tintometric system) + XA 2006 Pastes thinning ratio up to10%	
R4 Matt polyurethane	Softwood, hardwood.	TU 250 thinning ratio up to 50%	TU 218 thinning ratio up to 30%	TU 218 thinning ratio up to 30%	

SOURCE: ALBERTINI

® See note on page 9.

WHITE WATER-BASED PRIMER HYDRO GOLD AM 309/13: prime quality and long-lasting water-based single-component Isolating Primer. It has good pigment build and it is formulated to reduce the discolouration problems of white/lacquered water-based Topcoats caused by timber extractives, and it also confers an excellent aesthetic aspect to the handmade article.

WATER-BASED PIGMENTED BASECOAT AM 436: see page 44.

WATER-BASED PRIMER BASECOAT FOR EXTERIORS AM 475: see page 34.

PIGMENTED INSULATING PRIMER AM 541: see page 44.

WATER-BASED BASECOAT AM 562: see page 34.

WHITE WATER-BASED BASECOAT HYDRO GOLD AM 609/13: thixotropic water-based Basecoat having excellent sanding and build, for application by spray onto joiery which has already been treated with a coat of water-based Isolating Primer HYDRO GOLD AM 309.

WATER-BASED CLEAR TOPCOAT AZ 21:** see page 34.

WATER-BASED CLEAR TOPCOAT HYDRO GOLD AZ 9030: see page 34.

MATT WHITE TOPCOAT TU 218: see page 44.

SINGLE-COMPONENT PRIMER BASECOAT TU 250: see page 44.

CONCENTRATED WATER-BASED PASTES XA 2006: see page 10.

WATER-BASED CONVERTER FOR EXTERIORS XA 99:** see page 44.

SOURCE: ALBERTINI

SYSTEM	SUBSTRATE®	PRIMER	BASECOAT	TOPCOAT	NOTES
S1 Pigmented HYDRO GOLD series	Softwood, hardwood.	AM 309/13	AM 609/13	AZ 9030	The HYDRO GOLD series is guaranteed by a Patent for Industrial Invention.
S2 Matt polyurethane	As above.	TU 250 thinning ratio up to 50%	TU 218 thinning ratio up to 30%	TU 218 thinning ratio up to 30%	
S3 Matt water-based HYDROPLUS	Softwood (excluding Russian Larch).	AM 541 thinning ratio up to 30%	AZ 21** thinning ratio up to 10%	AZ 21** thinning ratio up to 10%	
S4 Matt water-based HYDROPLUS	As above.	AM 541 thinning ratio up to 30%	AM 475 thinning ratio up to 10% or AM 436 thinning ratio up to 10%	AZ 21** or XA 99** (Converter for tintometric system) + XA 2006 Pastes thinning ratio up to 10%	
S5 Water-based HYDROPLUS	Hardwood (excluding Iroko), Hemlock.	AM 541 thinning ratio up to 30%	AM 562 catalysed with AH 1545 or AH 1550 thinning ratio up to 20%	AZ 21** or XA 99** (Converter for tintometric system) + XA 2006 Pastes thinning ratio up to 10%	

SOURCE: ALBERTINI

® See note on page 9.

SYSTEM TA - FIRE-RESISTANT TRANSPARENT POLYURETHANE SYSTEM

POLYURETHANE BASECOAT TU 22: two component Basecoat which offers excellent build, good transparency. Good resistance to removal. It is easy to apply manually by spray and curtain coater. Catalyze with TH 222

CLEAR POLYURETHANE TOPCOAT TZ 22**: highly versatile two component Topcoat, with good resistance to scratches and excellent softness. It is easy to apply manually through spray and curtain coater. Catalyze with TH 222.

The system overcomes the typical problems of traditional fire-resistant coatings: indeed, it does not have any whitening problems; the chemical/physical characteristics are similar to those of a traditional polyurethane product.

The TA system has obtained the following certifications:
- UNI 9796 M D.06/03/92 Interior Ministry, homologation no. BO1159PVI100001 Class 1 of fire reaction.
- BS 476 - Part. 7 – Class 1 – Oak, Birch and Pine multilayered veneered on MDF.
- BS 476 - Part. 6 – Class 0 - Support in class 0.

SYSTEM TB – FIRE-RESISTANT WHITE POLYURETHANE SYSTEM

WHITE POLYURETHANE BASECOAT TU 22/13: two component Basecoat which offers excellent build, good wettability of the pore and good application. Good resistance to removal. It is applied manually by spray. Catalyze with TH 333.

WHITE POLYURETHANE TOPCOAT TZ 22/13**: opaque two component Topcoat with good resistance to scratches. It is easy to apply manually by spray. Catalyze with TH 333.

The TB system has obtained the following certification:
- UNI 9796 M D.06/03/92 Ministry of the Interiors, homologation no. BO1159PVI100002 Class 1 of fire reaction.

SYSTEM TC – FIRE-RESISTANT PIGMENTED POLYURETHANE SYSTEM

WHITE POLYURETHANE BASECOAT TU 22/13: two component Basecoat which offers excellent build, good wettability of the pore and good application. Good resistance to removal. It is applied manually by spray. Catalyze with TH 333.

CLEAR POLYURETHANE TOPCOAT TZ 22**: highly versatile two component Topcoat, with good resistance to scratches and excellent softness. It is easy to apply manually by spray and curtain coater. Catalyze with TH 333. It can be pigmented with solvent-based polyurethane Pastes, as indicated in the technical sheet.

The TC system has obtained the following certification:
- UNI 9796 M D.06/03/92 Ministry of the Interiors, homologation no. BO1159PVI100003 Class 1 of fire reaction.

NOTE: the complete system is indicated with initials TA, TB, TC and TD: products, catalysis and application weight. It is extremely important to follow the instructions contained in the technical sheets to ensure Class 1 of Fire Reaction and therefore the validity of the homologation.

SYSTEM TD - FIRE-RESISTANT WHITE WATER-BASED SYSTEM

WHITE WATER-BASED BASECOAT-TOPCOAT AF 22/13: it is a coat on coat product with mural effect, suitable for exhibition stands' panels. It is applied manually by spray, brush and roller.

The TD system has obtained the following certification:
- UNI 9796 M D.06/03/92 Ministry of the Interiors. Homologation no. BO1159PVI100004 Class 1 of fire reaction.

