



# Wood Furniture

Water based and sustainable solutions for superior coatings



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# Outline

- WB binders for sealers
- WB binders for antistain primers
- WB binders for top coats
- Polymeric matting agents
- Rheology modifiers
- Crosslinkers
- Waxes



# Binders for sealers

ESACOTE<sup>®</sup> AC, ESACOTE<sup>®</sup> PU, ESACOTE<sup>®</sup> UA



# ESACOTE® AC 202



- Anionic self X-linking PAC
- High gloss and clarity
- Quick drying
- Good sandability
- Excellent chemical resistance
- Excellent adhesion on wood and melamine



- Suitable for sealers, primers and top coats
- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Typical values

<b>Appearance at 25 °C:</b>	milky liquid
<b>pH:</b> (at 25°C on supplied product, ASTM E 70):	7,0-8,0
<b>Viscosity (mPa.s):</b> (Brookfield RVT @ 25 °C, 20 rpm spindle 2)	< 500
<b>Solid content, %:</b>	42.0-44.0

## Product properties

<b>Solvent content, %:</b>	0%
<b>Minimal film forming temperature, °C:</b>	~50
<b>Density @ 25°C, g/ml</b>	~1.05
<b>Koenig hardness (sec):</b>	~85
<b>Film aspect:</b>	transparent and glossy



# TRANSPARENT 1K SEALER

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 202</b>	77.0
<b>B1</b>	Coalescent (DOW)	BUTYL CARBITOL	6.0
<b>B2</b>	Demi water	WATER	6.3
<b>C1</b>	Wetting agent	<b>BAMAX 104 PG</b>	0.5
<b>D1</b>	Sanding agent	<b>LAMKOTE RO</b>	3.7
<b>E1</b>	Defoamer (BYK)	BYK 028	0.5
<b>G1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	6.0
<b>Total</b>			100.0

Solid Content ≈ 33%

Brookfield Vx RVT 50 rpm spindle 3 20 °C = 850 cps



# ESACOTE® AC 301



- Hydroxyil AC emulsion
- Solvent and APEO free
- Very good sandability



- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Typical values

<b>Appearance at 25 °C:</b>	milky liquid
<b>pH:</b> (at 25°C on supplied product, ASTM E 70):	7.0-8.0
<b>Viscosity (cPs)</b> (Brookfield RVT @ 25 °C, 50 rpm spindle 2)	<500
<b>Solid content, %:</b>	39.0-41.0

## Product properties

<b>Solvent content, % :</b>	0
<b>Density, @ 25°C g/ml:</b>	~1.03
<b>Minimal film forming temperature, °C:</b>	~60
<b>Koenig hardness (s)</b>	~95
<b>Hydroxyl content on solids (mg KOH/g):</b>	~58
<b>Film aspect:</b>	tough, transparent and glossy

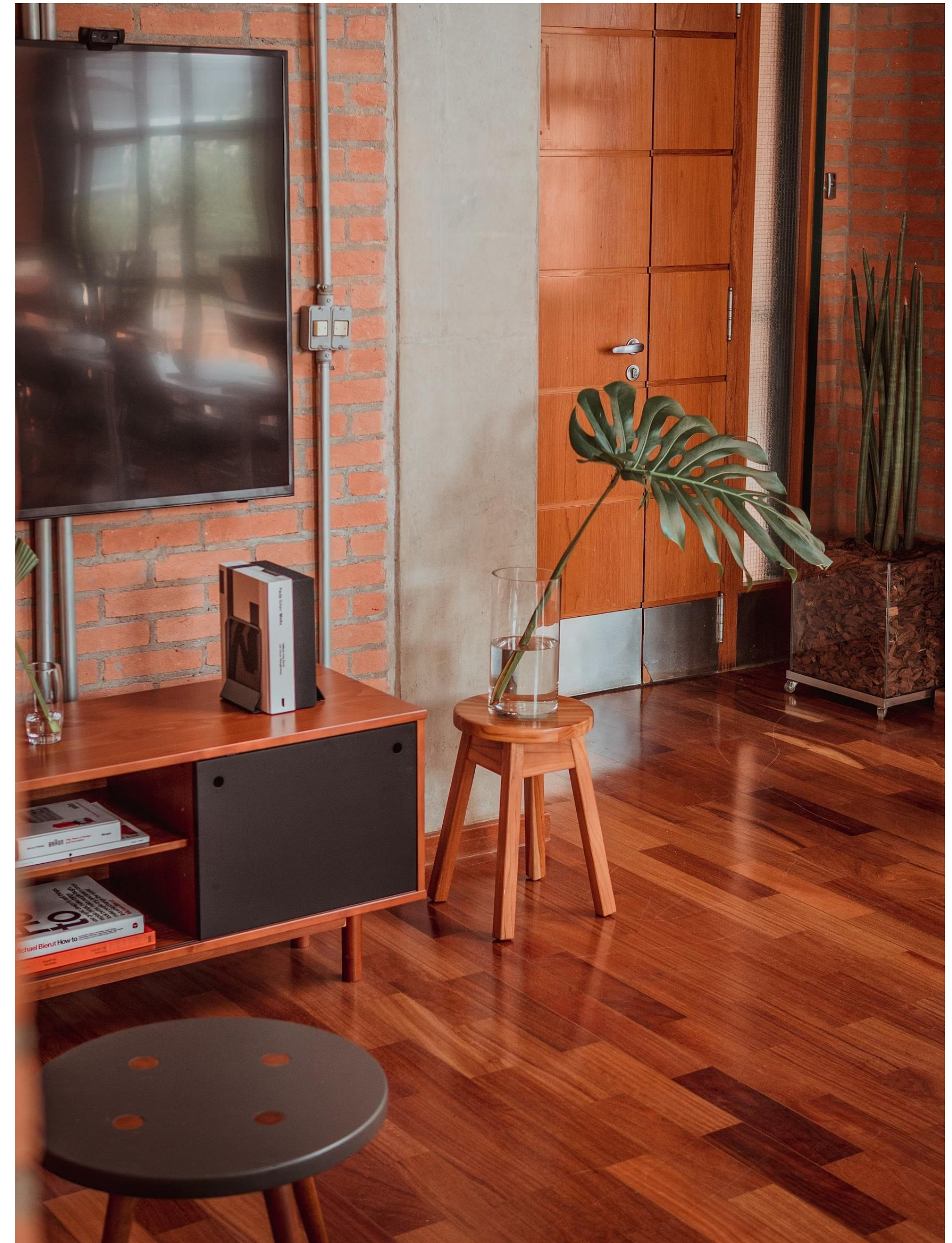


# TRANSPARENT 2K SEALER

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 301</b>	76.0
<b>B1</b>	Defoamer (BYK)	BYK 024	0.5
<b>C1</b>	Wetting agent (Münzing)	EDAPLAN 451	0.5
<b>D1</b>	Sanding agent	<b>LAMKOTE RO</b>	4.0
<b>E1</b>	Coalescent (DOW)	BUTYL CARBITOL	3.0
<b>E2</b>	Coalescent (DOW)	DOWANOL DPM	3.0
<b>E2</b>	Demi water	WATER	9.0
<b>F1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	4.0
<b>G1</b>		<b>CROSSLINKER 08 LM</b>	10
<b>Total</b>			110.0

Solid Content ≈ 33.4%

Brookfield Vx RVT 50 rpm spindle 3 20 °C = 980 cps





# ESACOTE® BIO 2249



- Anionic self X-linking urethane acrylic
- Low VOC
- Good hardness development
- Good stain and chemical resistance in 1K/2K formulations



- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Sustainability features

ESACOTE® BIO 2249 is made with raw materials from vegetal sources, obtained from plant-derived substances.

Biobased Content calculated on product anhydrous according to EN 16785:2 : **17%**

## Typical values

<b>Visual Appearance at 25 °C:</b>	opalescent liquid
<b>pH at 25°C</b> (on supplied product, ASTM E 70):	7.0-9.0
<b>Viscosity (cPs)</b> (on supplied product, Brookfield RVT @ 25 °C, 50 rpm spindle 2):	< 500
<b>Solid content, %:</b>	34.0-36.0

## Product properties

<b>Solvent content, %:</b>	<0.35 (MEK)
<b>Density, g/ml</b>	1.01 - 1.05
<b>Minimal film forming temperature, °C:</b>	~50°C
<b>Film aspect</b>	tough, transparent and glossy
<b>Koenig Hardness (s)</b>	~140

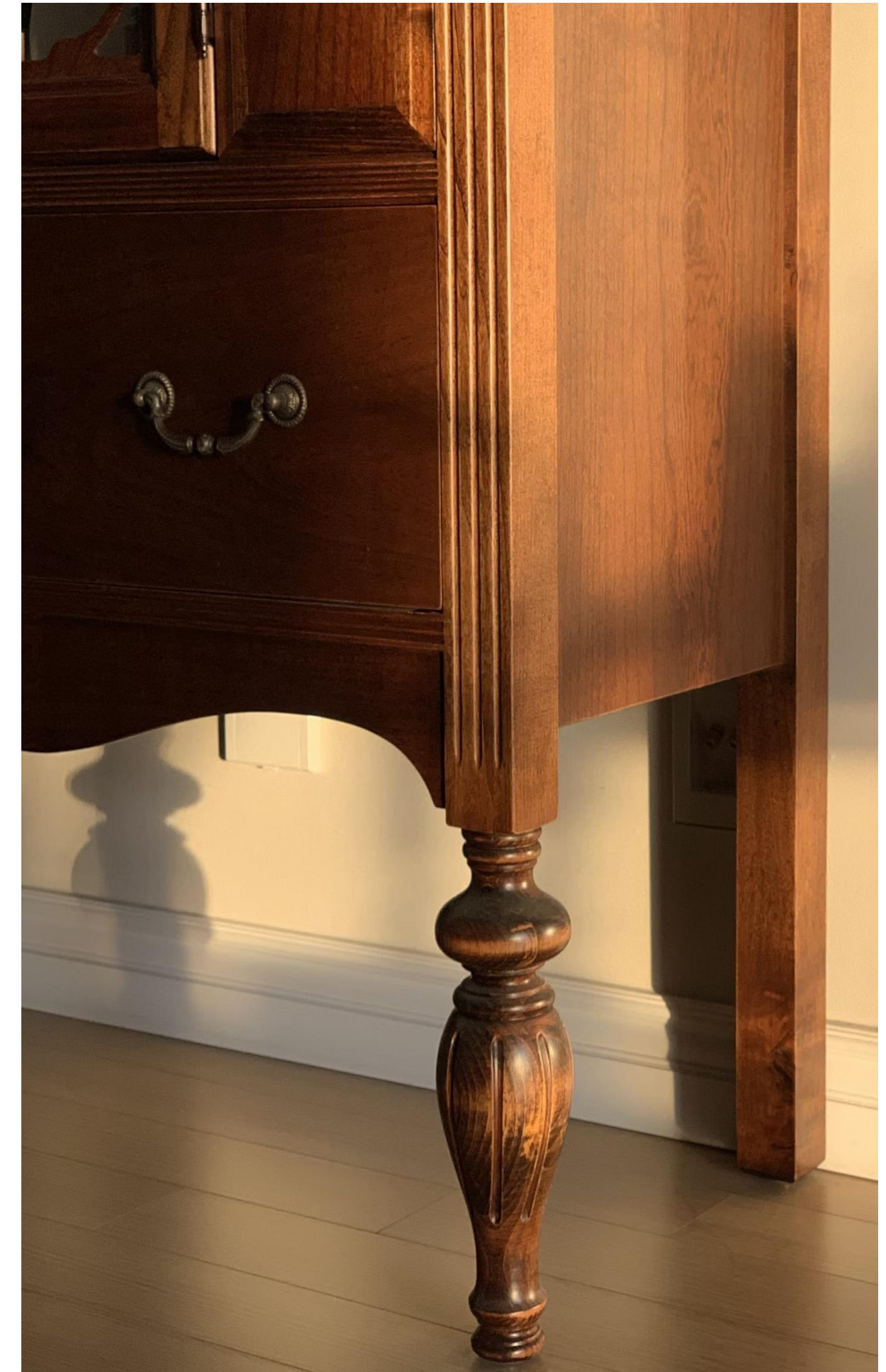
# RENEWABLE TRANSPARENT 1K SEALER

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® BIO 2249</b>	75.0
<b>B1</b>	Sanding agent	<b>LAMKOTE RO</b>	4.0
<b>B2</b>	Coalescent (DOW)	BUTYL CARBITOL	5.0
<b>C1</b>	Demi water	WATER	5.0
<b>D1</b>	Wetting agent (Munzing)	EDAPLAN 451	0.5
<b>E1</b>	Defoamer (BYK)	BYK 028	0.5
<b>G1</b>	Rheology modifier	<b>VISCOLAM® PS BIO 202 AIR</b>	6.0
<b>I1</b>	Rheology modifier	<b>VISCOLAM® PS BIO 170 AIR</b> (diluted 20%)	4.0
<b>Total</b>			100.0

