

The logo consists of the word "ILVA" in a bold, black, sans-serif font, centered within a black rectangular border.

ILVA

**KLIMA HIGH PERFORMANCE
WATER-BASED PRODUCTS
FOR EXTERIOR**

**IC&S
P.O. BOX 10845
LANCASTER, PA 17605
800-220-4035**

**ILVA
IVM CHEMICALS, srl
INTERNATIONAL WOOD COATINGS DIV.
PARONA, ITALY**

ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: HNS703

DESCRIPTION: Klima Clear Gel Impregnator

USES: To be tinted with PZ4xx at 3-5% or PZ5xx at 1-3%. Apply to achieve a consistent uniform color of the wood, especially recommended when harmonizing of the wood is necessary, such as finger joint wood. May be used on hard or soft woods. Good vertical hang.

APPLICATION SYSTEM: Brush, Spray, or Lambs wool pad, then wipe

FILM THICKNESS: 1.6-2.3 mils wet

COATS: One

GENERAL PROPERTIES:

Specific Gravity, gr/cc	1.010+/-0.03
Viscosity as supplied Brookfield	5000+/-1000 cps, spindle 2, speed 10
Solids, % by weight:	8+/-2
Thinner:	Water
% of dilution:	0-5%

DRYING TIME: At 20°C with ventilation, dry to handle:
(at 20°C/68°F)

Dust Free:	20 minutes
Dry to touch:	2 hours
Full dried:	4 hours

(Drying times may vary according to temperature, ventilation and relative humidity)

WARNINGS: KEEP FROM FREEZING

SHELF LIFE: 12 months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

DATE OF ISSUE: 2-18

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: HNS710

DESCRIPTION: Klima Clear Uniforming Impregnator

USES: To be tinted with PZ4xx at 5-10% or PZ5xx at 2-5%. Apply to achieve a consistent uniform color of the wood, especially recommended when harmonizing of the wood is necessary, such as finger joint wood. May be used on hard or soft woods.

APPLICATION SYSTEM: Brush, Flow coating, Dipping

FILM THICKNESS: 1.6-2.3 mils wet

COATS: One

GENERAL PROPERTIES:	Specific Gravity, gr/cc	1.030+/- .02
	Viscosity as supplied (EN ISO 2431) ISO 3 cup	26 +/-2
	Solids, % by weight:	10.5 +/-2
	Thinner:	Water
	% of dilution:	0-5%

DRYING TIME: At 20°C with ventilation, dry to handle:
(at 20°C/68°F) Dust Free: 20 minutes
Dry to touch: 1 hour
Full dried: 4 hours

(Drying times may vary according to temperature, ventilation and relative humidity)

WARNINGS: KEEP FROM FREEZING

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES:	KLIMA NANOTECH SERIES		
PRODUCT CODE:	HTM5A273, HTM5B052, HTM5B036		
DESCRIPTION:	KLIMA Superclear Ultra-Non-Yellowing Nanotechnology External Coating Water based clear topcoat, excellent clarity, filling power, weathering resistance.		
PRODUCT PREPARATION:	HTM5 Nanotech Series Water	KLIMA WB NANO-TECH CLEAR Thinner	100 parts by weight or volume 5-6 % by weight or volume
USES:	Two coats. To be used as a self-sealer or final coat over tinted impregnator or colors. Not to be used as a clear finish over natural wood. For outdoor use.		
APPLICATION SYSTEM:	Airless spray, Airmix spray, Electrostatic spray, robot spray, airless vertical spray, gravity gun, brush		
FILM THICKNESS:	Total film thickness to be applied is 14-16 wet mils in 2 or 3 coats, if necessary		
GENERAL PROPERTIES:	Specific Gravity, gr/cc		1.010+/- .03
	Viscosity as supplied (Brookfield Aspo n°4 vel 2.5)		35,000 +/- 5000 cps
	Solids, % by weight:		38 +/-2
	Thinner:	Water	
	% of dilution:		5-6% depending upon equipment
DRYING TIME: (at 20°C/68°F)	Air Dry with ventilation, dry to handle:		
	Room temperature drying @18-22°C, 64-72°F		4 hours
	Stackable after room temperature drying		24 hours with spacers
	Hot air stages tunnel drying (20-40-60°C) (68-104-140°F) complete drying		2 hours
	Stackable after jet hot air drying		8 hours with spacers
	(Drying times can vary according to temperature, ventilation and relative humidity)		
TYPICAL SYSTEMS:	Substrate	Various Woods	
	Use an impregnator base tinted with PZ4 or PZ5 colors		
	Drying		
	Topcoat	HTM5 Nanotech Series	2 -3 coats
AVAILABLE SHEENS:	HTM5B052	50 Sheen	
	HTM5A273	30 Sheen	
	HTM5B036	10 Sheen	
WARNINGS:	In a coating process with professional products: -besides the product quality , the final results also depend on numerous other variables, such as environmental conditions; homogeneity in the quality of substrate; the constancy of the application cycle; the plants performance; the proper use of the products, etc. -in the process of industrial coating a certain waste product is to be considered normal and therefore not attributable to product quality -the final color is influenced by the preparation of hte substrate and the conditions of application; for this reason it is essential fo check in advance the result in terms of final use.		