SYSTEM	SUBSTRATE®	BASECOAT	TOPCOAT	TOTAL APPLICATION WEIGHT	HOMOLOGATION
TA Clear polyurethane	Various (**)	TU 22 catalized with TH 222 Obligatory application weight 2x150 gr/m q	TZ 22** catalized with TH 222 Obligatory application weight 1x150 gr/m q	450 gr/m q	Homologation nr. BO1159PVI100001 from 15/11/1996
TB White polyurethane	Various (**)	TU 22/13 catalized with TH 333 Obligatory application weight 2x150 gr/m q	TZ 22**/13 catalized with TH 333 Obligatory application weight 1x150 gr/m q	450 gr/m q	Homologation nr. BO1159PVI100002 from 18/02/1997
TC Pigmented polyurethane	Various (**)	TU 22/13 catalized with TH 333 Obligatory application weight 2x150 gr/m q	TZ 22** + Polyurethane Pastes catalysed with TH 333 Obligatory application weight 1x150 gr/m q	450 gr/m q	Homologation nr. BO1159PVI100003 from 22/02/2000
TD Water-based White	Various (**)	AF 22/13 thinning ratio 20% Obligatory application weight 1x200 gr/m q	AF 22/13 thinning ratio 20% Obligatory application weight 1x200 gr/m q	400 gr/m q	Homologation nr. BO1159PVI100004 from 05/09/2000

® See note on page 9.

(**) The regulations exclude the use of the following:

1. Veneers fixed with thermo-plastic glues, as in the event of a fire these may become detached, exposing unprotected substrate which will contribute to the fire and permit flame spread.
2. Substrates containing hollow cores close to the surface, including air cavities (e.g. rattan, chipboard) or constucted with other materials of a heterogeneous nature. As heating within the board in the presence of air can permit fire to spread behind the surface within the substrate; additionally, any air cells present in the substrate will expand when subject to heat causing damage to the protective coating and reducing its protection.

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

U

WATER-BASED TOPCOAT AT 99:** see page 10.

WATER-BASED EXTRUDER PLASTER GA 820: for extruder use, ready to use, or diluted to 5-10% with water. Available in four different colours: Red, White, Black and Yellow Ochre. Sanding can be done manually and by machine.

WATER-BASED BASECOAT FOR EXTRUDER USE GA 825/N0: neutral extruder Basecoat with good wettability characteristics, quick to dry and sand. It can be pigmented with concentrated water-based Pastes XA 2006.

NITROCELLULOSE EXTRUDER PLASTER GS 535: Basecoat for the preparation of rods, which is applied with a bar-drawing bench. Ready to use, or diluted to 5-10% with DT 436.

EXTRUDER PIGMENTED POLYURETHANE BASECOAT GT 920: Basecoat without the "X" symbol on the label representing harmful. As opposed to the other products of the series, it is the quickest drying, the most resistant to over-coating and the most suitable to be sanded with Scotch-Brite.

HIGH GLOSS NITROCELLULOSE TOPCOAT SL 230: see page 14.

GLOSS POLYURETHANE PIGMENTED TOPCOATS TL 99: see page 36.

PIGMENTED POLYURETHANE BASECOAT FOR FRAMES TU 202: Basecoat that dries quickly, with good elasticity, wettability and build.

MATT POLYURETHANE LACQUERED TOPCOATS TZ 99:** see page 36.

CONCENTRATED WATER-BASED PASTES XA 2006: see page 10.

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SYSTEM	BASECOAT	TOPCOAT	ALTERNATIVE PRODUCTS	
U1 Polyurethane matt by spray	TU 202 thinning ratio up to 10%	TZ 99** thinning ratio 20-30%		
U2 Extruder solvent-based	GT 920	TZ 99** matt by spray thinning ratio 20-30% TL 99 gloss by spray thinning ratio 20-70%	Extruder nitrocellulose Basecoat GS 535 Glossy nitrocellulose Topcoat, spray-applied through cold and hot stamping process SL 230 thinning ratio 20-30%	
U3 Extruder matt water-based HYDROPLUS	GA 825/N0+ XA 2006 Pastes or GA 820	AT 99** by spray		

USEFUL INFORMATION FOR USING PRODUCTS FROM SYSTEM >

GLOSS POLYURETHANE PIGMENTED TOPCOATS TL 99: see page 36.

GLOSSY ANTI-SCRATCH THIXOTROPIC TL 345: see page 14.

POLYURETHANE UNDERCOAT TU 288: extreme build lacquered Undercoat. It is the ideal base for the antique Stains and shading treatment to create the "fake-wood" effect or other effects on rigid polyurethane. It can be applied by spray.

PRIMER FOR HIGH DENSITY, RIGID POLYURETHANE FOAM TU 571: Primer with high build with the good adhesion to high density printed foam polyurethane. Adhesion will improve based on how efficiently the printed part is washed (washing is needed to remove the releasing agent).

POLYURETHANE TOPCOAT TZ 36:** see page 10.

MATT POLYURETHANE LACQUERED TOPCOATS TZ 99:** see page 36.

GLAZE XP 1950: see page 10.

POLYURETHANE NEUTRAL BINDER FOR UNDERCOAT XT 288/N0: extreme build neutral Binder, which can be pigmented with solvent-based Pastes, it is the ideal base for the antique Stains and shading treatment to create the "fake-wood" effect or other effects on foam polyurethane. It can be applied through spray.

SYSTEM	PRIMER	UNDERCOAT	GLAZE	TOPCOAT	
V1 Gloss false wood shades	TU 571 thinning ratio 20-30%	TU 288 thinning ratio 10-30% or XT 288/N0+ solvent-based Pastes thinning ratio 20%	XP 1950	TL 345 thinning ratio 20-40%	
V2 Matt false wood shades	TU 571 thinning ratio 20-30%	TU 288 thinning ratio 10-30% or XT 288/N0+ solvent-based Pastes thinning ratio 20%	XP 1950	TZ 36** thinning ratio 10%	
V3 Gloss lacquer	TU 571 thinning ratio 20-30%	TU 288 thinning ratio 10-30% or XT 288/N0+ solvent-based Pastes thinning ratio 20%		TL 99 White and other colours thinning ratio 50-100%	
V4 Matt lacquer	TU 571 thinning ratio 20-30%	TU 288 thinning ratio 10-30% or XT 288/N0+ solvent-based Pastes thinning ratio 20%		TZ 99** White and other colours thinning ratio 10-30%	