Solid Content ≈ 30%

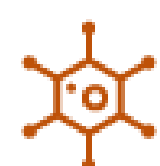
Ford cup 4 Vx = 1'

Renewable content on solid ≈ 24%





# ESACOTE® UA 7023



- Anionic self X-linking PUD
- Solvent free
- Quick drying
- High gloss and clarity
- Good hardness development
- Good mechanical and chemical resistance
- Good stain resistance



- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Typical values

<b>Appearance at 25 °C:</b>	opalescent liquid
<b>pH:</b> <b>(at 25°C on supplied product, ASTM E 70):</b>	7.0-9.0
<b>Viscosity (cPs)</b> <b>(Brookfield RVT @ 25 °C, 50 rpm spindle 1)</b>	<300
<b>Solid content, %:</b>	34.0-36.0

## Product properties

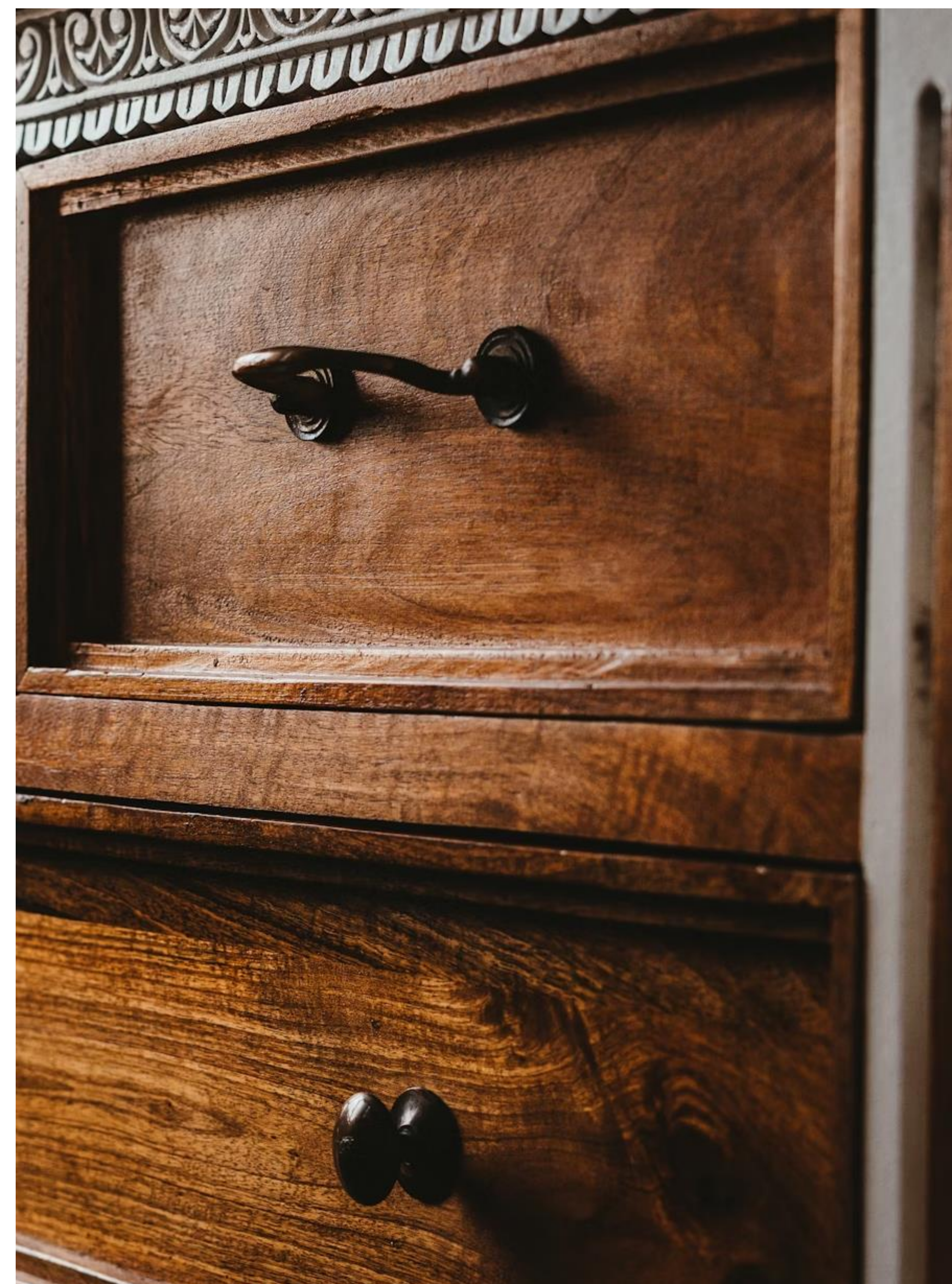
<b>Solvent content, %:</b>	0%
<b>Density, @ 25°C g/ml:</b>	1.01-1.03
<b>Minimal film forming temperature, °C:</b>	~60
<b>Koenig hardness (s)</b>	~140
<b>Film aspect:</b>	hard, transparent and glossy



# TRANSPARENT 1K SEALER

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® UA 7023</b>	76.0
<b>B1</b>	Coalescent (DOW)	BUTYL CARBITOL	8.0
<b>B2</b>	Demi water	WATER	8.0
<b>C1</b>	Wetting agent (Munzing)	EDAPLAN 451	0.5
<b>D1</b>	Sanding agent	<b>LAMKOTE RO</b>	4.0
<b>F1</b>	Defoamer (Evonik)	TEGO AIREX 904 W	0.1
<b>G1</b>	Defoamer (BYK)	BYK 024	0.5
<b>I1</b>	Rheology modifier	<b>VISCOLAM PS 170 AIR</b> (diluted 20%)	2.9
<b>Total</b>			100.0

Solid Content ≈ 30%  
 Ford cup 4 Vx = 25"

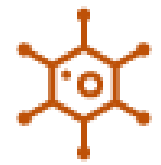




# Binders for antistain primers

ESACOTE<sup>®</sup> AC, ESACOTE<sup>®</sup> PU, ESACOTE<sup>®</sup> UA

# ESACOTE® AC 126



- Anionic acrylic emulsion
- Solvent and APEO free
- Suitable for clear and pigmented formulations



- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Typical values

<b>Appearance at 25 °C:</b>	milky liquid
<b>pH:</b> (at 25°C on supplied product, ASTM E 70):	4.0-6.0
<b>Viscosity (mPa.s):</b> (Brookfield RVT @ 25 °C, 20 rpm spindle 1)	<200
<b>Solid content, %:</b>	39.0-41.0

## Product properties

<b>Solvent content, %:</b>	0%
<b>Minimal film forming temperature, °C:</b>	~19
<b>Density @ 25°C, g/ml</b>	1.01-1.05
<b>Koenig hardness (sec):</b>	~80
<b>Film aspect:</b>	transparent and glossy



# ANTISTAIN PIGMENTED PRIMER

	F2W3-2020	Trade name	% w/w
<b>A1</b>	Dispersant	<b>FLUIJET® 1725</b>	8.0
<b>B1</b>	Demi water	WATER	16.4
<b>C1</b>	Titanium dioxide (Kronos)	KRONOS 2310	75.0
<b>D1</b>	Wetting agent (BYK)	BYK 349	0.3
<b>E1</b>	Defoamer (BYK)	BYK 024	0.3
<b>Total</b>			100.0

	F33W61-2021	Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 126</b>	42.5
<b>B1</b>	Titanium dioxide slurry	White paste F2W3-2020	20.0
<b>C1</b>	Filler (Imerys)	KAOLIN POLESTAR 200	23.5
<b>D1</b>	ZnO pigment (Eurochemicals)	ZnO pigment	1.5
<b>E1</b>	Wetting agent (BYK)	BYK 349	0.5
<b>F1</b>	Defoamer (BYK)	BYK 024	0.5
<b>G1</b>	Demi water	WATER	2.5
<b>H1</b>	Coalescent (DOW)	DOWANOL DPM	5.0
<b>I1</b>	Rheology modifier	<b>VISCOLAM® PS 202 AIR</b>	2.0
<b>Total</b>			100.0



Primer applied on solid oak	$\Delta L^*$ (360h -40°C)	$\Delta b^*$ (360h -40°C)
Top coat + Primer white STD	-0.54	1.28
Top coat + F33W61-2021	-0.11	0.21

Solid Content  $\approx$  57.8%.

Brookfield RVT Vx 20rpm - Spindle 3 - 20 °C  $\approx$  500 cps

# ESACOTE® AC 301



- Hydroxyil AC emulsion
- Solvent and APEO free
- Very good sandability



- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Typical values

<b>Appearance at 25 °C:</b>	milky liquid
<b>pH:</b> (at 25°C on supplied product, ASTM E 70):	7.0-8.0
<b>Viscosity (cPs)</b> (Brookfield RVT @ 25 °C, 50 rpm spindle 2)	<500
<b>Solid content, %:</b>	39.0-41.0

## Product properties

<b>Solvent content, % :</b>	0
<b>Density, @ 25°C g/ml:</b>	~1.03
<b>Minimal film forming temperature, °C:</b>	~60
<b>Koenig hardness (s)</b>	~95
<b>Hydroxyl content on solids (mg KOH/g):</b>	~58
<b>Film aspect:</b>	tough, transparent and glossy



# ANTISTAIN 2K PIGMENTED PRIMER

	F2W3-2020	Trade name	% w/w
<b>A1</b>	Dispersant	<b>FLUIJET® 1725</b>	8.0
<b>B1</b>	Demi water	WATER	16.4
<b>C1</b>	Titanium dioxide (Kronos)	KRONOS 2310	75.0
<b>D1</b>	Wetting agent (BYK)	BYK 349	0.3
<b>E1</b>	Defoamer (BYK)	BYK 024	0.3
<b>Total</b>			100.0

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 301</b>	48.0
<b>B1</b>	Titanium dioxide slurry	White paste F2W3-2020	20.0
<b>C1</b>	Filler (Imi Fabi)	Talc HTTP2	25.3
<b>D1</b>	Wetting agent (Evonik)	SURFYNOL 104 PG	0.5
<b>E1</b>	Additive	Na hexametaphosphate (20%)	0.5
<b>F1</b>	Defoamer (BYK)	BYK 1724	0.5
<b>G1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	4.0
<b>H1</b>	Antibubble (Evonik)	TEGO AIREX 904 W	0.2
<b>I1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (diluted 20%)	1.0
<b>J1</b>	Isocyanic crosslinker	<b>CROSSLINKER 08 LM</b>	10
<b>K1</b>	Demi water	WATER	5
<b>Total</b>			115.0