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA NANOTECH SERIES

PRODUCT CODE: HTM5A273, HTM5B052, HTM5B036, page 2

DESCRIPTION: KLIMA Superclear Ultra-Non-Yellowing Nanotechnology External Coating

WARNINGS: Our company cannot ensure the control of the coating process carried out by the user. We cannot, therefore, take on any responsibility for the final result achieved through the use of our products. On the other hand, we guarantee the consistency of the chemical and physical characteristics of the product indicated in the relevant TDS, pledging to replace if it does not correspond to the declared features.

PRODUCT PROPERTIES: Data on the chemical and physical characteristics of the product are recorded at 20°C, 68°F and 70% relative humidity

For test results, the optimum conditions of application are:

Ambient temperature between 18 and 22°C, 64-72°F

Ambient relative humidity between 65 and 70%

Substrate humidity between 8 and 14%

The conditions to be observed scrupulously are:

-Water-based products are particularly sensitive to storage conditions: temperatures below 5°C, 41°F and above 35°C, 95°F, may affect the product characteristics, making it unusable. For this reason, a water-based product should be stored indoors at temperatures not below 5°C, 41°F and not above 35°C, 95°F, in a properly ventilated area, not exposed to solar radiation.

-Always shake the products before use

-The application must not take place at a temperature lower than 15°C, 59°F or above 35°C, 95°F

-The drying should not take place at a temperature below 15°C, 59°F

-The ambient relative humidity during drying should be between 50% and 70%

-To decant paints, exclusively use containers made of suitable material, such as polyethylene and stainless steel.

-After use, we recommend that you always close the can carefully

-The end result of the coating cycle is the sole responsibility of the user, who must make sure that the product matches their needs and that environmental conditions, application, or media specifications, do not require substantial changes of use.

It is the user's responsibility to:

-Adhere to the conditions indicated above

-Comply with the rules of hygiene and safety during product application, according to the descriptions given in the safety data sheets.

-Keep from freezing

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: HTM5077

DESCRIPTION: KLIMA WB Clear 5 Sheen Topcoat
Thixotropic topcoat based on acrylic based resins in water dispersion for wood protection. Suitable for hardwoods and softwoods. An addition of PZ4xx colorant at 0.1-0.5% will enhance performance.

USES: Two coats. Can be used as a self-sealer. For outdoor use. Must use Aquatech impregnator stains for best performance and protection.

PRODUCT

PREPARATION: HTM5077 WB Clear Topcoat 100 parts by weight or volume
Water Thinner 5 parts by weight or volume

APPLICATION SYSTEM: For best results use Kremlin 30:1 pump with Airmix 600 fluid lbs, 35-40 static atomizing air 06134/06154 tips or use conventional, pressure pot, cup gun or apply by roller or brush. To brush use PX0/03 at 2-3%.

FILM THICKNESS: 4-6 mils wet, per coat

COATS: Two - three

GENERAL PROPERTIES: Specific Gravity, gr/cc 1.029+/-0.02
Viscosity as supplied* 38,000-41,000 cps
Solids, % by weight: 40 +/-2
Thinner: Water or PX0/03
% of dilution: Water at 5-20% depending upon equipment
PX0/03 at 2-3%

* (Brookfield Aspo n^o4 vel 2.5)

DRYING TIME: Air Dry with ventilation, dry to handle:
(at 20°C/68°F) Dust Free: 20 minutes
Dry to touch: 1 hour
Full dried: 2-4 hours
Sanding: 2-4 hours

(Drying times can vary according to temperature, ventiation and relative humidity)

COATING CYCLES: Cycle 1 - High Quality with Thixotropic Topcoat

Substrate Pine or soft woods
Impregnating: PN 3/color - 1 coat - 1-2 hours drying
Sealer: TN40 - 1 coat - 2-4 hours before sanding
Topcoat: HTM5077 - 1 coat

Before using coated items, it is advisable to wait 3 days. Minimum room temperature during application and drying should be 60°F

CONTINUED ON NEXT PAGE...

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: HTM5077

COATING CYCLES: Cycle 2 - General use as self-sealer

Substrate Pine or soft woods
Impregnating: PN 3/color - 1 coat - 1-2 hours drying
Light Sanding with scotchbrite
Topcoat: HTM5077 - 1 coat - dry 2-4 hours - sand with 280 grit
Topcoat: HTM5077 - 1 coat

**PRODUCT
PROPERTIES:**

This product improves the protective action of the impregnating products and protects the substrate from photochemical degradation thanks to the presence of special UV absorbers. Soft to the touch and highly flexible, no sanding when applying coat for maintenance so as to allow easy maintenance.

MAINTENANCE: Items already coated with HTM5077 topcoat should have dirt and other residuals removed and be topcoated with the Klima TN030 products.

WARNINGS: Keep from Freezing!

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18-25 °C/64-75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

DATE OF ISSUANCE: 03-18

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA

PRODUCT CODE: HTMB06x Series

DESCRIPTION: KLIMA 3:1 Clear Self Sealer

PRODUCT PREPARATION:	HTMB06x Water	KLIMA 3:1 Clear Self Sealer Thinner	100 parts by weight or volume 0-5 % by weight or volume
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USES: Three coats. To be used as a self-sealer or final coat over tinted impregnator or colors. Not to be used as a clear finish over natural wood. For outdoor use. Excellent for finishing and protecting your exterior doors, railing, columns, decks, or exterior furniture. Easy application, excellent performance and environmentally safe.