TABLE OF SEALERS

TYPE	FUNCTION	APPLICATION/ WEIGHT	INTERVAL BETWEEN COATS WITHOUT SANDING (**)	NO. OF COATS	OVERCOAT WITH
TR 4027 with 20% Hardener XT 4028 and Thinner DT 1150 at 50-100%	Sealer for exotic woods (Rosewood, Teak). Blocks the wood oils, allowing regular hardening of polyester.	Spray 50-70 gr/m^2 Roller coater 10 gr/m^2	1 hour min 4 hours max	1-3	Wax and wax-free polyesters and polyurethane
TU 565 with Hardener TH 765 at 100% and Thinner DT 1150 at 0-30%	Used in general, for woods with difficult pores (Franquette, Obeche, Oak, Walnut). Wets the pores perfectly and clogs them, thereby preventing small holes and blisters on the subsequent Basecoat.	Spray 50-70 gr/m^2	1 hour min 4 hours max	1-5	Wax-free polyesters, polyurethane Basecoats and Topcoats
TR 5008 with Hardener TH 2580 at 40% or TH 1400 at 50% and Thinner DT 1150 at 50%	For laminates and melamine papers. Used for overall system adhesion. (*)	Spray 50-70 gr/m^2 Roller coater 20 gr/m^2	1 hour min 4 hours max	1	Wax-free polyesters, polyurethane Basecoats and Topcoats
TU 100/N0 with Hardener TH 793 at 30% and Thinner DT 1150 at 50%	For MDF. Prevents over-absorption on the edges, stabilises movements, helps sanding moulded zones (edges, grooves, etc.).	Spray 50-100 gr/m^2	Light sanding 20 minutes after the coating	1	Wax-free polyesters, polyurethane Basecoats and Topcoats

(*) For every type of paper and laminate, always check adhesion with the complete system to be used and repeat the test every time the paper or laminate supply is changed. The Sealer TR 5008 is not suitable for systems requiring a high resistance to yellowing (e.g. white melamine to be coated with clear coating).

(**) Sanding is required when the maximum period has elapsed.

TABLE OF THINNERS

TYPE	GENERAL CHARACTERISTICS
DE 703	For general use with air-drying coatings.
DP 695	For general use with polyester coatings. Free of aromatic solvents.
DP 705	Reactive Thinner for polyester coatings to be used in a max quantity of 5% when a higher flow is required such as during summer or in tropical areas, it prevents pin holes during application of the polyester Basecoat.
DS 1105	General use for nitrocellulose coatings.
DT 4	Extremely quick Thinner for polyurethane coatings. It extends the pot-life significantly. Free of aromatic solvents.
DT 13	Very quick Thinner, with good wettability, free of aromatic solvents.
DT 40	Average Thinner, free of aromatic solvents, extremely wetting.
DT 90	Average polyurethane Thinner. It facilitates the floating and levelling of the matting agent.
DT 424	Slow Thinner specific for glossy products. Free of aromatic solvents.
DT 441	Retardant Additive particularly useful for the application by spray of gloss lacquered products in summer months.
DT 1146	Retardant Thinner for polyurethane coatings, suitable for summer months.
DT 1150	General use for polyurethane coatings.
DX 983	Thinner for Paints applied by spray and roller. It is a retardant and improves substrate wetting.
DX 986	Wetting Thinner for solvent-based Stains. Free of aromatic solvents.
DX 1131	Thinner for solvent-based Stains and Glazes and polyesters. It dries very quickly. It is suitable for polyester products. Free of aromatic solvents.

TABLE OF POLYURETHANE THINNERS CHEMICAL CHARACTERISTICS

	SPECIFIC GRAVITY (gr/cm^3)	FLASH POINT (°C)	EVAPORATION RATE ⊛1	SOLVENT POWER ⊛2	RESISTIVITY ⊛3	POT-LIFE ⊛4
DT 4	0.800	–4	8.5	10	8	10
DT 13	0.836	+1	7	9	40	8
DT 40	0.882	+23	5	6.5	700	6
DT 90	0.840	+36	4	4	300	6
DT 424	0.845	+23	4	6	50	6
DT 441	0.940	+59	2	5	700	3
DT 1146	0.875	+1	5	7	30	6.5
DT 1150	0.850	–5	7.5	8	10	7

⊛1 Evaporation rate is represented by a number in a scale of 1 to 10, where 10 is the quickest solvent and 1 is the slowest one.

⊛2 The solvent power refers to the ability of reducing the coating viscosity. A Thinner with high value can give a higher viscosity reduction (e.g. DT 4).

⊛3 Resistivity is expressed in million ohm x cm and is the opposite of conductivity. This value is useful in electrostatic applications.

⊛4 A Thinner with high value (e.g. DT 4) exhibits the highest ability to extend the pot-life of a polyurethane coating.

TABLE OF POLYURETHANE, ACRYLIC AND WATER-BASED HARDENERS

TYPE	DESCRIPTION	SOLID CONTENT
TH 146	Hardener for polyurethanes for parquet floors.	25%
TH 711	High wettability Hardener for matt Topcoats.	28%
TH 713	High wettability Hardener for matt Topcoats and Basecoats.	21%
TH 720	Limited-yellowing Hardener.	26%
TH 727	High solids-content and wettability Hardener for Basecoats.	32%
TH 733	Hardener for gloss Topcoats.	49%
TH 735	Limited-yellowing Hardener for gloss Topcoats.	44%
TH 755	Aromatic-free Hardener for matt Topcoats and Basecoats.	27%
TH 759	Limited-yellowing Hardener for matt coatings.	24%
TH 760	Hardener for gloss Topcoats.	42%
TH 765	Hardener for TU 217/13 and for TU 565.	35%
TH 773	Hardener for matt Topcoats and Basecoats.	28%
TH 775	Hardener for matt Topcoats and Basecoats.	28%
TH 780	Hardener for Basecoats. (good elasticity)	28%
TH 790	Non-yellowing Hardener for air-drying Topcoats and Basecoats.	36%
TH 793	Hardener for matt Topcoats and Primers.	25%
TH 805	Low-cost Hardener for matt Topcoats and Basecoats.	24%
TH 1400	Adhesion-promoter Hardener for Sealers and Primers.	50%
TH 2513	Fast high solids content Hardener.	31%
TH 2580	Hardener which promotes adhesion for applications on melamine papers.	20%

Increasing speed ⇩
TH 2513
TH 805
TH 727
TH 793
TH 775
TH 755
TH 711
TH 773
TH 720
TH 759
TH 780
TH 713

WATER-BASED HARDENERS

TYPE	DESCRIPTION	SOLID CONTENT
AH 1545	Hardener for highly-reactive water-based products.	80%
AH 1547	Hardener for products used on parquet.	78%
AH 1550	Hardener for products with high pot-life.	63%