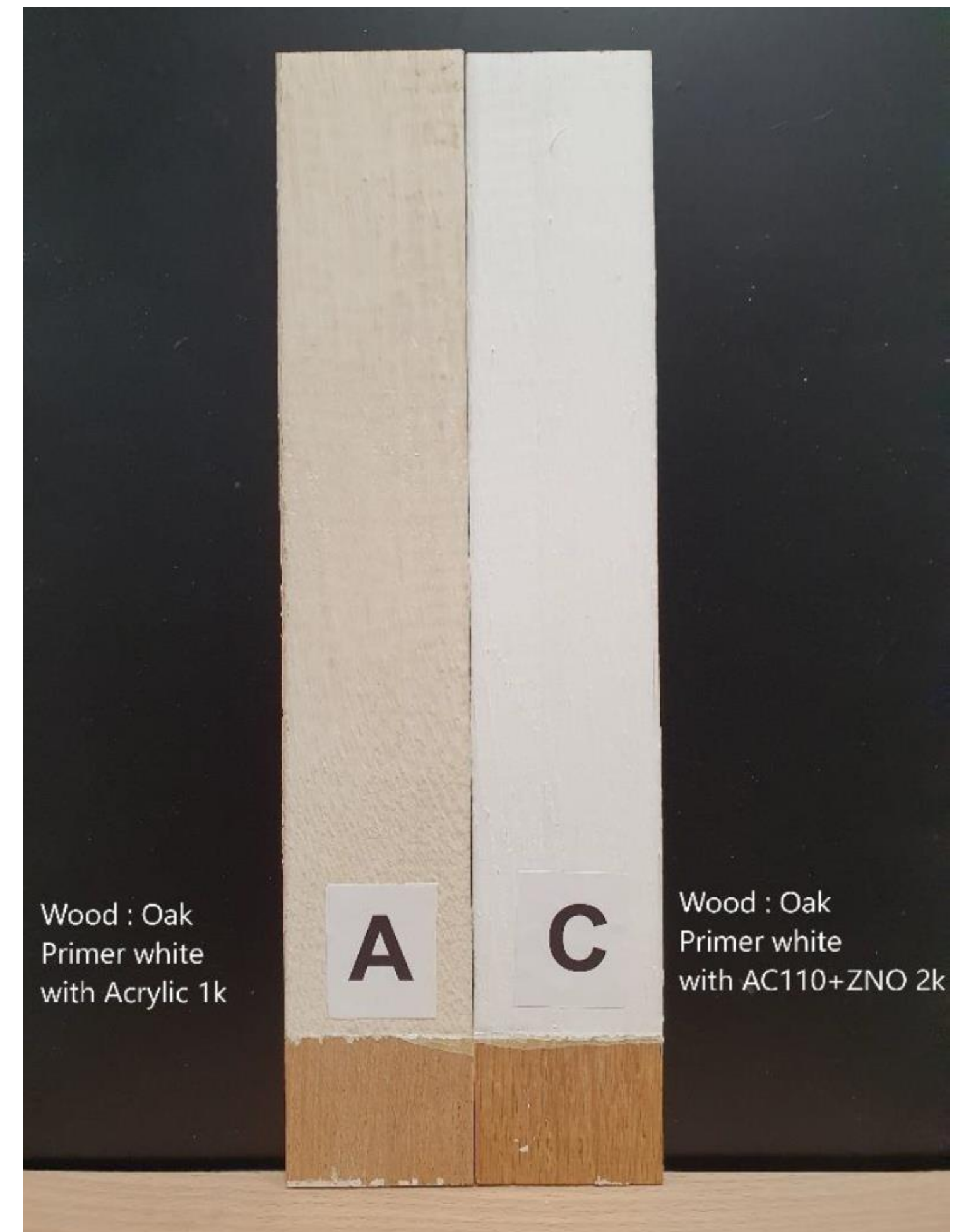
Solid Content ≈ 60%.

Brookfield RVT Vx ≈ 800 cps



# STAIN BLOCKING 2K PIGMENTED PRIMER

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 301</b>	28.0
<b>B1</b>	Defoamer (Evonik)	TEGO 825	0.5
<b>C1</b>	Wetting agent	<b>BAMAX 104</b> (50%)	0.5
<b>D1</b>	Titanium dioxide (Kronos)	KROOS 2310	6.5
<b>E1</b>	Binder	<b>ESACOTE® AC 301</b>	20.0
<b>F1</b>	ZnO (Zinc Oxide)	ZnO Sigillo oro	1.5
<b>G1</b>	Filler (Imi Fabi)	TALC HTTP2	25.5
<b>H1</b>	Demi water	WATER	11.8
<b>I1</b>	Coalescent (DOW)	BUTYLGLYCOL	4.0
<b>J1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	1.0
<b>K1</b>	Antibubble (Evonik)	TEGO AIREX 904 W	0.2
<b>L1</b>	Isocyanic crosslinker	CROSSLINKER 08 LM	10.0
<b>M1</b>	Demi water	WATER	5.0
<b>Total</b>			115.0

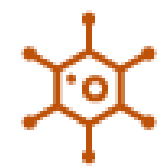




# Binders for top coats

ESACOTE<sup>®</sup> AC, ESACOTE<sup>®</sup> UA

# ESACOTE® AC 202



- Anionic self X-linking PAC
- High gloss and clarity
- Quick drying
- Good sandability
- Excellent chemical resistance
- Excellent adhesion on wood and melamine



- Suitable for sealers, primers and top coats
- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Typical values

<b>Appearance at 25 °C:</b>	milky liquid
<b>pH:</b> (at 25°C on supplied product, ASTM E 70):	7,0-8,0
<b>Viscosity (mPa.s):</b> (Brookfield RVT @ 25 °C, 20 rpm spindle 2)	< 500
<b>Solid content, %:</b>	42.0-44.0

## Product properties

<b>Solvent content, %:</b>	0%
<b>Minimal film forming temperature, °C:</b>	~50
<b>Density @ 25°C, g/ml</b>	~1.05
<b>Koenig hardness (sec):</b>	~85
<b>Film aspect:</b>	transparent and glossy





# 1K GLOSSY TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 202</b>	80.0
<b>B1</b>	Defoamer (BYK)	BYK 349	0.5
<b>C1</b>	Defoamer (BYK)	BYK 028	0.5
<b>D1</b>	Coalescent (DOW)	BUTYL CARBITOL	6.0
<b>E1</b>	Demi water	WATER	11.25
<b>F1</b>	Surface additive (BYK)	BYK 333	0.25
<b>G1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	1.2
<b>H1</b>	Defoamer (BYK)	BYK 024	0.3
<b>Total</b>			100.0

Solid Content ≈ 34%  
Brookfield viscosity 20°C ≈ 2000 - 2300 cps

Formulation	Gloss (60°)	Pencil Hardness
F10W11-2021 1K	87	HB

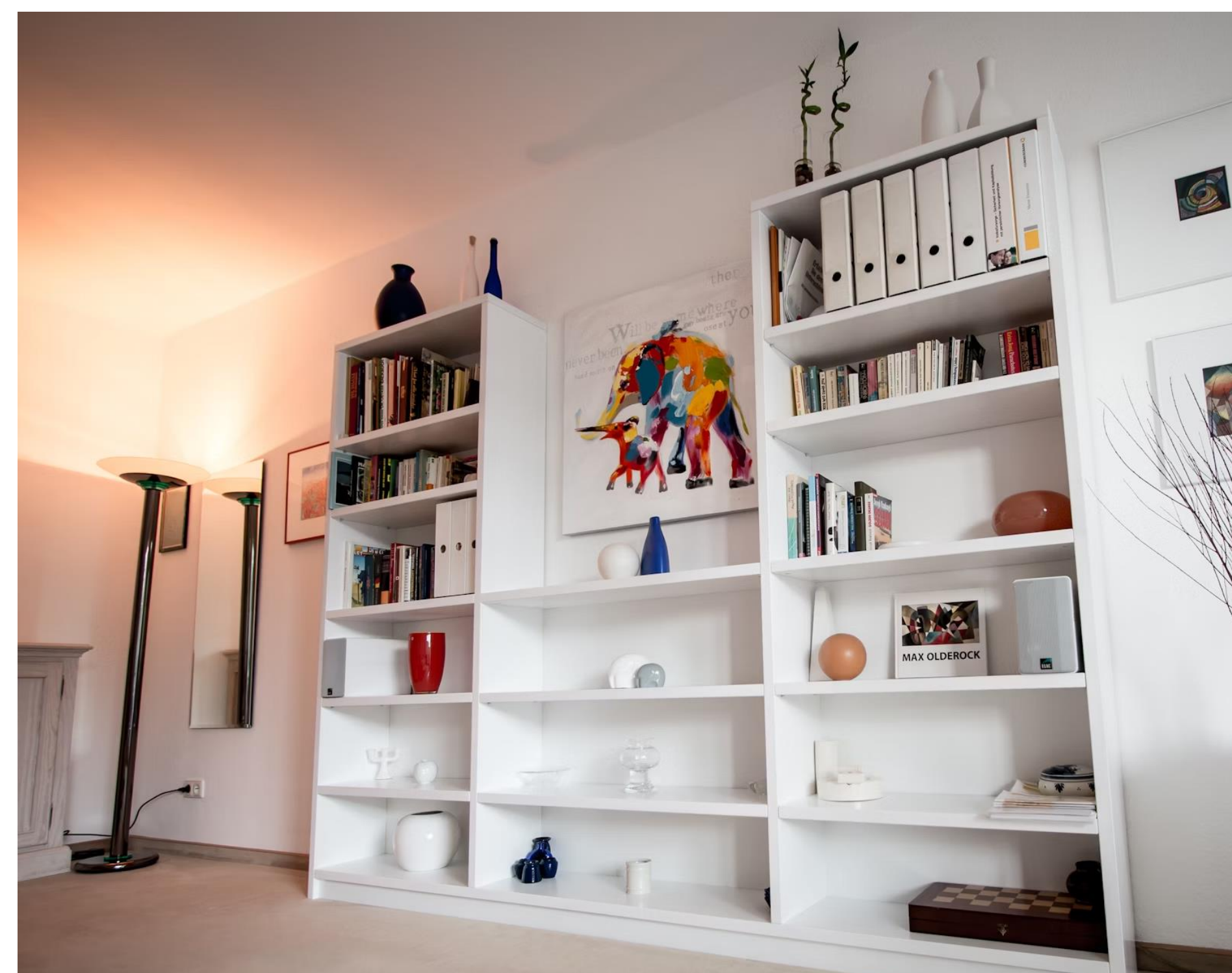
## Chemical and stain resistance EN 12720 - 1K

Formulation	NH <sub>3</sub> 10% - 1 h	Ethanol 48% - 1 h	Acetic Acid 10%- 1 h	Ketchup 1h	Coffee (40g/L) 1h	Mustard 1h	Shoe polish 1 h
F10W11-2021 1K	4	3	5	5	5	5	5

Formulation	MEK 10 min	Acetone 10 min	Paraffin oil 1h	Olive oil 1h	Water 1h	Water 8h	Water 16h
F10W11-2021 1K	3	3	5	5	5	4	2

# 2K GLOSSY TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 202</b>	80.0
<b>B1</b>	Defoamer (BYK)	BYK 349	0.5
<b>C1</b>	Defoamer (BYK)	BYK 028	0.5
<b>D1</b>	Coalescent (DOW)	BUTYL CARBITOL	6.0
<b>E1</b>	Demi water	WATER	11.25
<b>F1</b>	Surface additive (BYK)	BYK 333	0.25
<b>G1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	1.2
<b>H1</b>	Defoamer (BYK)	BYK 024	0.3
<b>I1</b>	Isocyanic crosslinker	<b>CROSSLINKER 08 LM</b>	10
<b>Total</b>			110.0



Solid Content ≈ 37.5%

Chemical and stain resistance EN 12720 - 2K							
Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1h	Mustard 1h	Shoe polish 1h
F10W11-2021 2K	4	4	5	5	5	5	5

Formula	MEK 10 min	Acetone 10 min	Paraffin oil 1h	Olive oil 1h	Water 1h	Water 8h	Water 16h
F10W11-2021 2K	3	3	5	5	5	4	3





# 1K MATT TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 202</b>	76.0
<b>B1</b>	Defoamer (BYK)	BYK 349	0.5
<b>C1</b>	Wax dispersion	<b>ADIWAX H05CW</b>	3.0
<b>D1</b>	Micronized wax (BYK)	CERAFLUOR 929N	0.5
<b>E1</b>	Matting silica (Evonik)	ACEMATT TS 100	2.0
<b>F1</b>	Defoamer (BYK)	BYK 028	0.5
<b>G1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	6.0
<b>H1</b>	Demi water	WATER	5.5
<b>I1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	6.0
<b>Total</b>			100.0