APPLICATION SYSTEM: Spray, gravity gun, brush

FILM THICKNESS: 2.4-3.2 mils wet by brush, 3.2-4 mils wet by spray

GENERAL PROPERTIES:	Specific Gravity, gr/cc	1.020+/- .03
	Viscosity as supplied (Ford 6 cup)	20 +/- 2
	Solids, % by weight:	25 +/-2
	Thinner:	Water
	% of dilution:	5-6% depending upon equipment

DRYING TIME: (at 20°C/68°F)	Air Dry with ventilation, dry to handle:	
	Room temperature drying @18-22°C, 64-72°F	4 hours
	Stackable after room temperature drying	24 hours with spacers
	Hot air stages tunnel drying (20-40-60°C) (68-104-140°F)	
	complete drying	2 hours
	Stackable after jet hot air drying	8 hours with spacers

(Drying times can vary according to temperature, ventilation and relative humidity)

AVAILABLE SHEENS:	HTMB06B	80 Sheen
	HTMB06H	25 Sheen
	HTMB066	10 Sheen

ADDITIONAL TIPS: This product combines the stain, sealer and topcoat all in one product. All that is needed is to apply 3 coats of the same product. It can be used on table tops, furniture, doors, windows, and railings. The performance in sun and rain is exceptional.

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F)

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA HARDWOOD SERIES

PRODUCT CODE: PN33/COLOR - see page #8 for list of colors

PRODUCT NAME: Klima Water Based Colored Impregnator for Hardwoods

DESCRIPTION: Impregnator based on synthetic mono-component resins in water dispersion, specific for coloring and protection of tannin-rich woods.

USES: Outdoor/indoor wood items, application on raw wood

APPLICATION SYSTEM: In order to reduce swelling of wood surface due to contact with water-based products, it is advisable to sand raw wood before application (150-180sandpaper). Wood surface must be free of dust and from any sap, oil, or resin traces. Raw wood humidity must be below 18%

FILM THICKNESS: 0.4-0.5 mils wet

COATS: One

GENERAL PROPERTIES:	Specific Gravity, gr/cc	1.010+/-0.02
	Viscosity as supplied (Zahn #2)	14+/- 2 sec
	Solids, by weight:	11+/-2
	May be thinned with water or TZ08	0-5%

DRYING TIME: At 70°F with good ventilation, dry to handle: 30 minutes
(at 20°C/68°F) Sandable, with Scotchbrite or sponge 1-4 hours

(Drying times vary according to temperature, ventilation and relative humidity)
Minimum temperature during application and drying must be above 60°F

COATING CYCLES: Cycle 1 - High Performance - Thixotropic Top Coat

Substrate:	Hardwood
Impregnator:	1 coat PN 33/color- drying time 1-4 hours
Sealer:	1 coat TN40 - drying time 2-4 hours
Top Coat:	1 coat TN931

Cycle 2 - High Performance - Thixotropic Topcoat

Substrate:	Hardwood
Impregnator:	1 coat PN33/color - drying time 1-4 hours
Top Coat as self sealing 1st coat	1 coat TN931
Top Coat:as self-sealing 2nd coat	1 coat TN931

It is possible to obtain custom colors mixing the PZ4/color pastes (PZ402 yellow, PZ406 red, PZ409 black) with the TN340

CONTINUED ON NEXT PAGE...

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA HARDWOOD SERIES

PRODUCT CODE: PN33 Color, page 2

ADVANTAGES: PN33/ color does not form a film, thus it doesn't peel. It penetrates deeply into wood fibers, protecting wood from the destructive action of fungi.

Special iron-oxide-based pigments used in the formulation protect the wood from the degrading action of UV rays.

AVAILABLE COLORS: PN3011 Fir
PN3019 Myrtle
PN310 Teak
PN320 Lt Walnut
PN330 Dk Walnut
PN332 Chestnut
PN333 Cherry
PN338 Walnut
PN340 Antique Walnut
PN350 Douglas
PN360 Mahogany
PN370 Green Wood

WARNINGS: KEEP FROM FREEZING!

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: PN410 for hard and soft woods

DESCRIPTION: KLIMA WHITE IMPREGNATOR WITH HIGH SOLID CONTENT

USES: Expressly developed as initial coat for white or pastel external use. May use on hard or soft woods. TDS500 Isolante recommended under the PN410 for white or pastel colors.

APPLICATION SSTEM: Brush or spray

FILM THICKNESS: 2.4-3.2 mils wet

COATS: One

GENERAL PROPERTIES:	Specific Gravity, gr/cc	1.100+/-0.02
	Viscosity (Zahn #2)	12+/-2
	Solids, by weight:	38 +/-2

DRYING TIME: (at 20°C/68°F)	Dry to touch:	1 hour
	Hard Dry:	1-2 hours

(Drying times vary according to temperature, ventiation and relative humidity)

COATING CYCLES: **Cycle 1 - High Quality with Thixotropic Topcoat**

Wood	Soft woods	
Impregnator	1 coat of PN410	drying 1-2 hours
Topcoat	1 coat of PN6B - 8 mils	drying 2-4 hours
Sanding		
Topcoat	1 coat of PN6B - 10 mils	

The cycle above is certified CATAS, with CATAS certification Quality Award 03/02 compliant with ENV 927-2/2000 Performance specification and with all the other requirements included in technical specification of "Catas Quality Awards - coating system for exterior wood"

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

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ILVA TECHNICAL DATA SHEET

PRODUCTS SERIES: KLIMA SERIES

PRODUCT CODE: PN4B

DESCRIPTION: **KLIMA AQUATECH PIGMENTED THIXOTROPIC SEALER - WHITE**
This product is a thixotropic filling sealer based on water-based one-component acrylic resins in water dispersion for wood protection. **Allows application of high product thickness in only one-coat, without risk of sagging.**

PRODUCT PREPARATION: PN4B WB Exterior Primer 100 parts by weight or volume
Water Thinner 5 parts by weight or 6 parts by volume

USES: For outdoor use. Suitable for hardwoods and softwoods.