TABLE OF AUXILIARY PRODUCTS AND SOLVENT-BASED ADDITIVES

TYPE	GENERAL CHARACTERISTICS
XB 241	WHITENING SOLUTION for light woods (Ash, Beech, etc) and for dark and tannic woods (Walnut, Oak, Chestnut, etc). To use in combination with hydrogen peroxide.
XE 197	ANTI-WOOD WORM and anti-parasite solution for wood. Medical-surgical aid. Registration no. 19152 of the Ministry of Health.
XE 4150/92	IRON OXIDE WALNUT PASTE to colour water-based coatings of the EZ series and increase their resistance to ultraviolet rays. Dosage: 0.5-2%.
XP 95	GEL REMOVER to remove old coatings. It is applied through brush in thick films (~ 2mm.) and after about 30 minutes, the film is removed with a spatula. Finaly, wash the wood with Thinner DS 1105 and sand prior to the following application.
XS 7	ANTI-BLOOMING ADDITIVE for nitrocellulose coatings (dosage: 5-10% with DS 1105).
XT 300	ANTICISSING ADDITIVE for polyurethane coatings. Dosage: 1-3%.
XT 901	PAINT REMOVING THINNER to remove encrustations from pipes, spray gun nozzles, curtain coaters, etc.
XT 4037	ADDITIVE for polyurethane Topcoats, to increase the surface slipperiness and resistance to scratches. Dose of use: 1-4%.
XT 4039	MATTING PASTE for polyurethanes. Dosage: 1-5%.

TABLE OF AUXILIARY PRODUCTS AND WATERBORNE ADDITIVES

TYPE	GENERAL CHARACTERISTICS
XA 40X	Texturizing PASTE for water-based products.
XA 425/73	Fine Silver metalized water-based PASTE. Suggested dosage: 5-10%.
XA 426/34	Water-based PASTE of Gold colour. Suggested dosage: 5-10%.
XA 426/73	Thick Silver metalized water-based PASTE. Suggested dosage: 5-10%.
XA 481	Water-based FILLER for filling cracks (slightly dry). Suitable for outdoor handmade articles.
XA 2006	PIGMENT water-based PASTES. Suggested dosage: 15%.
XA 4009	MATTING Pastes for water-based products.
XA 4017	PH corrector ADDITIVE for water-based products.
XA 4021	ADDITIVE that prevents micro-foam. Maximum dosage 1%.
XA 4024	Highly performing anti-foam ADDITIVE for Primers. Maximum dosage 0.5%.
XA 4026	Retardant ADDITIVE for water-based products.
XA 4030	Anti-foam ADDITIVE for booths. Suggested dosage 1-2%.
XA 4044/66, 90, 92, 93	IRON OXIDE PASTES to lightly colour water-based Topcoats, increasing their resistance against ultraviolet rays. Dosage of use: 0.5-3%.
XA 4057	Anti cissing ADDITIVE for water-based products. Dosage: 0.2-0.5%.
XA 4060	DETERGENT to clean the equipment used to apply water-based coatings.
XA 4066	Thickening ADDITIVE for water-based products. Suggested dosage: 1-5%.
XA 4080	CROSS-LINKING AGENT and hardener for water-based coatings. It increases hardness and resistance to chemicals and to 'blocking'. Dosage: 0.5-1%.
XA 4095	Cross-linker ADDITIVE which promotes the adhesion of water-based products on glass or critical surfaces. Maximum dosage: 5%.
XX 4130	BINDER for water-based Stains applied through dipping. It solves the problem of dark patches in absorbant areas of the wood (“head” areas).

PRODUCT CERTIFICATION

CATAS QUALITY AWARD
COATING SYSTEM FOR EXTERIOR WOOD "STABLE" PRODUCTS.
Cycle compliant with UNII ENV 927-2/2000 Performance Specification and other additional requirements foreseen by the technical specification of the CATAS QUALITY AWARD COATING SYSTEM FOR EXTERIOR WOOD for coating cycles for outdoor wood.

CATAS QUALITY AWARD PLUS
COATING SYSTEM FOR EXTERIOR WOOD "STABLE" PRODUCTS.
Cycle compliant with UNII ENV 927-2/2 and other additional requirements foreseen by the regulation of the CATAS QUALITY AWARD PLUS COATING SYSTEM FOR EXTERIOR WOOD for coating cycles for outdoor wood in the STABLE PRODUCTS category. The wording PLUS indicates that the certified cycle meets the requirements set forth by the natural aging test for a double exposure time (2 years) compared to the one foreseen by EN 927-3.

CATAS WKI PREMIUM
COATINGS SYSTEMS FOR EXTERIOR WOOD.
Cycle compliant with EN 927-2 and additional requirements foreseen by the technical specification of the CATAS WKI PREMIUM COATING SYSTEMS FOR EXTERIOR WOOD

ECOLABEL
European Community label of ecological quality or Ecolabel, which logo is represented by a flower. It is a special certifying system created to help European consumers to choose more ecological products and services, which better respect the environment.

Q-LAB WEATHERING RESEARCH SERVICE
Products for outdoor wood subject to the artificial accelerated aging test, according to EN 927-6 standard, and to natural aging test, according to EN 927-3 standard.

SAYERLACK®
INNOVATIVE WOOD SOLUTIONS

COATINGS GLOSSARY

A

Abrasion resistance

Ability of a coating film to resist the impact and friction caused by abrasives.

Abrasive

Substance suitable for carving and eroding, due to its hardness and shape. Used to smooth bare wood or Basecoat before coating.

Abrasive sponging

Procedure for removing defects of a surface by fibrous, metal or synthetic abrasive materials.

Accelerated weathering

Artificial and accelerated aging of the coated item. Special equipment that reproduces the conditions of natural outdoor exposure, such as sun and rain, is used to test the life of the coating film. This equipment can simulate long-term conditions in few days/hours.

Adhesion

Resistance exhibited by a dry coating film to the action of detaching it from the wood surface or from an underlying coat of coating.

Airless

See “Spray gun”.

Air-mix

See “Spray gun”.

Ambient humidity

Relative humidity of the coating environment, which should not exceed 85%.

Antique Stains
Stains applied onto Basecoats and rubbed away with Scotch-Brite or wire wool to produce special effects of shading into moulded or grooved areas, giving an antique appearance to the piece of furniture.

Application methods

Adaptability of a coating to a given coating systems.