Solid Content ≈ 36%  
Brookfield viscosity 20°C ≈ 800 – 900 cps

Formula	Gloss (60°)	Pencil Hardness
F10W11-2021 1K	20	HB

## Chemical and stain resistance EN 12720 - 1K

Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1h	Mustard 1h	Shoe polish 1h
F2W11-2021 1K	4	3	5	5	5	5	5

Formula	MEK 10 min	Acetone 10 min	Paraffin oil 1h	Olive oil 1h	Water 1h	Water 8h	Water 16h
F2W11-2021 1K	4	4	5	5	5	1	1



# 2K MATT TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 202</b>	76.0
<b>B1</b>	Defoamer (BYK)	BYK 349	0.5
<b>C1</b>	Wax dispersion	<b>ADIWAX H05CW</b>	3.0
<b>D1</b>	Micronized wax (BYK)	CERAFLUOR 929N	0.5
<b>E1</b>	Matting silica (Evonik)	ACEMATT TS 100	2.0
<b>F1</b>	Defoamer (BYK)	BYK 028	0.5
<b>G1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	6.0
<b>H1</b>	Demi water	WATER	5.5
<b>I1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	6.0
<b>J1</b>	Isocyanic crosslinker	<b>CROSSLINKER 08 LM</b>	10
<b>Total</b>			110.0

Solid Content ≈ 39%

Formula	Gloss (60°)
F2W11-2021 2K	20

## Chemical and stain resistance EN 12720 - 2K

Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1h	Mustard 1h	Shoe polish 1h
F2W11-2021 2K	5	4	5	5	5	5	5

Formula	MEK 10 min	Aceton 10 min	Paraffin oil 1h	Olive oil 1h	Water 1h	Water 8h	Water 16h
F2W11-2021 2K	4	4	5	5	5	4	4





# 1K MATT ANTI SCRATCH TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 202</b>	70.0
<b>B1</b>	Microbeads	<b>DECOSPHAERA® 8-20</b>	10.0
<b>C1</b>	Wax dispersion	<b>ADIWAX H30F</b>	3.0
<b>D1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	5.0
<b>E1</b>	Demi water	WATER	6.8
<b>F1</b>	Wetting agent (BYK)	BYK 349	0.5
<b>G1</b>	Slip/mar agent (DOW)	DOWSIL 56 (50% diluted)	0.5
<b>H1</b>	Surface active (BYK)	BYK 342	0.2
<b>I1</b>	Defoamer (BYK)	BYK 1724	0.5
<b>J1</b>	Defoamer (BYK)	BYK 028	0.5
<b>K1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	3.0
<b>Total</b>			100.0

Solid Content ≈ 43%

Brookfield viscosity - 10 rpm - Spindle 2 - 20°C ≈ 800 cps

Gloss	20°	60°	85°
F15W09-2023 1K	1.4	10	20

## Chemical and stain resistance EN 12720 - 1K

Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1h	Mustard 1h	Shoe polish 1h
F2W11-2021 1K	5	3	4	5	5	4	2

Formula	MEK 10 min	Nivea cream 1h	Sun cream 1h	Olive oil 1h	Betadine 1h	Water 6h	Water 16h
F2W11-2021 1K	3-4	5	5	5	2	5	5

# 1K MATT TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 202</b>	52.0
<b>B1</b>	Inherently matt binder	<b>ESACOTE® PU 980</b>	8.0
<b>C1</b>	Wetting agent (Munzing)	EDAPLAN 451	0.5
<b>D1</b>	Defoamer(BYK)	BYK 028	0.5
<b>E1</b>	Slip/mar agent (DOW)	DOWSIL 51	0.25
<b>F1</b>	Demi water	WATER	0.25
<b>G1</b>	Microbeads	<b>DECOSPHAERA® 8-20</b>	10.0
<b>H1</b>	Demi water	WATER	8.8
<b>I1</b>	Wax dispersion	<b>ADIWAX H 05CW</b>	3.0
<b>J1</b>	Defoamer (BYK)	BYK 1724	0.5
<b>K1</b>	Wetting agent (BYK)	BYK 342	0.2
<b>L1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	6.0
<b>M1</b>	Demi water	WATER	6.0
<b>N1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	3.0
<b>O1</b>	Rheology modifier	<b>VISCOLAM® PS 202 AIR</b>	1.0
<b>Total</b>			100.0

Solid Content ≈ 35%

Brookfield viscosity 10 rpm - Spindle 2 - 20°C ≈ 1480 cps







# 1K MATT TOP COAT

Formulation	Gloss (60°)	Pencil Hardness
F15W6-2022 1K	6	HB

Chemical and stain resistance EN 12720 - 1K							
Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1h	Coffee (20g/L) 6h	Coffee (20g/L) 16h
F15W6-2022 1K	4	3	4	5	5	3-4	3-4

Formula	MEK 10 min	Aceton 10 min	Mustard 1h	Shoe polish 1h	Water 1h	Water 6h	Water 16h
F15W6-2022 1K	3	3	5	4	3-4	2	2





# 2K MATT TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 202</b>	52.0
<b>B1</b>	Inherently matt binder	<b>ESACOTE® PU 980</b>	8.0
<b>C1</b>	Wetting agent (Munzing)	EDAPLAN 451	0.5
<b>D1</b>	Defoamer(BYK)	BYK 028	0.5
<b>E1</b>	Slip/mar agent (DOW)	DOWSIL 51	0.25
<b>F1</b>	Demi water	WATER	0.25
<b>G1</b>	Microbeads	<b>DECOSPHAERA® 8-20</b>	10.0
<b>H1</b>	Demi water	WATER	8.8
<b>I1</b>	Wax dispersion	<b>ADIWAX H 05CW</b>	3.0
<b>J1</b>	Defoamer (BYK)	BYK 1724	0.5
<b>K1</b>	Wetting agent (BYK)	BYK 342	0.2
<b>L1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	6.0
<b>M1</b>	Demi water	WATER	6.0
<b>N1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	3.0
<b>O1</b>	Rheology modifier	<b>VISCOLAM® PS 202 AIR</b>	1.0
<b>P1</b>	Isocyanic crosslinker	<b>CROSSLINKER 08 LM</b>	10
<b>Total</b>			110.0

Solid Content ≈ 35%

Brookfiled viscosity 10 rpm – Spindle 2 - 20°C ≈ 1480 cps







# 2K MATT TOP COAT

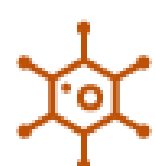
Formulation	Gloss (60°)	Pencil Hardness
F15W6-2022 2K	7	F-H

Chemical and stain resistance EN 12720 - 2K							
Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1h	Coffee (20g/L) 6h	Coffee (20g/L) 16h
F15W6-2022 2K	4	3	4	5	5	4	4

Formula	MEK 10 min	Aceton 10 min	Mustard 1h	Shoe polish 1h	Water 1h	Water 6h	Water 16h
F15W6-2022 2K	3-4	3-4	4	4	5	5	5



# ESACOTE® AC 301



- Hydroxyil AC emulsion
- Solvent and APEO free
- Excellent hardness
- Very good sandability



- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Typical values

<b>Appearance at 25 °C:</b>	milky liquid
<b>pH:</b> <b>(at 25°C on supplied product, ASTM E 70):</b>	7.0-8.0
<b>Viscosity (cPs)</b> <b>(Brookfield RVT @ 25 °C, 50 rpm spindle 2)</b>	<500
<b>Solid content, %:</b>	39.0-41.0

## Product properties

<b>Solvent content, % :</b>	0
<b>Density, @ 25°C g/ml:</b>	~1.03
<b>Minimal film forming temperature, °C:</b>	~60
<b>Koenig hardness (s)</b>	~95
<b>Hydroxyl content on solids (mg KOH/g):</b>	~58
<b>Film aspect:</b>	tough, transparent and glossy





# 2K GLOSSY TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 301</b>	80.0
<b>B1</b>	Defoamer (BYK)	BYK 011	1.0
<b>C1</b>	Wetting agent (BYK)	BYK 349	0.5
<b>D1</b>	Coalescent (DOW)	BUTYL CARBITOL	4.0
<b>E1</b>	Demi water	WATER	4.0
<b>G1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (diluted 20%)	3.0
<b>H1</b>	Demi water	WATER	7.5
<b>I1</b>	Isocyanic crosslinker	<b>CROSSLINKER 08 LM</b>	10.0
<b>Total</b>			110.0

Solid Content ≈ 39.8%

Formulation	Gloss (20°/60°/85°)	Pencil Hardness
F4W62-2021 2k	55/81/95	F-H

## Chemical and stain resistance EN 12720 - 2K - Melamin Panel

Formulation	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1h	Mustard 1h	Shoe polish 1h
F4W62-2021	5	3	5	5	5	5	5

Formulation	MEK 10 min	Aceton 10 min	Paraffin oil 1h	Olive oil 1h	Water 1h	Water 6h	Water 16h
F4W62-2021	1	1	5	5	5	5	5



# 2K MATT TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 301</b>	74.1
<b>B1</b>	Defoamer (Evonik)	TEGO FOAMEX 825	0.5
<b>C1</b>	Wetting agent (BYK)	BYK 341 (20% in BDG)	0.3
<b>D1</b>	Wetting agent (Evonik)	SURFINOL 104 E	0.3
<b>E1</b>	Wax dispersion	<b>ADIWAX H 05CW</b>	3.0
<b>F1</b>	Slip/mar agent (DOW)	DOWSIL 51	0.25
<b>G1</b>	Demi water	WATER	0.25
<b>H1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	5.0
<b>J1</b>	Demi water	WATER	10.2
<b>K1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (diluted 20%)	4.0
<b>H1</b>	Defoamer (Munzing)	AGITAN 760	0.1
<b>L1</b>	Silica (Evonik)	ACEMATT TS 100	1.5
<b>M1</b>	Wax (Micro Powder)	AQUAWAX R 214 VF	0.5
<b>N1</b>	Isocyanic crosslinker	<b>CROSSLINKER 08 LM</b>	10.0
<b>Total</b>			110.0







# 2K MATT TOP COAT

Formulation	Gloss (20°/60°/85°)	Pencil Hardness
F4W62-2021 2k	3/22/42	H

Chemical and stain resistance EN 12720 - 2K- Melammin Panel							
Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1h	Mustard 1h	Shoe polish 1h
F3W62-2021	4	3	5	5	5	5	4