APPLICATION SYSTEM: Brush, spray (air, airmix, airless). If airless spray we recommend diluting 3-5% to help air release during film-forming. For best results use Kremlin 30:1 pump with Aurmix 600 fluid lbs, 35-40 static atomizing air 06134/06154

FILM THICKNESS: 8-10 mils wet film

COATS: One or two depending on desired build

GENERAL PROPERTIES: Specific Gravity, gr/cc 1.20+/- .02
Viscosity (Brookfield aspd 4 vel.2) 25,000 cps
Solids, % by weight: 51 +/-2

DRYING TIME: Air drying (at room temperature with good ventilation)
Dry to touch 20 minutes
Dry to sand: 2 hours
Dry to handle: 12-16 hours
Tunnel (35-40°C, 95-104°F) 90 minutes
(Drying times will vary according to temperature, ventilation and relative humidity)

COATING CYCLES: Cycle 1 - Pigmented Coating Cycle with Thixotropic Topcoat - White
Substrate: Non-bleeding softwoods and hardwoods
Wood Preservative: 1 coat of PN410, TN340 or TN30
Sealer 1 coat of PN4B reduced with water -4 hours before sanding
Sanding Sand using 320 grit stearedated paper. Avoid high pressure or reduce speed on powered sanding equipment to avoid overheating the waterbase product and loading up sandpaper.
Topcoat 1 coat of PN6B reduced with water -4 hours drying

PRODUCT PROPERTIES: PN 4B sealer is characterized by very good hiding and filling capacity. Highly flexible following dimensional moves of the wood without flaking off. Easy maintenance.

MAINTENANCE: Finished items should be lightly sanded with 240 or 320 grit and recoated or topcoated with 1 or 2 coats of PN6B.

WARNINGS: KEEP FROM FREEZING!

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

DATE OF ISSUANCE: 03-13, 7-16, 2-18

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ILVA TECHNICAL DATA SHEET

PRODUCTS SERIES: KLIMA SERIES

PRODUCT CODE: PN6B

DESCRIPTION: **KLIMA WHITE THIXOTROPIC TOPCOAT**
This product is a thixotropic topcoat based on acrylic resins in water dispersion for wood protection. Allows application of high film build without risk of running or sagging.

USES: For outdoor use, pre-coated with Klima Aquatech series impregnating stains and sealers.

PRODUCT PREPARATION: PN6B KLIMA W/B White Matte Finish 100 parts by weight or volume
Water Thinner 5 parts by weight or 6 parts by volume

APPLICATION SYSTEM: For best results use Kremlin 30:1 pump with Airmix 600 fluid lbs, 35-40 static atomizing air 06134/06154 tips or use conventional, pressure pot, cup gun or apply by roller or brush

FILM THICKNESS: 8-10 mils wet

COATS: One or two depending upon desired build; can be used as a self-sealer

GENERAL PROPERTIES: Specific Gravity, gr/cc 1.30+/-0.02
Viscosity (Brookfield aspo 4 vel.2) 30,000-32000 cps
Solids, % by weight: 45 +/-2
Gloss: 30+/-2

DRYING TIME: Air drying
Dry to touch 40 minutes
Dry to sand: 1 hour
Full dried: 6-8 hours
(Drying times will vary according to temperature, ventilation and relative humidity)

COATING CYCLES: **Cycle 1 - Pigmented Coating Cycle with Thixotropic Topcoat - White**

Substrate: Non-bleeding soft and hardwoods
Wood Preservative: 1 coat of PN410
Sealer 1 coat of PN4B or PN6B - drying time 4 hours
Topcoat 1 coat of PN6B

The cycle above is certified CATAS, with CATAS certification Quality Award 03/02 compliant with ENV 927-2/2000 Performance specification and with all the other requirements included in technical specification of "Catas Quality Awards - coating system for exterior wood"

PRODUCT PROPERTIES: PN 6B sealer is characterized by very good hiding and filling. Improves protection against weathering and UV deterioration. Soft to the touch, highly flexible, will follow dimensional movement of wood without cracking or flaking off, so as to allow easy maintenance.

MAINTENANCE: Previously finished items should be lightly sanded w/280 or 320 grit and recoated.

WARNINGS: KEEP FROM FREEZING!

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

DATE OF ISSUANCE: 03-13, Revised 7-16, 2-18

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: PZ400 Series

DESCRIPTION: Pigmented Pastes for Water Based Impregnators

USES: To tint and color water based impregnators for outdoor use

GENERAL PROPERTIES: Specific Gravity, gr/cc+/-02

AVAILABLE COLORS:	PZ402	Yellow Oxide	1.150
	PZ404	Brown	1.360
	PZ405	Bright Red	1.200
	PZ406	Green	1.050
	PZ409	Black	1.200

NOTES: For deeper colors use PZ5xx pastes, up to 5% - see page # for list of PZ5xx colors. We recommend mechanical mixing before use for every paste to precisely duplicate color matches. Weighing of tints is important. We recommend using pastes PZ400 series for tinting impregnators started from base TN30 (clear) with a maximum addition is 3%
KEEP FROM FREEZING!