B

Bactericide

Chemicals that protect coating and wood from the action of micro-organisms.

Basecoat

This is also called Sealer and has the following functions: 1) filling the wood pores - 2) allowing sanding, preserving the item colour - 3) realising a good bonding of any other Basecoats or of the Topcoat, thanks to "micro-streaks" caused by sanding.

A properly chosen and applied Basecoat is critical for the final result of the entire coating system. Based on the user's needs and on the desired result, it is possible to apply one or more Basecoats.
A Basecoat may be single-component (as with nitrocellulose and waterborne ones), two-component (as with polyurethane ones) and multi-component (as with polyester ones).

Basic weight

Quantity of coating to be applied, expressed in grams/m^2 (g/m^2).

Binder

Solution or dispersion of resin in a solvent or water. This is usually added to Stains to enhance certain features (e.g. pore marking) to prevent over-absorption and bleeding.

Bleaching

Defect of a coating caused by the incorporation of dampness and/or air while drying, or by a partial detachment from the support, or by the separation of one or more components of the coating. It can be caused by heat or by atmospheric agents.

Bleaching (of wood)

Treatment usually carried out with hydrogen peroxide and ammonia to remove dark Stains and spots and lighten the colour of wood.

Bleeding

Phenomenon that occurs when the dyes of a Stains are re-dissolved by the Basecoat applied on it, leaving dark spots on the surface. To prevent bleeding, the colours used over the Basecoat should be resistant to its solvents.

Blistering

A defect that occurs when small blisters appear during drying if solvent or air are trapped in the film, or if chemical drying is inhibited by substances contained in the substrate.

Blocking

Phenomenon that occurs when two coated surfaces in direct contact at high temperatures and pressure stick together.

Bonding

Adherence between a coating film and the underlying material to which it is applied.

Brittleness

Tendency of a dried film to crack or flake when bent or scratched. It is the opposite of elasticity.

Brush

Tool for the manual application of coatings suitable for this method. It consists of a support provided with a handle on which bristles or fibres (either animal or synthetic) are set.

Brush rollers

Cylinders with a central axis to which filaments of different nature are fixed. Those made of natural or vegetal fibre bristles are used to remove excess Stains (not dried yet) and obtain the so-called "tear effect". Nylon abrasive ones are used for dry-sanding Basecoats. Those for polishing polyurethane or polyester coatings are made up of cylinders covered with tightly tied cloth rings. Polishing is carried out using abrasive Waxes or Pastes.

Build

Ability of the coating to impart its colour to the wood, hiding the original colour.

C

Casings

General term used to denote all types of frames and relevant accessories.
A distinction must be made between casings installed in a house and those installed outdoors, for obvious different requirements as regards weathering protection.

Catalysis ratio

Incorrect term indicating how much hardener must be added to 100 parts of coating to obtain the cross-linking in two-component products.

Chalking

Condition that occurs when loose powder forms on the surface of a dried film. It is caused by the deterioration of the Binder and is usually observed on outdoor exposure.

Charge

Substances used to change the chemical-mechanical resistance features of coatings. Insoluble in binders like pigments, on the other hand they exhibit no build and colouring effect.

Chipboard

Agglomerate of wood particles bonded by special glue and pressed to obtain flat surfaces (commonly called chipboard panels).

Cissing
Defect of a coating film that occurs when the substrate is contaminated by incompatible chemicals around which the coating "withdraws" leaving some parts of the underlying substrate uncoated. This defect is generally referred to also as "cratering" or "fish eye".

Closed pore

"Closed pore coating" denotes an application of coatings that completely fills the wood pores.

Coalescent

This is a solvent for the water-dispersed polymer belonging to the glycol-ether family. It is added to water-based coatings to help the film formation at ambient temperature. The average coalescent percentage contained in a water-based coating is 2-5%.

Coating

Term used to denote non-pigmented coatings. They are divided into various families, of which the main ones are:
waterborne coatings - nitrocellulose coatings - polyurethane coatings - polyester coatings - air-drying coatings - acid cured coatings - acrylic coatings - UV coatings.

Coating system

All the operations required to paint timber, which could be exemplified as follows:
1) Staining/priming (or finishing) of the timber by Stains/Primers to make it of the desired colour and, in case of priming, to protect it from fungi.
2) Application of the Basecoat or Sealer.
3) Sanding
4) Application of the Topcoat, which may be clear or pigmented, gloss or matt, with various level of opacity according to the version.

Coating application system

There are different types of coating based on the application method used.
- Flow Coating: jet spraying of a coating, in a larger quantity than what required, which is made to drip, recovered and put into production again.
- Dipping: application by dipping the item to be coated into a tank, extracting it at a controlled speed to obtain an even coating.
- Brush: manual application by brush.
- Roller: see “Roller”.
- Spray: application of coating sprayed by gun or similar tool.
- Airless: see “Spray gun”.
- Cloth: manual application with a cloth soaked with product.
- Pad: see “Pad”.
- Extrusion: a wooden profile is made to pass in a coating bath contained in a special tank: the amount depends of the accuracy of an outline through which the outcoming profile passes.
- Vacuum extrusion: unlike the conventional extrusion, this uses a vacuum to determine the thickness, specific for UV coatings.
- Plunging: manual coating that differs from dipping in that the extraction speed is not controlled.
- Curtain coater: application of a coating fog that lays onto the item to be coated (arranged on a conveyor belt) falling from a head transversal to the belt.
- Reverse: see “Reverse roller coater”.
- Electrostatic: application performed by an electric field created between the spraying systems and the item to be coated (see “Spray gun”).

Coating porosity

Defect of a coating film consisting in the presence of microscopic pores that reach the wood.

Coating product

Liquid or powder product that when applied on a support forms a film exhibiting protective, decorative and/or special technique qualities. It can be single or two-component (if a cross-linking or hardening agent is required for hardening).

Cold-check

Ability of a coating film to resist to high and low temperature systems without cracking. It is expressed with the number of systems it can undergo.

Compatibility

Ability of two or more coating products to mix with each other.

Conditions for good painting

The environment must be free from dust and contaminants, with a temperature between 18 and 24°C and relative humidity from 40% to 75%. The wooden item must have a temperature between 18 and 22°C and relative humidity from 8% to 14%. The coating systems must be chosen in accordance with the type of item. The viscosity must be suitable for the application systems. The mixing (in two or more-component products) must be done according to the proportions indicated by the coating manufacturer. The items must be well prepared (sanded, cleaned and reduced, if intended to be worked on line). The drying tunnel, when available, must be at the required temperature. The application equipment (guns, pumps, pipes, fog coating devices) must be perfectly clean, in particular the compressor air must be dehydrated and oil-free. The coating must be well stirred before application.