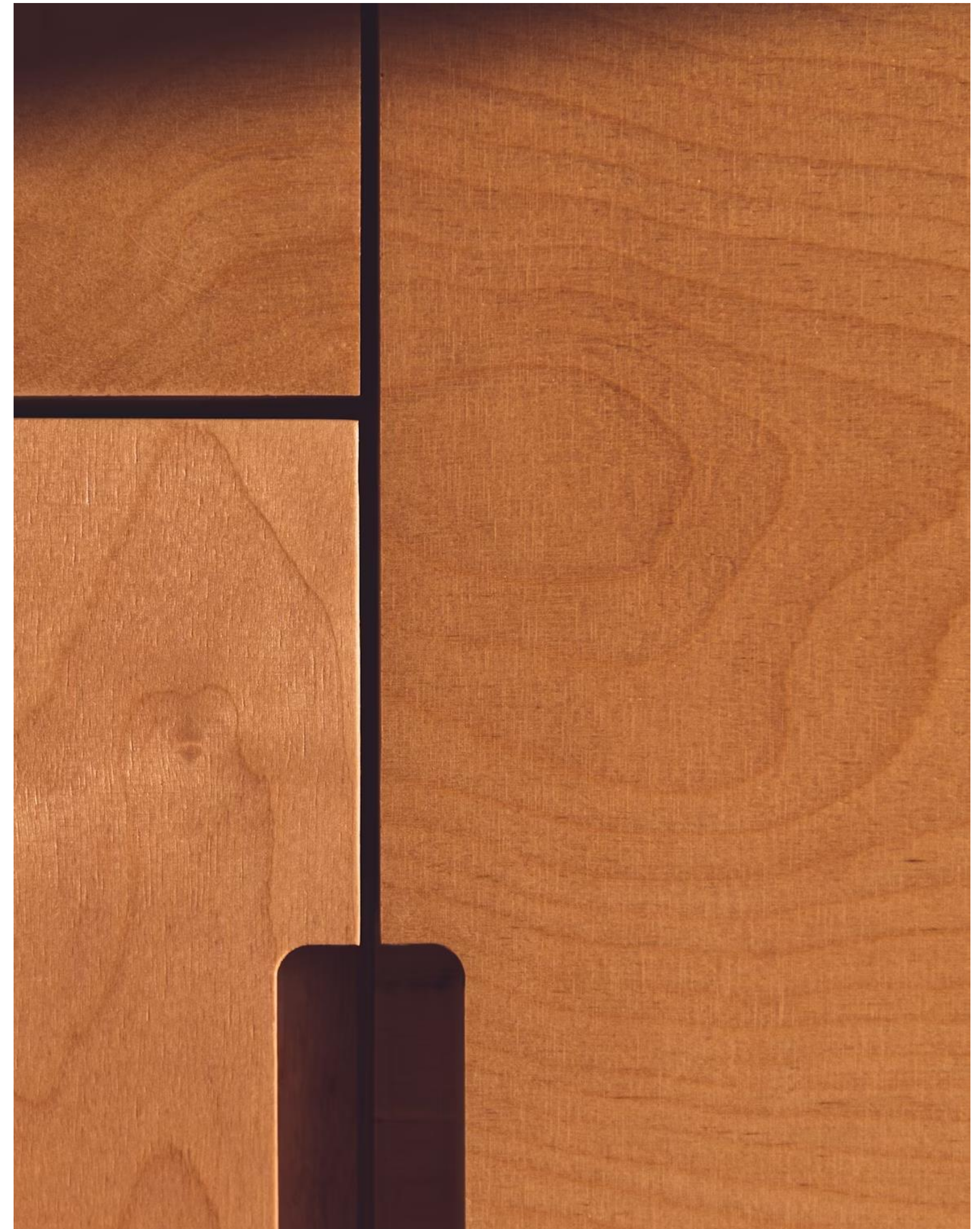
Formula	MEK 10 min	Aceton 10 min	Paraffin oil 1h	Olive oil 1h	Water 1h	Water 6h	Water 16h
F3W62-2021	1	1	5	5	5	5	5



# 2K MATT TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 301</b>	52.0
<b>B1</b>	Inherently matt binder	<b>ESACOTE® PU 980</b>	8.0
<b>C1</b>	Wetting agent (Munzing)	EDAPLAN 451	0.5
<b>D1</b>	Defoamer (BYK)	BYK 028	0.5
<b>E1</b>	Slip/mar agent (DOW)	DOWSIL 51	0.25
<b>F1</b>	Demi water	WATER	0.25
<b>G1</b>	Microbrads	<b>DECOSPHAERA® 8-20</b>	10.0
<b>H1</b>	Demi water	WATER	10.8
<b>I1</b>	Wax dispersion	<b>ADIWAX H 05CW (30%)</b>	3.0
<b>K1</b>	Defoamer (BYK)	BYK 1724	0.5
<b>J1</b>	Coalescent (DOW)	BUTYIL DIGLYCOL	2.0
<b>L1</b>	Coalescent (DOW)	DOWANOL DPM	3.0
<b>M1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	3.0
	Rheology modifier	<b>VISCOLAM® PS 202 AIR</b>	1.0
<b>Total</b>			100.0

Solid Content ≈ 33%







# 2K MATT TOP COAT

Formulation	Gloss (60°)	Pencil Hardness
F20W26-2022 2K	5	HB

Chemical and stain resistance EN 12720 - 2K							
Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1h	Coffee (40g/L) 6h	Coffee (40g/L) 16h
F20W6-2022 2K	3-4	3	4	5	5	5	5

Formula	MEK 10 min	Aceton 10 min	Mustard 1h	Shoe polish 1h	Water 1h	Water 6h	Water 16h
F20W6-2022 2K	3	3	5	2	5	4	4







## 2K MATT WHITE TOP COAT

	White paste 2081	Trade name	% w/w
<b>A1</b>	Dispersant (BYK)	<b>DISPERBYK 2081</b>	4.17
<b>B1</b>	Demi water	WATER	20.46
<b>C1</b>	Titanium dioxide (Kronos)	KRONOS 2310	74.22
<b>D1</b>	Rheology additive	<b>VISCOLAM® PS 202</b>	1.15
<b>Total</b>			100.0

	F3W62-2021 (2K)	Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 301</b>	74.1
<b>B1</b>	Defoamer (Evonik)	TEGO FOAMEX 825	0.5
<b>C1</b>	Wetting agent (BYK)	BYK 341 (20% in BDG)	0.3
<b>D1</b>	Wetting agent (Evonik)	SURFYNOL 104 E	0.3
<b>E1</b>	Wax dispersion	<b>ADIWAX H05CW</b>	3.0
<b>F1</b>	Slip/mar agent (DOW)	DOWSIL 51	0.25
<b>G1</b>	Demi water	WATER	0.25
<b>H1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	50
<b>J1</b>	Demi water	WATER	10.2
<b>K1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (diluted 20%)	4.0
<b>L1</b>	Defoamer (Munzing)	AGITAN 760	0.1
<b>Total</b>			100.0

		Trade name	% w/w
<b>A1</b>	Binder	F3W62-2021 1K (AC 301 based)	77.0
<b>B1</b>	Titanium dioxide paste	White paste 2081	20.0
<b>C1</b>	Silica	GASIL 800	1.5
<b>D1</b>	Wax (Micro Powder)	ACQUAWAX 214 VF	0.5
<b>E1</b>	Rheological additive	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	1.0
<b>F1</b>	Isocyanic crosslinker (Wnahua)	AQUOLIN 270	10
<b>Total</b>			110.0



# 2K MATT WHITE TOP COAT

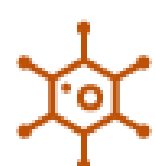
Formulation	Gloss (20/60/85°)	Pencil Hardness
F6W62-2021-2K	6/29 / 54	H

Chemical and stain resistance EN 12720 – 2K- melammin Panel							
Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% 1 / 6 / 16h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1 / 6 / 16 h	Mustard 1h	Shoe polish 1h
F6W62-2021	5	4/4/4	5	5	3-4/3-/3-	5	3

Formula	MEK 10 min	Aceton 10 min	Water 1h	Water 6h	Water 16h
F6W62-2021	1	1	5	5	5



# ESACOTE® AC 565



- Anionic self X-linking PAC
- Solvent and APEO free
- High gloss and clarity
- Good hardness
- Excellent stain resistance in 1K formulations



- Suitable for sealers, primers and top coats
- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Typical values

<b>Appearance at 25 °C:</b>	milky liquid
<b>pH:</b> (at 25°C on supplied product, ASTM E 70):	7.0-8.0
<b>Viscosity (mPa.s):</b> (Brookfield RVT @ 25 °C, 20 rpm spindle 2)	< 500
<b>Solid content, %:</b>	39.0-41.0

## Product properties

<b>Solvent content, %:</b>	0%
<b>Minimal film forming temperature, °C:</b>	~55
<b>Density @ 25°C, g/ml</b>	~1.05
<b>Koenig hardness (sec):</b>	~125
<b>Film aspect:</b>	transparent and glossy





# 1K GLOSSY TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 565</b>	80.0
<b>B1</b>	Wetting agent (Münzing)	EDAPLAN 451	0.5
<b>C1</b>	Defoamer (BYK)	BYK 028	0.5
<b>D1</b>	Defoamer (BYK)	BYK 1724	0.5
<b>E1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	4.0
<b>F1</b>	Demi water	WATER	12.9
<b>G1</b>	Surface additive (BYK)	BYK 333	0.1
<b>H1</b>	Demi water	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	1.5
<b>Total</b>			100.0

Solid Content ≈ 33%

Brookfiled RVT Vx 50 rpm – Spindle 2 -20 °C ≈ 90 cps

Formulation	Gloss (25°)	Gloss (60°)
AC 565 1K	47	84

Formulation	Water 1h	Water 8h	Water 16h
AC 565 1K	5	5	5

## Chemical and stain resistance EN 12720 – 1K on veneered walnut

Formulation	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Acetone 10 min	Sun cream 1h	Nivea Cream 1h	Oliv oil 1h
AC 565 1K	2	3	5	1-2	4	5	5

## Stain resistance EN 12720 – 1K on solid maple

Formulation	Mustard 1h	Shoe polish 1h	Coffee (40g/L) 1h	Ketchup 1h	Betadine 1h
AC 565 1K	5	3	5	5	3-4



# 1K GLOSSY TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 565</b>	80.0
<b>B1</b>	Wetting agent (Münzing)	EDAPLAN 451	0.5
<b>C1</b>	Defoamer (BYK)	BYK 028	0.5
<b>D1</b>	Defoamer (BYK)	BYK 1724	0.5
<b>E1</b>	Coalescent (DOW)	BDG / DPnB (3:2)	5.0
<b>F1</b>	Demi water	WATER	11.9
<b>G1</b>	Surface additive (BYK)	BYK 333	0.1
<b>H1</b>	Demi water	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	1.5
<b>Total</b>			100.0

Solid Content ≈ 33%

Brookfiled RVT Vx 50 rpm – Spindle 2 -20 °C ≈ 90 cps

Formulation	Gloss (25°)	Gloss (60°)
AC 565 1K	47	84

Formulation	Water 1h	Water 8h	Water 16h
AC 565 1K	5	5	5

## Chemical and stain resistance EN 12720 – 1K on veneered walnut

Formulation	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Acetone 10 min	Sun cream 1h	Nivea Cream 1h	Oliv oil 1h
AC 565 1K	2	4	5	1-2	4	5	5

## Stain resistance EN 12720 – 1K on solid maple

Formulation	Mustard 1h	Shoe polish 1h	Coffee (40g/L) 1h	Ketchup 1h	Betadine 1h
AC 565 1K	5	3	5	5	3-4