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TDS500

DESCRIPTION: Stain blocking isolator for exterior use with Klima Technology

PRODUCT

PREPARATION:

TDS500	Stain Blocking Isolator	100 parts by weight
TX90	Hardener	40 parts by weight
TZ33	Thinner for Spray	10-20 parts by weight
TZ13	Thinner for Brush	10-20 parts by weight

USES: Solvent Based clear isolator for substrates rich in tannins and resins. Use with ILVA Klima water based cycles clear and pigmented. For use with outdoor applications to stop bleeding

APPLICATION SYSTEM: Spray, Airless., airmix, brush

FILM THICKNESS: 5-6 mils wet

COATS: One

GENERAL

PROPERTIES:

Specific Gravity, gr/cc	.970+/- .020 g/ml
Viscosity at application (Zahn #2)	25+/-2
Pot Life	3 hours max with hardener added

DRYING TIME: At room temperature: 20 mins dust free
(at 20°C/68°F) Dry to touch 2 hours
Hard dry at room temperature 24 hours
Sandable to recoat (minimum after) 3 hours

NOTES: Apply PN tinted stain series or TN clear impregnator to the wood surface, selecting soft or hardwood series. When Impregnator is completely dry (min 2h), apply 1 coat of TDS500 stain blocker. Sand with 220 grit. Then apply 2/3 heavy coats of Klima topcoat TN931 series, or Klima PN6B or Klima pigmented coating. Klima top coats must have a total of 20 mils wet applied for maximum protection.

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN0/600

DESCRIPTION: **Klima Wax with special no slip waxes**
Acrylic resin impregnator in water dispersion, enriched with special, non-slip protective waxes, specific for staining and protection of wood.

USES: Klima Wax line of products has been specifically formulated to protect outdoor wood items, including gazebos, arbors, fences, benches, decks, and sidings. The addition of 1% TXW02 crosslinker will improve wear resistance on deck surfaces.

APPLICATION SYSTEM: Brush.
It is advisable to apply two to three coats by brush depending upon the degree of staining and protection desired. Raw wood humidity must be below 18%.

FILM THICKNESS: 3-4 mils wet per coat, depending on wood preparations and species

COATS: Two or three

GENERAL

PROPERTIES: Specific Gravity, gr/cc 1.025+/- .02
Viscosity at application (Zahn #2) 16+/-2

DRYING TIME: At 70°F with ventilation, dry to handle: 30 minutes
(at 20°C/68°F) Time between coats 2-4 hours
(Drying times vary according to temperature, ventilation and relative humidity)
Before using coated items, it is advisable to wait 48 hours

COATING CYCLES: TN0/600 to color Brush application
Drying time 2-4 hours room temperature
TN0/600 to color Brush application
3rd coat of color if needed

AVAILABLE COLORS: It is possible to obtain custom colors mixing the clear impregnator TN0/600 with the pigmented pastes of the PZ400/series

FEATURES: Do not use below 50°F or in very high humidity. Klima Wax impregnating finishes series offer top-level protection against weathering environments. They deeply penetrate into wood fibers, protecting it from well-known bacterial enemies of wood: fungi, molds, and parasites. The special, non-slip waxes employed provide the coating film with a strong water-repellent power, combined with special iron oxide pigments within the formulation. The waxes and stains also protect wood from being damaged by ultra-violet rays.

WARNINGS: KEEP FROM FREEZING

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F)

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN30

DESCRIPTION: Water Based Protective Impregnator

USES: Best protection is achieved using the impregnator specially formulated for softwoods. Use on windows, doors, casings, railings, decks, and outdoor furniture.

APPLICATION SYSTEM: Spray, Dip, Brush, Flow Coat

FILM THICKNESS: 1.6-2.4 mils wet by hand; max total 4 mils wet per coat

COATS: One

GENERAL PROPERTIES:

Specific Gravity, gr/cc	1.040+/-2
Viscosity at application (Zahn #2)	17+/-2
Thinner	TZ08 as retarder at max 5%

DRYING TIME: At room temperature: 12 hours
(at 20°C/68°F) Time between coats 24 hours
(Drying times change according to temperature, ventilation and relative humidity)

TYPICAL SYSTEM:

Substrate	Various woods	
TN30 Klima Series	1 - 2 coats	300-400 sq ft per gallon
Drying	1-4 hours between coats	
Sanding	very light with scotchbrite or fine sponge	
Sealer	TN40 or topcoat TN931 as self-sealer	1 coat
Drying	2-4 hours	
Topcoat	TN931 or TN931/00	

NOTES: Do not use below 50°F or with very high humidity

Mix products thoroughly before use.

When using exotic and resinous wood, prepare substrate by removing excess sap or oils

Colors in the PZ4 Klima series can be mixed to obtain various tones. Excessive impregnator or runs should be evened out with brush in first moments after application.

KEEP FROM FREEZING!

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN340

DESCRIPTION: KLIMA WATER-BASED CLEAR IMPREGNATOR FOR HARDWOOD
This product is based on synthetic mono-component resins in water dispersion, specific for coloring and protection of tannin-rich woods.