Conductivity

Ability of a coating to conduct electric charges, inversely proportional to resistivity. This characteristic is used in the electrostatic application of coatings.

Covering

Feature of the coating to cover the support's irregularities and especially the sanding pores and streaks.

Cracking

Defect of a coating film resulting in breaks on its surface and/or in depth. It may be caused by:
- movements of the substrate that the coating film cannot stand;
- excess of hardening agents resulting in too fast drying and/or too brittle dry film;
- solvents still present in UV coatings when they are passed under UV lamps for immediate curing;
- improper coating system (failure to observe the drying times or use of coatings other than those recommended).

Cratering

See “Cissing”

Cross-linker

Additive to be added in percentages of 0.5-1.5% to waterborne coatings to improve their chemical resistance (e.g. to water, alcohol, coffee, oil, etc.). It acts by creating bonding bridges between the various chains of the polymer.

D

Density

Weight of a unit volume of a matter, normally expressed in grams/cm3 or in kg/dm3. In everyday language, the term “Specific weight” is often wrongly used as synonym.

Dipping

See “Coating application system”.

Direct gloss

Procedure that allows obtaining a glossy surface without polishing.
This reduces the processing time but requires expensive equipment (pressurised booths, suitable filtering systems, etc.) and very accurate control of temperature, air humidity, etc.

Drying

Phase during which volatile components (thinners, solvents, waters, coalescent) evaporate and the resin start to polymerise; it may occur: at room temperature, with hot air (30°C-60°C), with UV lamp or IR rays.

Drying carousel

A driven course of coated panel bearing trucks in a hot air tunnel, up to 60°C.

Drying time

Coating film drying time.

Dust free

Stage of the drying process when dust does not stick to the film anymore.

E

Elasticity

Ability of a coating to return to the shape it had before being subject to deforming stresses, without cracking.

Emulsion

A stable suspension of fine particles of a fluid or a polymer in another fluid, which is not normally miscible with the first one.
Typical examples are acrylic coatings in aqueous emulsion.

F

Fibre raising

Phenomenon caused by the contact between the water or solvent contained in the coating and the wood fibres that therefore tend to raise.

Filler

Product used for filling irregularities of the wood to be coated, with a high filling power and good sandability.

COATINGS GLOSSARY

Film

Thin layer of coating.

Fire retardant

Term defining a coating suitable for delaying combustion of the substrate on which it is applied, forming an insulating layer that restricts and delays the substrate's heating.

Flaking

Detachment of a coating film from wood or from an underlying film in the shape of flakes.

Floating

Defect that occurs when during drying, one or more components rise to the surface.

Flow Coating

Application of coatings by jet sprinkling, with the same results as dipping, but with the advantage of using less material and facilitating the colour change (see "Coating application system").

Fog coating machine

This machine emits a continuous fog of coating below which the items to be coated pass at programmed speeds.

Fungicide

A substance generally contained in the Primer that protects the wood from the action of moulds and fungi.

G

Gloss

Reflecting power of the coating towards the incident light.

Gloss degree

It indicates, in percentage, the ratio of incident light specularly reflected by the painted surface. It ranges between 0 (minimum gloss = no specular reflection of the incident light) and 100 (maximum gloss = specular reflection of the incident light); it should be noted that these values are purely indicative. Normally, the gloss degree of a coating is indicated with commercial terms, as follows:

Commercial terms	Gloss degrees
Deep matt	1 to 10
Matt	11 to 30
Medium matt	31 to 40
Semi matt	41 to 50
Semi gloss	51 to 80
High gloss	from 80

H

Heads

They form during the drying stage, when solvent and air cannot come out of the film that has generated an already hardened film on the surface.

Humidity

Humidity rate of the wooden item to be coated, which should range between 10% and 14% maximum, to allow a perfect filming of coating products.

I

Impregnant

Liquid coating product that penetrates in the wood pores, changing the characteristics of the surface without forming a film. It is used to protect the wood from moulds and fungi and in the coloured versions, to reduce the destructive action of solar radiations.

Impregnated paper

Artificial veneer consisting of a paper film, impregnated with resin. They can be of one colour, or copy wood grains and colours.

Incompatibility

Coatings, products or substances that cannot be mixed. Usually results in the separation of solid particles or turbidity of the mixture.

Intrados

The door frames to which the casings are hinged.

IR lamps

Lamps whose heat is used to speed up solvent evaporation and favour the drying of coats, and in particular of solvent coatings.

L

Light fastness

Ability of a coating or of a coated timber to retain its original colour when exposed to light. Sunlight, and particularly its UV part, can alter the colour of natural wood and Stains, producing yellowing of timber, and discoloration of Stains. The presence of antioxidants and UV absorbers slow down yellowing and discoloration. Also pigmented coatings (especially white) are sensitive to yellowing over time. Light fastness can be further increased by choosing appropriate hardeners, or special coating families (such as acrylic-polyurethane coatings).

M

MDF (Medium Density Fiberboard)

Agglomerate of fine wood particles bonded by special glue and pressed to obtain flat surfaces. Compared to chipboard (see) Medium Density Fiberboard is easier to coat and exhibits a higher chemical-physical resistance.

Mixing

A process through which two or more components of coating products, suitably blended, start to cross-link, that is, to become hard to form the solid film. In mixing it is important to observe the prescribed doses for the various components and the process time of the mixed part (see “Pot-life”).

N

Neutral

A colour is neutral when it is neither clear not pigmented. A neutral coating applied on a wooden surface forms a film with an opalescent effect that lets you catch a glimpse of the wood as if it were dimmed. Neutral coatings are normally used as bases for pigmented lacquers.

O

Opacity

Non-reflection of the incident light by the coat film. See “Gloss”.

Open pore

"Open pore coating" denotes an application of coatings that does not completely fill the wood pores, keeping their outline also at the end of the system.

Orange peel

Surface defect consisting in the dimpled appearance of the dry coating film resembling the peel of an orange.

Oven

Plant for forced drying of coatings. See “Drying”, which is the most important element for distinguishing the main types of ovens.

Overspray

In spray applications, quantity of coating that does not fall onto the item to be coated and is therefore wasted, with ensuing environmental and economical disadvantages.