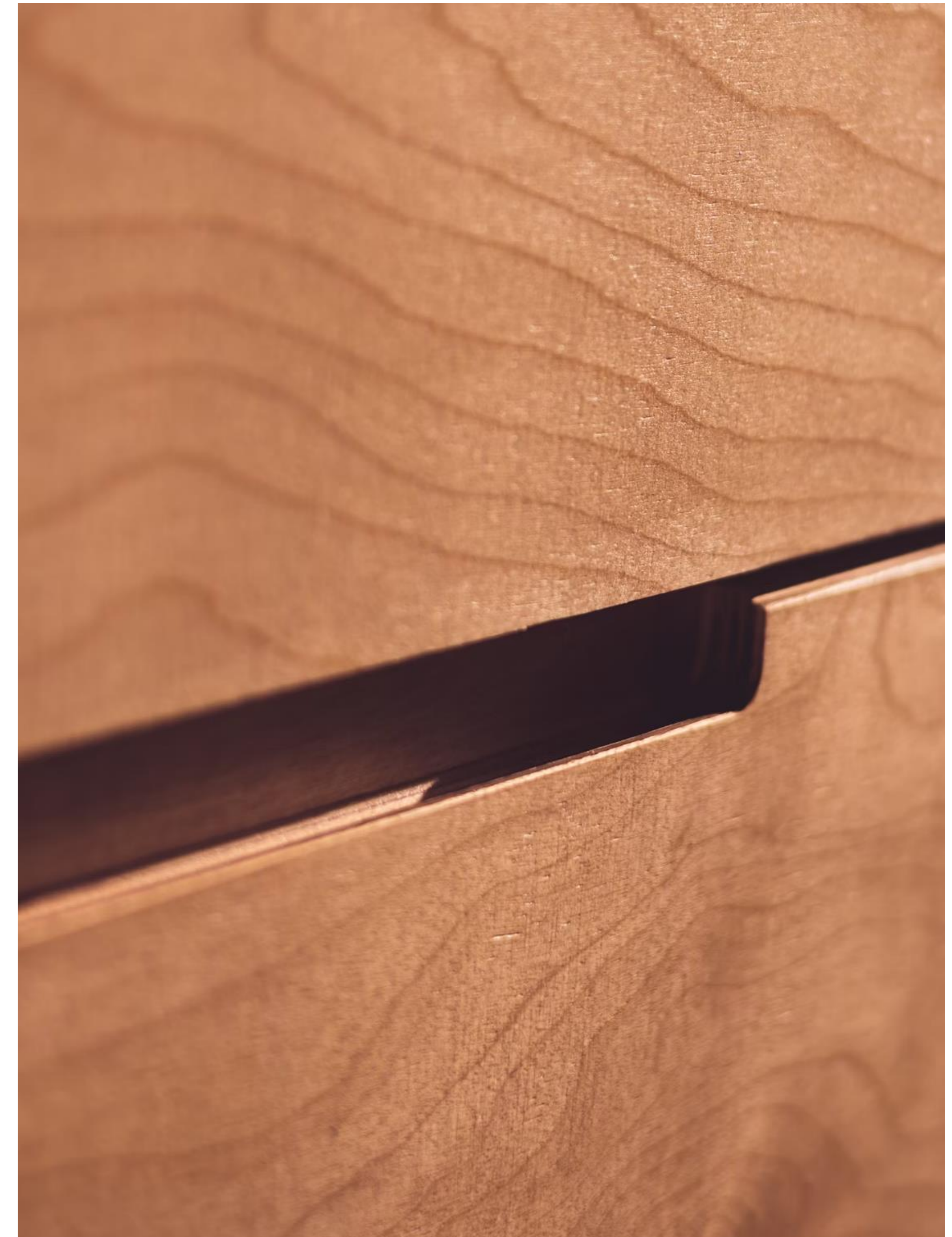
# 1K GLOSSY WHITE TOP COAT

	F1PW29-2022 (1K)	Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 565</b>	64.0
<b>B1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	3.6
<b>C1</b>	Demi water	WATER	3.6
<b>D1</b>	Wetting agent (Munzing)	EDAPLAN 451	0.4
<b>E1</b>	Defoamer (BYK)	BYK 028	0.4
<b>F1</b>	Surface additive (BYK)	BYK 333	0.1
<b>K1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (diluted 20%)	2.3
<b>L1</b>	Titanium dioxide paste	WHITE PASTE 2081	20.0
<b>Total</b>			100.0

	White paste 2081	Trade name	% w/w
<b>A1</b>	Dispersant (BYK)	<b>DISPERBYK 2081</b>	4.17
<b>B1</b>	Demi water	WATER	20.46
<b>C1</b>	Titanium dioxide (Kronos)	KRONOS 2310	74.22
<b>D1</b>	Rheology additive	<b>VISCOLAM® PS 202</b>	1.15
<b>Total</b>			100.0

Solid Content ≈ 42%

Brookfiled RVT Vx 20 rpm – Spindle 3 -20 °C ≈ 3300 cps





# 1K GLOSSY WHITE TOP COAT

Formulation	Gloss (20/60/85°)
F1PW29-2022 1K	40 / 72 / 95

Chemical and stain resistance EN 12720 - 1K							
Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Ethanol 48% - 16h	Ethanol 94% - 1h	Acetic A. 10% 1h	Olive oil 1h	Sun cream 1h
F1PW29-2022 1K	4-5	3	1-2	2	5	5	2-3

Formula	Water 1h	Water 16h	Coffee (40g/L) 1h	Coffee (40g/L) 16h	Mustard 1h	Shoe polish (kiwi) 1h	Betadine (in water) 1h
F1PW29-2022 1K	5	5	3	2-3	3-4	2	3

Formula	Bic pen 1h	Lipstick 1h	Marker 1h	Ketchup 1h
F1PW29-2022 1K	3	4-5	1-2	5



# 1K GLOSSY WHITE TOP COAT

	F1PW29-2022 (1K)	Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 565</b>	64.0
<b>B1</b>	Coalescent (DOW)	BDG / DPnB (3:2)	4.0
<b>C1</b>	Demi water	WATER	4.0
<b>D1</b>	Wetting agent (Munzing)	EDAPLAN 451	0.4
<b>E1</b>	Defoamer (BYK)	BYK 028	0.4
<b>F1</b>	Surface additive (BYK)	BYK 333	0.1
<b>K1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (diluted 20%)	1.67
<b>L1</b>	Titanium dioxide paste	WHITE PASTE 2081	20.0
<b>Total</b>			100.0

	White paste 2081	Trade name	% w/w
<b>A1</b>	Dispersant (BYK)	<b>DISPERBYK 2081</b>	4.17
<b>B1</b>	Demi water	WATER	20.46
<b>C1</b>	Titanium dioxide (Kronos)	KRONOS 2310	74.22
<b>D1</b>	Rheology additive	<b>VISCOLAM® PS 202</b>	1.15
<b>Total</b>			100.0

Solid Content ≈ 41%

Brookfiled RVT Vx 20 rpm – Spindle 4 -20 °C ≈ 1600 cps







# 1K GLOSSY WHITE TOP COAT

Formulation	Gloss (20/60/85°)
F16PW29-2022 1K	39 / 73 / 94

Chemical and stain resistance EN 12720 - 1K							
Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Ethanol 48% - 16h	Ethanol 94% - 1h	Acetic A. 10% 1h	Olive oil 1h	Sun cream 1h
F16PW29-2022 1K	5	3	1-2	2	5	5	2

Formula	Water 1h	Water 16h	Coffee (40g/L) 1h	Coffee (40g/L) 16h	Mustard 1h	Shoe polish (kiwi) 1h	Betadine (in water) 1h
F16PW29-2022 1K	5	5	3	2-3	5	3	3

Formula	Bic pen 1h	Lipstick 1h	Marker 1h	Ketchup 1h
F16PW29-2022 1K	2	4-5	1	5



# 2K GLOSSY WHITE TOP COAT

	F1PW29-2022 (1K)	Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® AC 565</b>	64.0
<b>B1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	3.6
<b>C1</b>	Demi water	WATER	3.6
<b>D1</b>	Wetting agent (Munzing)	EDAPLAN 451	0.4
<b>E1</b>	Defoamer (BYK)	BYK 028	0.4
<b>F1</b>	Surface additive (BYK)	BYK 333	0.1
<b>G1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (diluted 20%)	2.3
<b>H1</b>	Demi water	WATER	5.6
<b>I1</b>	Titanium dioxide paste	WHITE PASTE 2081	20.0
<b>L1</b>	Isocyanic crosslinker (Covestro)	BAYHYDUR 2655 (80% in propylene carbonate)	10.0
<b>Total</b>			110.0

Solid Content ≈ 42%





# 2K GLOSSY WHITE TOP COAT

Formulation	Gloss (20/60/85°)
F1PW29-2022 2K	42 / 75 / 96

Chemical and stain resistance EN 12720 - 2K							
Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Ethanol 48% - 16h	Ethanol 94% - 1h	Acetic A. 10% 1h	Olive oil 1h	Sun cream 1h
F1PW29-2022 2K	5	5	4	1-2	4	5	3-4

Formula	Water 1h	Water 16h	Coffee (40g/L) 1h	Coffee (40g/L) 16h	Mustard 1h	Shoe polish (kiwi) 1h	Betadine (in water) 1h
F1PW29-2022 2K	5	5	3	2-3	3-4	2-3	3

Formula	Bic pen 1h	Lipstick 1h	Marker 1h	Ketchup 1h
F1PW29-2022 2K	4-5	3	2	5



# ESACOTE® BIO 2249



- Self X-link urethaneacrylic
- Good hardness development
- Good stain and chemical resistance 1K



- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Sustainability features

ESACOTE® BIO 2249 is made with raw materials from vegetal sources, obtained from plant-derived substances.

Biobased Content calculated on product anhydrous according to EN 16785:2 : **17%**

## Typical values

<b>Visual Appearance at 25 °C:</b>	opalescent liquid
<b>pH at 25°C</b> (on supplied product, ASTM E 70):	7.0-9.0
<b>Viscosity (cPs)</b> (on supplied product, Brookfield RVT @ 25 °C, 50 rpm spindle 2):	< 500
<b>Solid content, %:</b>	34.0-36.0

## Product properties

<b>Solvent content, %:</b>	<0.35 (MEK)
<b>Density, g/ml</b>	1.01 - 1.05
<b>Minimal film forming temperature, °C:</b>	~50°C
<b>Film aspect</b>	tough, transparent and glossy
<b>Koenig Hardness (s)</b>	~140



# 1K RENEWABLE GLOSSY TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® BIO 2249</b>	80.0
<b>B1</b>	Wax dispersion	<b>ADIWAX H 30 F</b>	2.0
<b>C1</b>	Coalescent (DOW)	BUTYL CARBITOL	5.0
<b>D1</b>	Demi water	WATER	7.3
<b>E1</b>	Wetting agent (BYK)	BYK 349	0.5
<b>F1</b>	Surface additive (BYK)	BYK 333	0.2
<b>G1</b>	Defoamer (Evonik)	TEGO AIREX 902 W	0.5
<b>H1</b>	Defoamer (BYK)	BYK 028	0.5
<b>I1</b>	Rheology modifier	<b>VISCOLAM® PS BIO 202 AIR</b>	3.0
<b>J1</b>	Rheology modifier	<b>VISCOLAM® PS BIO 170 AIR</b> (diluted 20%)	1.0
<b>Total</b>			100.0

Solid Content ≈ 30%  
 Ford cup 4 Vx = 90"  
 Renewable content on solid ≈ 19%

Gloss	20°	60°	85°
F13W03-2023 1K	44	73	81

## Chemical and stain resistance EN 12720 - 1K

Formulation	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee 1h (40g/L)	Coffee 6h (40g/L) 6	Coffee 16h (40g/L)
F13W03-2023 1K	2	4-5	5	5	5	3	3

Formulation	Mustard 1h	Sun cream 1 h	Ethanol 96% - 1h	Water 1h	Water 8h	Water 16h
F13W03-2023 1K	5	4-5	4	5	5	5





# 1K RENEWABLE MATT TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® BIO 2249</b>	80.0
<b>B1</b>	Microbeads	<b>DECOSPHAERA® BIO 8-TR</b>	2.0
<b>C1</b>	Wax dispersion	<b>ADIWAX H 30 F</b>	2.0
<b>D1</b>	Coalescent (DOW)	BUTYL CARBITOL	5.0
<b>E1</b>	Demi water	WATER	11.3
<b>F1</b>	Wetting agent (BYK)	BYK 349	0.5
<b>G1</b>	Surface additive (BYK)	BYK 333	0.2
<b>H1</b>	Slip/mar agent(DOW)	DOWSIL 56 (50% dikuted)	0.5
<b>I1</b>	Defoamer (BYK)	BYK 028	0.5
<b>J1</b>	Rheology modifier	<b>VISCOLAM® PS BIO 202 AIR</b>	3.0
<b>K1</b>	Rheology modifier	<b>VISCOLAM® PS BIO 170 AIR</b> (diluted 20%)	1.0
<b>Total</b>			100.0

Solid Content ≈ 30%  
 Ford cup 4 Vx = 90"  
 Renewable content on solid ≈ 19.5%

Gloss	20°	60°	85°
F14W09-2023 1K	60	30	43

## Chemical and stain resistance EN 12720 - 1K

Formulation	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee 1h (40g/L)	Coffee 6h (40g/L) 6	Coffee 16h (40g/L)
F14W03-2023 1K	2	4-5	5	5	5	3	3

Formulation	Mustard 1h	Sun cream 1h	Ethanol 96% - 1h	Water 1h	Water 8h	Water 16h
F14W03-2023 1K	5	5	4	5	5	5

# ESACOTE® UA 7023



- Anionic self X-linking PUD
- Quick drying
- Good hardness development
- Good mechanical and chemical resistance
- Good stain resistance



- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Typical values

<b>Appearance at 25 °C:</b>	opalescent liquid
<b>pH:</b> <b>(at 25°C on supplied product, ASTM E 70):</b>	7.0-9.0
<b>Viscosity (cPs)</b> <b>(Brookfield RVT @ 25 °C, 50 rpm spindle 1)</b>	<300
<b>Solid content, %:</b>	34.0-36.0

## Product properties

<b>Solvent content, %:</b>	0%
<b>Density, @ 25°C g/ml:</b>	1.01-1.03
<b>Minimal film forming temperature, °C:</b>	~60
<b>Koenig hardness (s)</b>	~140
<b>Film aspect:</b>	hard, transparent and glossy





# 1K GLOSSY TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® UA 7023</b>	75.0
<b>B1</b>	Coalescent (DOW)	BUTYL CARBITOL	8.0
<b>C1</b>	Demi water	WATER	12.4
<b>D1</b>	Wetting agent (Münzing)	EDAPLAN 451	0.5
<b>E1</b>	Surface additive (BYK)	BYK 333	0.1
<b>F1</b>	Defoamer (BYK)	BYK 1724	0.5
<b>G1</b>	Defoamer (BYK)	BYK 024	0.5
<b>H1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	3.0
<b>Total</b>			100.0

Solid Content ≈ 28%  
Vx Ford Cup 4 ≈ 25"

Gloss	20°	60°	85°
F10W03-2023 1K	79	88	97

## Chemical and stain resistance EN 12720 - 1K

Formulation	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee 1 / 16h (40g/L)	Mustard 1h	Shoe polish (kiwi) 1h
F10W03-2023 1K	2-3	4	5	5	5 / 5	5	5

Formulation	MEK 10 min	Aceton 10 min	Sun cream 1h	Betadine 1h	Cleaning solution 1h	Water 1 / 6 / 16h
F10W03-2023 1K	5	5	5	4	5	5 / 5 / 5



# 1K MATT TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® UA 7023</b>	75.0
<b>B1</b>	Microbeads	<b>DECOSPHAERA® 8-20</b>	4.0
<b>C1</b>	Coalescent (DOW)	BUTYL CARBITOL	8.0
<b>D1</b>	Demi water	WATER	3.0
<b>E1</b>	Wetting agent (Münzing)	EDAPLAN 451	0.5
<b>F1</b>	Slip/mar agent (DOW)	DOWSIL 56 (50% diluted)	0.5
<b>G1</b>	Defoamer (Evonik)	TEGO AIREX 902 W	0.5
<b>H1</b>	Defoamer (BYK)	BYK 024	0.5
<b>I1</b>	Wax dispersion	<b>ADIWAX H 05CW</b>	3.0
<b>J1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	3.0
<b>Total</b>			100.0

Solid Content ≈ 32%  
Vx Ford Cup 4 ≈ 2'

Gloss	20°	60°	85°
F12W03-2023 1K	4.4	25	45

## Chemical and stain resistance EN 12720 - 1K

Formulation	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee 1 / 16h (40g/L)	Mustard 1h	Shoe polish (kiwi) 1h
F12W03-2023 1K	2-3	4	5	5	5 / 5	5	5

Formulation	MEK 10 min	Aceton 10 min	Sun cream 1h	Betadine 1h	Cleaning solution 1h	Water 1 / 6 / 16h
F12W03-2023 1K	5	5	5	4	5	5 / 5 / 5





# 1K MATT TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® UA 7023</b>	75.0
<b>B1</b>	Microbeads	<b>ESACOTE® PU 980</b>	8.0
<b>C1</b>	Wetting agent (Münzing)	EDAPLAN 451	0.5
<b>D1</b>	Defoamer (BYK)	BYK 028	0.5
<b>E1</b>	Slip/mar agent (DOW)	DOWSIL 56 (50% diluted)	0.5
<b>F1</b>	Demi water	WATER	10.8
<b>G1</b>	Wax dispersion	<b>ADIWAX H 05 CW (30%)</b>	3.0
<b>H1</b>	Defoamer (BYK)	BYK 1724	0.5
<b>I1</b>	Wetting agent (BYK)	BYK 342	0.2
<b>J1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	6.0
<b>K1</b>	Demi water	WATER	6.0
<b>L1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	1.0
<b>Total</b>			100.0

Solid Content ≈ 32,5%  
Brookfield RVT Vx Spindle 2 - 10 rpm - 20 °C ≈ 1000 cps

Formulation	Gloss (60°)	Pencil Hardness
F17W6-2022-1K	6	HB

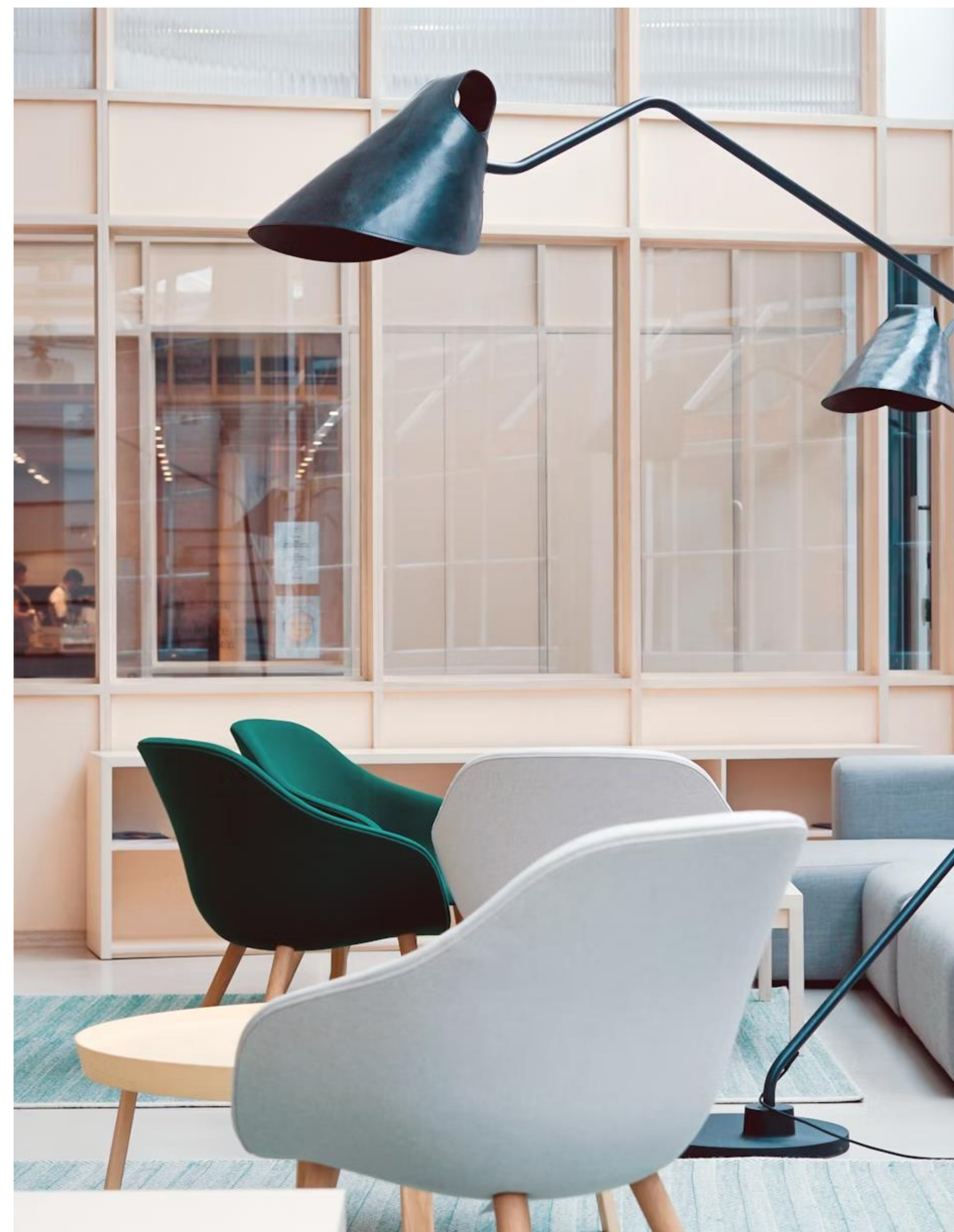
## Chemical and stain resistance EN 12720 - 1K

Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1h	Coffee (40g/L) 6h	Coffee (40g/L) 16h
F17W6-2022 1K	5	3	5	5	5	2	2

Formula	MEK 10 min	Aceton 10 min	Mustard 1h	Shoe polish 1h	Water 1h	Water 6h	Water 16h
F17W6-2022 1K	4	4	5	3-4	5	2	2

# 2K MATT TOP COAT

		Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® UA 7023</b>	52.0
<b>B1</b>	Microbeads	<b>ESACOTE® PU 980</b>	8.0
<b>C1</b>	Wetting agent (Münzing)	EDAPLAN 451	0.5
<b>D1</b>	Defoamer (BYK)	BYK 028	0.5
<b>E1</b>	Slip/mar agent (DOW)	DOWSIL 51	0.25
<b>F1</b>	Demi water	WATER	0.25
<b>G1</b>	Microbeads	<b>DECOSPHAERA® 8-20</b>	10.0
<b>H1</b>	Demi water	WATER	10.8
<b>I1</b>	Wax dispersion	<b>ADIWAX H 05 CW (30%)</b>	3.0
<b>J1</b>	Defoamer (BYK)	BYK 1724	0.5
<b>K1</b>	Wetting agent (BYK)	BYK 342	0.2
<b>L1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	6.0
<b>M1</b>	Demi water	WATER	6.0
<b>N1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (20% diluted)	1.0
<b>O1</b>	Rheology modifier	<b>VISCOLAM® PS 202 AIR</b>	1.0
<b>P1</b>	Isocyanic crosslinker (Covestro)	BAHYDUR 2655 (80% in propylene carbonate)	10
<b>Total</b>			110.0







# 2K MATT TOP COAT

Formulation	Gloss (60°)	Pencil Hardness
F6W62-2021-2K	6	F-H

Chemical and stain resistance EN 12720 - 2K							
Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic Acid 10% 1h	Ketchup 1h	Coffee (40g/L) 1h	Coffee (40g/L) 6h	Coffee (40g/L) 16h
F17W6-2022 2K	5	3	5	5	5	5	5

Formula	MEK 10 min	Aceton 10 min	Mustard 1h	Shoe polish 1h	Water 1h	Water 6h	Water 16h
F17W6-2022 2K	3-4	3-4	5	3	5	5	5



# 1K GLOSSY WHITE TOP COAT

	FG2A-W11-2021	Trade name	% w/w
<b>A1</b>	Binder	<b>ESACOTE® UA 7023</b>	62.6
<b>B1</b>	Coalescent (DOW)	BUTYL DIGLYCOL	6.3
<b>C1</b>	Demi water	WATER	6.1
<b>D1</b>	Wetting agent (Munzing)	EDAPLAN 451	0.4
<b>D2</b>	Slip/mar additive (DOW)	DOWSIL 51	0.2
<b>E1</b>	Demi water	WATER	0.2
<b>F1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (diluted 20%)	2.0
<b>G1</b>	Defoamer (BYK)	BYK 028	0.4
<b>H1</b>	Titanium dioxide paste	WHITE PASTE 2081	20.0
<b>F1</b>	Rheology modifier	<b>VISCOLAM® PS 170 AIR</b> (diluted 20%)	2.2
<b>Total</b>			100.0

Solid Content ≈ 41%

Brookfiled RVT Vx 20 rpm – Spindle 4 -20 °C ≈ 1600 cps

	White paste 2081	Trade name	% w/w
<b>A1</b>	Dispersant (BYK)	<b>DISPERBYK 2081</b>	4.17
<b>B1</b>	Demi water	WATER	20.46
<b>C1</b>	Titanium dioxide (Kronos)	KRONOS 2310	74.22
<b>D1</b>	Rheology additive	<b>VISCOLAM® PS 202</b>	1.15
<b>Total</b>			100.0