USES: Best protection is achieved using the impregnator specially formulated for hardwoods. Use on windows, doors, casings, railing, decks, and outdoor furniture.

APPLICATION SYSTEM: Spray, Dip, Brush, Flow Coat

FILM THICKNESS: 3-4 wet mils

COATS: One

GENERAL PROPERTIES:

Specific Gravity, gr/cc	1.004+/-0.02
Viscosity (Zahn #2)	12+/-2 sec.
Solids, % by weight:	9 +/-2
Thinner:	water at 0-5% or TZ08 as retarder at max 5%

DRYING TIME: Air drying
(at 20°/68°F) Dry to touch: 30 minutes
Sandable: 2-4 hours
(Drying times vary according to temperature, ventilation and relative humidity)

COATING CYCLES: Cycle 1 - High Quality - Thixotropic Topcoat
Substrate: Hardwoods
Impregnator: 1 coat TN340 + PZ4 pastes - drying time 1-2 hours
Sealer - intermediate: 1 coat TN45 - drying time 2-4 hours
Sealer: 1 coat TN40 - drying time 2-4 hours
sanding (grain 220-280)
Topcoat: 1 coat TN931
Cycle 2 - General Use - Thixotropic Topcoat
Substrate: Hardwoods
Impregnator: 1 coat TN340+ PZ4 pastes - drying time 1-2 hours
very light sanding
Topcoat 1 coat TN931
Topcoat 1 coat TN931

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN370

DESCRIPTION: KLIMA WATER-BASED CLEAR IMPREGNATOR FOR EXOTIC OILY & TANNIN-RICH HARDWOODS
This product is based on synthetic mono-component resins in water dispersion, specific for coloring and protection of tannin-rich woods.

USES: Doors, windows, casing, railings, decks, and outdoor furniture

APPLICATION SYSTEM: Dip, Brush, Spray

FILM THICKNESS: 3- 4 mils wet

COATS: One

GENERAL

PROPERTIES: Specific Gravity, gr/cc 1.020+/-0.01
Viscosity (Zahn #2) 12 +/-2 sec.

DRYING TIME: Air drying (at room temperature with good ventilation)
(at 20°/68°F) Drying schedule: 1-2 hours
Time between coats 2-4 hours
(Drying times can vary according to temperature, ventilation and relative humidity)

COATING CYCLES:

A)

Substrate: Iroko, green hart, etc hardwoods
Staining: TN370 + PZ4 pastes - 1 coat
Drying: 1-2 hours
Base Coat: TN40 - 1 coat
Sanding: Very light brushing or sanding w/ 220 or 280 grit
Topcoat: TN931 - 1 coat

B)

Substrate: Iroko, greenhard, etc. hardwoods
Staining: TN370 + pastes
Drying: 12 hours
Topcoat: TN931 1-2 hours as self-sealer 1 coat
Drying: 12 hours
Sanding: Very light brushing or sanding w/220 or 280 grit
Topcoat: TN931 as self sealer 1 coat

CONTINUED ON NEXT PAGE...

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN370 - page 2

NOTES: In order to achieve the best outdoor performance we suggest you use impregnators with color; neutral products decrease the protection level.
Mix cans thoroughly before use.
Keep from freezing

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN40

DESCRIPTION: Klima Water Based Clear Wood Tone Clear Sealer
Thixotropic filling sealer based on water-based one-component sanding sealer using synthetic resins for wood protection. Allows application of high product thickness with only one coat without risk of running or sagging.

USES: For outdoor and indoor use, pre-coated with KLIMA series Aquatech impregnating stains.

APPLICATION SYSTEM: Brush, spray (air, airmix, airless)

FILM THICKNESS: 8- 10 mils wet

COATS: One

GENERAL

PROPERTIES:

Specific Gravity, gr/cc	1.030+/-0.02
Viscosity as supplied*	17,000-19,000
Solids, % by weight:	35 +/-2
Thinner:	Water or TZ07 for spray or TZ08 for brush
% of dilution:	0-5%

*(Brookfiled Aspo 4 speed 2.5)

DRYING TIME: At 20°C with ventilation, dry to handle:

(at 20°C/68°C)

Dust Free:	20 minutes
Dry to touch:	1 hour
Full dried:	2-4 hours
Sanding:	4-6 hours

(Drying times may vary according to temperature, ventilation and relative humidity)

COATING CYCLES: Cycle 1 - High Quality with Thixotropic Topcoat

Substrate	Pine or softwoods
Impregnating:	PN 3/color - 1 coat - 2 hours drying
Sealer:	TN40 - 1 coat - 2 hours before sanding
Topcoat:	TN931 - 1 coat

Before using finished coated items, it is advisable to wait 48 hours

CONTINUED ON NEXT PAGE...

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN40, page 2

PRODUCT PROPERTIES: TN40 Sealer is characterized by very good covering power (intended as filling capacity) joined to an easy sanding. Highly flexible film allows for the movement of wood without flaking off. It is also easy to maintain.

MAINTENANCE: Previously finished items should be lightly sanded with 280 or 320 grit and re-coated.

WARNINGS: KEEP FROM FREEZING

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F)

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN931

DESCRIPTION: KLIMA WB Wood Tone Satin Topcoat
Thixotropic topcoat based on acrylic based resins in water dispersion for wood protection. Suitable for hardwoods and softwoods.

USES: Two coats. Can be used as a self-sealer. For outdoor and indoor use, pre-coated with KLIMA series Aquatech impregnating stains and sealers.