P

Pad

Cloth containing a mass of wool or cotton threads which, conveniently soaked, is used to coat antique furniture with proper coating.

Paint

A term that generally denotes a pigmented coating that is applied to a support and forms a building film.

Photoinitiator

Compound that following the exposure to ultraviolet light is capable of releasing substances that activate polyester and acrylic UV coating polymerisation reactions.

Photostability

Ability of a coating to preserve its colour if exposed to light.

Pigments

Coloured substances that give the dried film the desired chromatic effect (they can be both organic or inorganic and are not soluble in solvents). In the practice, when added to a clear coating, they give it both colour and hiding power.

Pin holes

Defects of a dried film, which results in small holes in the film.

Polishing

Operation intended to remove dust particles from the surfaces using fabric or fibre brushes.

Pore bypassing

Defect of a coating that does not penetrate into the pores but remains along its edges, thereby impairing its flow.

Pot-life

Period of time within which it is possible to apply the coating, before polymerisation causes a viscosity increase which makes application impossible.

Pre-compound

A veneer of natural woods obtained by gluing rotary-cut veneers to one another. Different grains are obtained with differently angled cutting surfaces.

Pressurisation

Treatment of the air of a coating workshop, with filtering of the inlet air, whose pressure is higher than ambient one. This is performed to purify the air from dust particles.

Pre-stained

A veneer already stained by the manufacturer.

Pricks marking

Defect of a coating film caused by the presence of granules on the surface.

Primer

Term that generally indicates a pigmented product used as Basecoat and featuring a high adhesion to the support.

Print- free

Drying time after which when a light pressure is exerted on the coating film, no stickiness is felt.

Profiles

Term that generally refers to an item with a prevailing linear dimension, variedly shaped.

Pulling up

Defect that is found on not perfectly seasoned woods, consisting in the raising of the fibres following the action of aqueous products.

R

Radical catchers

Chemical usually added to Topcoats that block the ultra-violet rays of the solar spectrum before they reach the substrate. Addition of UV absorbers enhances wood protection and provides longer service life of the coating film.

Removal

This phenomenon occurs when the Topcoat solvent penetrated through the Basecoat into the wood pores, damages the Basecoat and raises it, thus producing swelling.

Retardant

Generally a high-boiling solvent that delays the film forming process and helps the film flow.

Reverse roller coater

This machine is made up of two rollers (spreading roller and gripping roller) that rotate in opposite direction, thereby allowing more spreading evenness.

Roller

There are two roller applications:
1) Roller coater in automatic coating lines, made up of a pair of two rollers, a spreading and a gripping one. By changing the pressure of the spreading roller on the wood, as well as its speed, the application weight (see) of the product changes as well.
2) Revolving brush for the manual application of coatings, suitable to be used on flat surfaces. Consisting of a cylinder covered with synthetic or natural bristles rotating on the central pin fixed to the handle.

Running

Drips occurring during coating application on vertical items. It is usually due to: excess coating, too fluid product, lack of thixotropy.

S

Sanding

Operation carried out using sandpaper or other abrasive to prepare the bare timber for the first coat of paint or the base coat for the Topcoat. In some coating systems it is possible to carry out sanding operations also on the impregnant or on intermediate applications of base coats.

Sandpaper

This is used for sanding timber to be coated or to sand previously applied coats of paint. This material is in the form of grains of different size, defined by a number that denotes the number of meshes in a square inch (6.45 cm2) of the sieve, through which abrasive grains identified by such number have passed.
The following table shows the most common sand paper types:

Paper grit	Definition
40 - 60 - 80	Very coarse
100 - 120 - 150	Coarse
180 - 200 - 240	Medium
280 - 320 - 360	Fine
400 - 500 - 600	Very fine
700 - 800 - 900	Ultra fine

Scaling

Detachment of the coating film from wood, in the shape of scales, following cracking.

Scotch-Brite

Abrasive lapping wheel used to sand profiles.

Sealer

Basecoat or Primer applied to the item to prevent substances from passing to the following coating layers. It also denotes a product to apply to difficult items, such as melamine papers, plastic sections, special woods, etc., as preparation for a normal system.

Self-priming

This is the ability of the waste formed in the application of synthetic coatings of self-priming. This phenomenon is favoured by an ambient temperature of more than 25 - 30 °C. Always avoid using dry booths and at the end of a working day, move the waste outdoors, collecting it into open-air drums filled with water.

Shading

See “Stain retouch”.

Shrinkage

Contraction of a coating film during the drying process.

Smoothness

Pleasant touch of a coated surface felt by passing the hand's back on it.

Solid content

This is the percentage of non-volatile matter of the coating that remains on the film after drying. a high covering is obtained with more than 40% of solid content; 35%-40% gives a medium high covering, while less than 35% gives a medium low covering. The solid content is generally low for open-pore coating systems, high for closed- and semi-closed pore ones.

Solvent

Liquid that dissolves and keeps the resins in solvent coated products in solution. It reduces viscosity and helps application and flow of the coating. It completely evaporates during drying.

Solvent-based coatings

These coatings are soluble in solvents, and dry up very quickly compared to water-based coatings. Unlike the latter, they cause colour changes based on the amounts applied on the support.

Specific weight
Weight of the volume unit of a material. Since the weight of a material is given by its mass multiplied by acceleration, unlike Density (see), the specific weight changes with the acceleration. So, while density is a comparable value, specific weight is only acceleration being equal (gravity acceleration varies according to altitude and latitude).

Spray booth

Plant in which coating is sprayed. It can be open (if without roof and walls) or closed (if provided only with opening for the passage of work pieces). According to the direction of airflows, it may have vertical, oblique or horizontal ventilation. Moreover, it can be air-conditioned or pressurised (see “Pressurisation”).
Based on the removal of excess paint particles, it can be humid (e.g. water screen) or dry (e.g. filters).

Spray gun

Tool used to spray the coating. It is available in several versions differing in their construction features and in the type of atomization used. They can be manual and for individual use, or mounted on supports, fixed or program-operated, or robot-controlled. The main types of guns are:
- Traditional air spray with cup
- Air gun with under-pressure nozzle
- Airless, for airless spraying of the atomized moisture at medium-high and high variable pressures (about 120 to 250 atm.)
- Air-mix: to spray at intermediate atomization conditions, between air and airless
- Electrostatic, air, or airmix spray gun that uses the attraction between the item to be coated and the coating, which is given an electric charge opposite to that of the item itself of
- HVPL (High Volume Low Pressure): they use a large low-pressure air volume to atomise the product. This allows several advantages related to both the enhanced efficiency of transfer and to the improved finish quality.