# 1K GLOSSY TOP COAT

Formulation	Gloss (20/60/85°)	Pencil Hardness
UA 7023 - FG2A -W11-2021	42 / 73 / 95	F

Chemical and stain resistance EN 12720 - 1K							
Formula	NH <sub>3</sub> 10% - 1h	Ethanol 48% - 1h	Acetic A. 10% 1h	MEK 10 min	Aceton 10 min	Coffee (40g/L) 1h	Shoe polish 1h
FG2A -W11-2021	5	4-5	5	4	4	2	2++

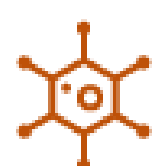
Formula	Mustard 1h	Ketchup 1h	Cola 1h	Red Wine 1h	Lipstick 1h	Betadine (in water) 1h
FG2A -W11-2021	3	5	5	2	3	2

# Polymeric matting agents

ESACOTE<sup>®</sup> PU, DECOSPHAERA<sup>®</sup> & SPHEROMERS<sup>®</sup>



# ESACOTE® PU 960



- Inherently matt anionic PUD
- Matt appearance
- Velvet feeling
- MFFT reducer
- Tack free



- Suitable for 2K formulations
- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

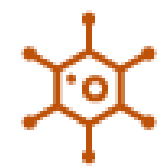
## Typical values

<b>Appearance at 25 °C:</b>	milky liquid
<b>pH:</b> (at 25°C on supplied product, ASTM E 70):	7.00-9.00
<b>Viscosity (cPs)</b> (Brookfield RVT @ 25 °C, 50 rpm spindle 3)	< 1500
<b>Solid content, %:</b>	38-40
<b>Gloss unit, 60°:</b>	<2

## Product properties

<b>Solvent content, %:</b>	0
<b>Density, @ 25°C g/ml:</b>	1.03 – 1.05
<b>Minimal film forming temperature, °C:</b>	~0
<b>Film aspect:</b>	matt, ultra soft touch, tack free

# ESACOTE® PU 980



- Inherently matt anionic PUD
- Matt appearance
- Silky feeling
- High clarity on dark substrates
- MFFT reducer
- Tack free



- Suitable for 2K formulations
- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

## Typical values

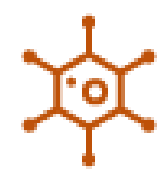
<b>Appearance at 25 °C:</b>	milky liquid
<b>pH:</b> (at 25°C on supplied product, ASTM E 70):	7.5-9.5
<b>Viscosity (cPs)</b> (Brookfield RVT @ 25 °C, 50 rpm spindle 3)	600- 1100
<b>Solid content, %:</b>	31-33
<b>Gloss unit, 60°:</b>	<1

## Product properties

<b>Solvent content, % :</b>	0
<b>Density, @ 25°C g/ml:</b>	1.01 – 1.05
<b>Minimal film forming temperature, °C:</b>	~0
<b>Film aspect:</b>	matt, silky touch, tack free



# ESACOTE® BIO 9001



- Inherently matt anionic PUD
- Matt appearance
- Silky feeling
- High clarity on dark substrates
- MFFT reducer
- Tack free



- Suitable for 2K formulations
- Suitable for spray, brush and roller applications
- Suitable for DIY, professional and OEM applications

### Sustainability features

ESACOTE® BIO 9001 is made with raw materials from vegetal sources, obtained from plant-derived substances.

Biobased Carbon content  $C^{14}/C_{total}$  according to ASTM D6866: **66 % ± 3**

### Typical values

<b>Appearance at 25 °C:</b>	milky liquid
<b>pH:</b> (at 25°C on supplied product, ASTM E 70):	8.0-9.0
<b>Viscosity (cPs)</b> (Brookfield RVT @ 25 °C, 50 rpm spindle 3)	600- 1000
<b>Solid content, %:</b>	31.0-33.0
<b>Gloss unit, 60°:</b>	<1

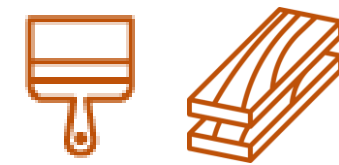
### Product properties

<b>Solvent content, % :</b>	0
<b>Density, @ 25°C g/ml:</b>	1.01 – 1.05
<b>Minimal film forming temperature, °C:</b>	~0
<b>Film aspect:</b>	matt, silky touch, tack free

# DECOSPHAERA®



- ✓ Crosslinked PU chemistry
- ✓ Spherical shape
- ✓ Gaussian distribution
- ✓ Deep matt effect
- ✓ Natural look & no haziness
- ✓ Excellent scratch & stain resistance
- ✓ Soft & elastic touch



- ✓ Solvent free manufacturing process
- ✓ Transparent & colored grades
- ✓ Suitable for WB, SB, UV and moisture curable formulations
- ✓ Particle size (D50) from 3µm to 30µm



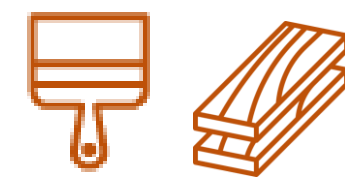
- ✓ Free flowing dry powder
- ✓ Dry content > 99%



# SPHEROMERS®



- ✓ Crosslinked PMMA chemistry
- ✓ Spherical shape
- ✓ Monosized distribution
- ✓ Deep matt effect
- ✓ Excellent scratch & stain resistance
- ✓ Hard & dry touch



- ✓ Solvent free manufacturing process
- ✓ Transparent grades
- ✓ Suitable for WB and SB formulations
- ✓ UV formulations upon compatibility check
- ✓ Particle size (D90) from  $6\mu\text{m}$  to  $60\mu\text{m}$



- ✓ Free flowing dry powder
- ✓ Dry content > 99%

# Rheology modifiers

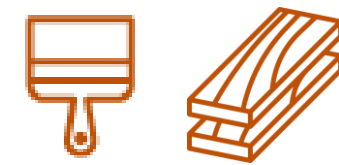
VISCOLAM<sup>®</sup> PS



# VISCOLAM<sup>®</sup> PS 010 AIR



- ✓ Solvent free
- ✓ VOC/SVOC free
- ✓ HEUR thickener



- ✓ Shear thinning
- ✓ High thickening efficiency
- ✓ High pigment compatibility
- ✓ Sag resistance
- ✓ Settling resistance
- ✓ Suitable for spray applications

## Sustainability features

VISCOLAM<sup>®</sup> PS 010 AIR is made with raw materials from vegetal sources, obtained from plant-derived substances.

Biobased Content calculated on product anhydrous according to EN 16785:2 **23%**

## Typical values

Appearance at 20°C: opalescent liquid

pH: 4.0 - 10.0

Viscosity (Brookfield CAP 2000, 25°C, 10 rpm): < 8.000 cPs

Dry content (120°C): > 39.5%

Co-solvent: None

APEO: free

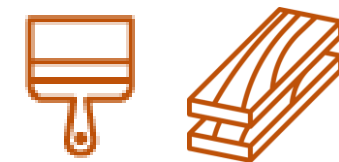
VOC: free\*

\* According to Council Directive 2010/75/EU

# VISCOLAM® PS 170 AIR



- ✓ Solvent free
- ✓ VOC/SVOC free
- ✓ HEUR thickener



- ✓ Medium-shear
- ✓ Good balance between thickening, levelling and gloss
- ✓ Anti-spattering properties

## Sustainability features

VISCOLAM® PS 170 AIR is made with raw materials from vegetal sources, obtained from plant-derived substances.

Bio-based carbon content calculated  $C^{14}/C^{total}$ :  
**20%**

## Typical values

Appearance at 20°C: opalescent yellow liquid

pH: 4.0 - 10.0

Viscosity (Brookfield RVT at 25°C, 10 rpm, spindle 3):  
max 8.000 cPs

Dry content (120°C): > 46.5%

Co-solvent: None

APEO: free

VOC: free\*

\* According to Council Directive 2010/75/EU

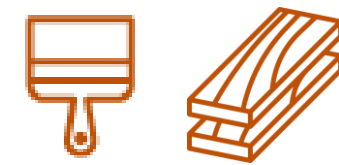




# VISCOLAM<sup>®</sup> PS 202 AIR



- ✓ Solvent free
- ✓ VOC/SVOC free
- ✓ HEUR thickener



- ✓ Excellent film build
- ✓ Excellent flow and levelling
- ✓ High gloss
- ✓ Broad pH range

## Typical values

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Appearance at 20°C: opalescent liquid

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pH: 4.0 - 7.0

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Viscosity (Brookfield RVT at 25°C, 10 rpm, spindle 3):  
1.000 - 6.000 cPs

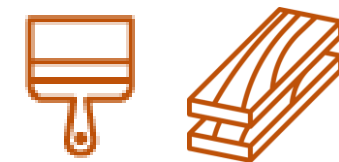
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Solid content: 19 - 21%

# VISCOLAM<sup>®</sup> PS 222 AIR



- ✓ Solvent free
- ✓ VOC/SVOC free
- ✓ HEUR thickener



- ✓ Strongly newtonian
- ✓ Suitable for gloss and semi-gloss paints
- ✓ Broad pH range

## Typical values

---

Appearance at 20°C: opalescent liquid

---

pH: 4.0 - 7.0

---

Viscosity (Brookfield RVT at 25°C, 10 rpm, spindle 3):  
max 9.000 cPs

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Solid content: 24 - 26%

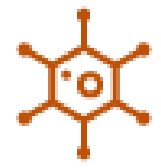


**Biobased alternative  
already available**

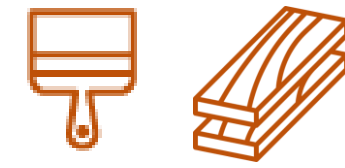


# Crosslinkers

# CROSSLINKER 08 LM



- Aliphatic polyisocyanate



- In compliance with Regulation (EU) 2020/1149 – Annex XVII Regulation (EC) 1907/2006 – Diisocyanates

## Typical values

<b>Appearance at 25 °C:</b>	trasparent liquid
<b>% NCO content on supplied product:</b>	10.4 – 12.4
<b>Viscosity (cPs) (Brookfield RVT @ 25 °C, 50 rpm spindle 3)</b>	< 700
<b>Solid content, %:</b>	69.0-71.0
<b>Free HDI:</b>	<1000 ppm

## Product properties

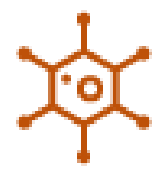
<b>Solvent content, % :</b>	~ 30% Propylene Carbonate
<b>Density, @ 25°C g/ml:</b>	~ 1.1



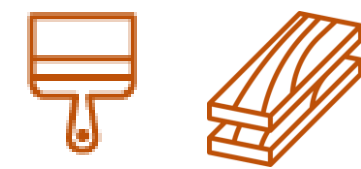
# Waxes

Water based dispersions based on natural & synthetic waxes

# ADIWAX H 05 CW



- HDPE wax
- APEO free
- High melting point



- Antiscratch
- Anti blocking
- Bright film appearance

## Typical values

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Aspect: Clear yellow liquid

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Dry content: 35.5 ± 1%

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pH: 8,5 ± 1

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Density: 1 ± 0.100 g/ml

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# ADIWAX H 30 F



- Carnauba wax
- T1 grade purity
- APEO free



- Antiscratch
- Abrasion resistance
- Anti blocking

## Typical values

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Appearance at 20 °C: Brown liquid

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Dry content: 30 ± 1%

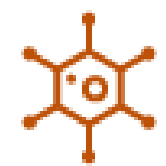
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pH: 5 - 7

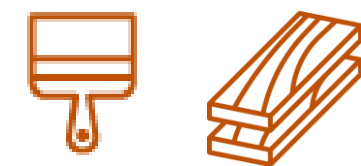
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# ADIWAX HP



- Secondary emulsion based on selected paraffins
- APEO free



- Superior hydrophobicity
- Anti blocking
- Anti slip

## Typical values

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Aspect: White liquid

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Dry content: 45 ± 1%

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pH: 8.3 ± 0.5

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Density: 0.950 ± 0.100 g/ml

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