PRODUCT PREPARATION:

TN931	WB Wood Tone Self-Sealer	100 parts by weight or volume
Water	Thinner	5 parts by weight or volume

APPLICATION SYSTEM: For best results use Kremlin 30:1 pump with Airmix 600 fluid lbs, 35-40 static atomizing air 06134/06154 tips or use conventional, pressure pot, cup gun or apply by roller or brush. To brush use TZ08 at 5%.

FILM THICKNESS: 8-10 mils wet, per coat

COATS: Two - three

GENERAL PROPERTIES:

Specific Gravity, gr/cc	1.050+/-0.02
Viscosity as supplied*	38,000-41,000 cps
Solids, % by weight:	40 +/-2
Thinner:	Water - TZ07 or TZ08
% of dilution:	5-20% depending upon equipment

* (Brookfield Aspo n°4 vel 2.5)

DRYING TIME: Air Dry with ventilation, dry to handle:
(at 20°C/68°F)

Dust Free:	20 minutes
Dry to touch:	1 hour
Full dried:	2-4 hours
Sanding:	2-4 hours

(Drying times can vary according to temperature, ventilation and relative humidity)

COATING CYCLES: **Cycle 1 - High Quality with Thixotropic Topcoat**

Substrate	Pine or soft woods
Impregnating:	PN 3/color - 1 coat - 1-2 hours drying
Sealer:	TN40 - 1 coat - 2-4 hours before sanding
Topcoat:	TN931 - 1 coat

Before using coated items, it is advisable to wait 3 days. Minimum room temperature during application and drying should be 60°F

CONTINUED ON NEXT PAGE...

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN931, page 2

COATING CYCLES: Cycle 2 - General use as self-sealer

Substrate Pine or soft woods
Impregnating: PN 3/color - 1 coat - 1-2 hours drying
Light Sanding with scotchbrite
Topcoat: TN931 - 1 coat - dry 2-4 hours - sand with 280 grit
Topcoat: TN931 - 1 coat

The above cycle number 2 is certified by CATAS with "Catas Quality Award" in conformity with "ENV 927 - 2/2000 Performance Specification" and with all further features of the technical specification of "Catas Quality Award-Coating System for exterior wood".

PRODUCT PROPERTIES: This product improves the protective action of the impregnating products and protects the substrate from photochemical degradation thanks to the presence of special UV absorbers. Soft to the touch and highly flexible, no sanding when applying coat for maintenance so as to allow easy maintenance.

MAINTENANCE: Items already coated with TN931 topcoat should have dirt and other residuals removed and be topcoated with the Klima TN030 products.

WARNINGS: Keep from Freezing!

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

DATE OF ISSUANCE: 03-13, Revised 6-15, 2-18

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN931/00

DESCRIPTION: KLIMA WB Clear Satin Topcoat
Thixotropic topcoat based on acrylic based resins in water dispersion for wood protection. Suitable for hardwoods and softwoods. An addition of PZ4xx colorant at 0.1-0.5% will enhance performance.

USES: Two coats. Can be used as a self-sealer. For outdoor use. Must use Aquatech impregnator stains for best performance and protection.

PRODUCT

PREPARATION: TN931/00 WB Clear Topcoat 100 parts by weight or volume
Water Thinner 5 parts by weight or volume

APPLICATION SYSTEM: For best results use Kremlin 30:1 pump with Airmix 600 fluid lbs, 35-40 static atomizing air 06134/06154 tips or use conventional, pressure pot, cup gun or apply by roller or brush. To brush use PX0/03 at 2-3%.

FILM THICKNESS: 4-6 mils wet, per coat

COATS: Two - three

GENERAL PROPERTIES: Specific Gravity, gr/cc 1.029+/-0.02
Viscosity as supplied* 38,000-41,000 cps
Solids, % by weight: 40 +/-2
Thinner: Water or PX0/03
% of dilution: Water at 5-20% depending upon equipment
PX0/03 at 2-3%

* (Brookfield Aspo n°4 vel 2.5)

DRYING TIME: Air Dry with ventilation, dry to handle:
(at 20°C/68°F) Dust Free: 20 minutes
Dry to touch: 1 hour
Full dried: 2-4 hours
Sanding: 2-4 hours

(Drying times can vary according to temperature, ventilation and relative humidity)

COATING CYCLES: Cycle 1 - High Quality with Thixotropic Topcoat

Substrate Pine or soft woods
Impregnating: PN 3/color - 1 coat - 1-2 hours drying
Sealer: TN40 - 1 coat - 2-4 hours before sanding
Topcoat: TN931/00 - 1 coat

Before using coated items, it is advisable to wait 3 days. Minimum room temperature during application and drying should be 60°F

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN931/00

COATING CYCLES: Cycle 2 - General use as self-sealer

Substrate Pine or soft woods
Impregnating: PN 3/color - 1 coat - 1-2 hours drying
Light Sanding with scotchbrite
Topcoat: TN931/00 - 1 coat - dry 2-4 hours - sand with 280 grit
Topcoat: TN931/00 - 1 coat

**PRODUCT
PROPERTIES:**

This product improves the protective action of the impregnating products and protects the substrate from photochemical degradation thanks to the presence of special UV absorbers. Soft to the touch and highly flexible, no sanding when applying coat for maintenance so as to allow easy maintenance.

MAINTENANCE: Items already coated with TN931/00 topcoat should have dirt and other residuals removed and be topcoated with the Klima TN030 products.