Spreading rate

Number of square metres that may be coated with 1 kg of ready to use coating.

Stackability

Drying time required for stacking coated items without marking or sticking.

Stain retouch

Operation that colours spots where an excessive sanding has removed the Basecoat, by applying a specific Stains on an already sanded Basecoat. This process is used to balance any differences of colours found after the Basecoat application.

Stratification

Lack of adhesion between different applications of the same coating product.

Substrate

See “Support”. Another term to indicate a surface to be coated.

Support

Any solid surface intended to be coated.

Surface hardness

Resistance exhibited by a coating to mechanical stresses (scratches, impacts, friction, pressures, etc.).

Swelling

Alteration of a coating film following the absorption of liquids and vapours.

T

Thermo-hygrometer

Instrument consisting of a thermometer and a hygrometer to respectively measure the

temperature and the relative humidity of the coating environment, also called environmental factors (see “Conditions for good painting”).

Thickness gauge

Easy to use instrument that measures the wet thickness of coating when applied.

Thinner

Fluid that changes the coating's Viscosity and drying time to improve its application and help the film flow. Specific Thinners should be used for each type of product due to compatibility reasons.
Thinners are characterised by solvency (ability to decrease viscosity of the coating), speed of evaporation, resistance and ability to increase the pot life. Each type of coating requires specific Thinners (polyurethane coatings require alcohol-free Thinners with less than 0.5% water). The choice of a proper Thinner, which also depends on the application method, is very important to obtain a perfect result.

Thinning ratio

Quantity of thinner expressed in parts (by weight and volume) that is added to 100 parts of a coating to bring it to the desired application viscosity.

Thixotropy

Property of a coating to be applied on vertical items without running.

TLV

Threshold limit value of the substances, indicated at item 8 of the Sayerlack Safety Sheet. It indicates the concentrations in p.p.m. (parts per million) or mg/m3 of the substances dispersed in the air at which most workers can be exposed repeatedly without negative effects on health: the higher the TLV, the more hazardous a substance.
TLV-TWA: threshold limit value - time weighted average.
TLV-STEL: threshold limit value - short time exposure limit.

Topcoat

Final coat applied in the coating system. It can be clear or pigmented and gloss or matt.

Transparency

Ability of a coating not to hide the appearance and the colour of a substrate.

U

UV absorber

Chemical usually added to Topcoats that block the ultra-violet rays of the solar spectrum before they reach the substrate. Addition of UV absorbers enhances wood protection and provides longer service life of the coating film.

UNI

Standards among which several relate to the tests for assessing the quality of the finished surface of coated products. UNI EN standards are acknowledged at a European level. For further information, see www.uni.com.

UN EN 12720 Evaluation of surface resistance to cold fluids.
UN EN 12721 Evaluation of surface resistance to damp heat.
UN EN 12722 Evaluation of resistance to dry heat.
UN 9115 Surface behaviour to abrasion wear.
UN 9149 Determination of the surface specular reflection.
UN 9241 Determination of surface resistance to cigarette action.
UN 9300 Determination of surface tendency to retain dirt.
UN 9427 Determination of surface resistance to light.
UN 9428 Determination of surface resistance to scratching.
UN 9429 Determination of surface resistance to sudden changes of temperature.
UNI 9240 Determination of the adhesion according to the dry coating thickness – Traction test.
UNI 11216 Performance requirements of coated wood surfaces.
UN EN 71-3 Safety of toys. Migration of some elements.
UNI EN ISO 2409 Evaluation of the adhesion according to the dry coating thickness. Grid test

UV lamps

Lamps emitting radiations that are capable of hardening some types of resin-based coatings such as unsaturated polyester and acrylic coatings, etc.

V

Vacuum
Priming method especially suitable for casings, consisting of the following steps:
1) Negative pressure in autoclave to remove most of the air from the wood intercellular gaps.
2) Inlet of the priming product in the autoclave, which gradually reaches the atmospheric pressure, thereby helping the Primer penetration, due to the difference of pressure produced by the previous vacuum treatment. The intercellular gap vacuum helps a deep penetration.
3) Emptying of the autoclave and final vacuum, which is higher than the first stage and therefore helps the exit of excess Primer.
4) The item is returned to atmospheric pressure, which causes a return of the Primer still on the surface, with consequent drying of the same.

Verticality

See “Thixotropy”.

Viscosity

Fluidity degree of a coating that can be modified by adding solvents. It is very important for coating workability, according to the application method used: it is usually low for spraying, immersion or flow coating, medium for curtain coating and high for vertical spraying and roller coating.
It is usually measured by "DIN CUP" viscometers. These viscometers are 100 cm3 cylindrical containers with a conic bottom provided with a 2, 4 or 8 mm hole. For example, if the diameter is 4 mm, the cup is called DIN no. 4.
The cup is filled with coating and its discharge time expressed in seconds is the measure of viscosity.
The discharge time (= viscosity) must be measured by a chronometer.
Since viscosity is affected by test temperature, viscosity values in technical reports usually refer to a standard measurement temperature of 20°C.

W

Waterborne coatings
These coatings are thinned in water, which has a high affinity with wood and therefore enhances its grain and hues, thanks to its deep penetration. They can be applied by dipping, cloth, spray, and flow-coating. In the brush application, the excess of coating must be removed by a dry brush, a sponge or a cloth, according to the grain direction.

Weathering resistance

Resistance of the coating film towards the erosion and corrosion of atmospheric agents. This characteristic varies according to the wood and coating used, based on the item installation place.

White pores

Defect of a coating (nearly always due to the detachment of the film from the substrate) causing white-silver spots between wood and coating.

Whitening (of a coating)

See “Bleaching”.

Wrinkling

Defect of a coating occurring when a film dries on the surface more quickly than below a surface.

Y

Yellowing resistance

Ability of the coating film to retain its colour under the action of light. Yellowing usually refers to white lacquered coatings.

NOTES

NOTES

We kindly thank  for providing us his photos

02/2012

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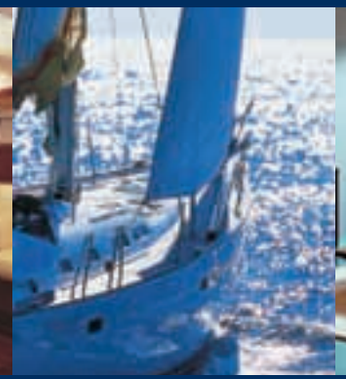


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