WARNINGS: Keep from Freezing!

SHELF LIFE: 12 Months

STORAGE: Store in a tightly closed container at room temperatures (18-25 °C/64-75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F).

DATE OF ISSUANCE: 03-18

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN030

DESCRIPTION: Klima Regenerator Clear Coat

USES: Used as a field maintenance product. Typically used once a year, or when necessary, on windows, doors, shutters or furniture. Product helps to maintain original performance.

APPLICATION SYSTEM: Clean with water and neutral detergents to remove dust and rain spots. Cleaning products containing acids or ammonia must be absolutely avoided, as they would attack the coating and damage it. If after the cleaning operations, the coating film appears to be in good condition (no cracking), we suggest proceeding with the application of TN030 Regenerator, wiping a cloth soaked in the TN030 on the entire surface.

FILM THICKNESS: 0.8-1.6 mils wet

COATS: One

GENERAL PROPERTIES:	Specific Gravity, gr/cc	1.013+/- .03
	Viscosity as supplied (EN ISO 2431) ISO 3 cup	26 +/-2
	Solids, % by weight:	14+/-2
	Thinner:	Water
	% of dilution:	0-5%

DRYING TIME: At 20°C with ventilation, dry to handle:
(at 20°C/68°F)

Dust Free:	2 hours
Dry to touch:	12 hour
Full dried:	24 hours

(Drying times may vary according to temperature, ventiation and relative humidity)

WARNINGS: KEEP FROM FREEZING

SHELF LIFE: 12 months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F)

DATE OF ISSUANCE: 2-18

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ILVA TECHNICAL DATA SHEET

PRODUCT SERIES: KLIMA SERIES

PRODUCT CODE: TN090

DESCRIPTION: Klima Honeytone Maintenance by Brush

USES: Used as a field maintenance product for wood tone finishes

APPLICATION SYSTEM: When doing a complete restoration, remove the damaged coating using 150-180 grit sand paper. Further prepare the wooden surface by sanding down with 240 grit paper to bare wood. Using a brush, apply the desired color impregnator and let dry for at least 4 hours. Next, apply 2 layers of TN090 Maintenance Coat by brush.

FILM THICKNESS: 3.2-4 mils wet

COATS: One

GENERAL PROPERTIES:	Specific Gravity, gr/cc	1.038+/-0.03
	Viscosity as supplied (Ford 4 cup)	83 +/-5
	Solids, % by weight:	40.5 +/-2
	Thinner:	Water
	% of dilution:	0-5%

DRYING TIME: At 20°C with ventilation, dry to handle:
(at 20°C/68°F) Dust Free: 20 minutes
Dry to touch: 4 hours
Full dried: 72 hours

(Drying times may vary according to temperature, ventilation and relative humidity)

WARNINGS: KEEP FROM FREEZING

SHELF LIFE: 12 months

STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. Do not store at temperatures below 7°C (45°F)

DATE OF ISSUANCE: 2-18

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HELPFUL HANDLING & MIXING INSTRUCTIONS

FOR GREEN HART, IROKO, CEDAR AND SIMILAR WOODS THAT BLEED:

The use of a solvent base barrier coat is necessary to block the bleeding of tannins on some types of exotic hardwoods and softwoods. Product code TDS500, a two component acrylic solvent base isolator, is recommended.

APPLICATION METHOD:

Klima waterbase products may be applied by spray, brush, and flow coater, in some cases. See the individual item tech data sheet for more information. If retarding is necessary due to high temperature or for flowout or brush application, we recommend using our PX0/03 retarder. Use at 1%-5% in impregnators and 1%-3% in coating products. An alternative retarder is our code TZ88 at 1%-3%. TZ88 is a blend of water/TZ08 at 80/20. Do not apply water base products below 64°F or 16°C.

DRYING:

All waterbase products require good ventilation for drying. The use of fans will dramatically improve dry times during factory application. Do not put finished pieces directly in air flow from the fan while coating is still wet.

Providing sealer and topcoat films are not sticking to the sandpaper, the coatings may be sanded. A good rule of thumb is if you can flick the sandpaper with your finger and all the dust comes off, it is ok to sand. Indications regarding sandpaper sizes are optional. The finer the grit, the smoother the finishes will be. All Klima products will tend to hide sand marks due to their filling properties.

Drying times of Klima coatings will be increased on wood that has poor absorption characteristics and by cold, wet weather. It is always advisable to run short tests with these products to verify if the result obtained is suitable. Wait for a minimum of 3 days before installing factory applied finishes.

If doing an onsite exterior application or if factory applied finishes are installed before completely cured, you may experience white spots or hazing of the film from early exposure to precipitation or cold weather. This is normal and will generally correct itself. Do not touch, but allow the film to dry and reach normal temperature drying conditions.

GENERAL INFORMATION:

Do not use steel wool for sanding the raw wood since residual metal dust can cause rust spots. In the case of exotic and resinous woods, clean the substrate well before coating. For better color uniformity, clean with a dry brush or rag after 15-30 minutes in order to remove excess product not absorbed. When recoating previous coatings, it is best if all of the old film is completely removed by sanding or stripping. Hardwoods usually need a superior number of coats.

RECOMMENDED STORAGE

All water based products should be stored in tightly closed containers at temperatures above 41°F

Date of Issuance: 03-13, Revised 2-18

3-08-18

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