



# Wood furniture developments

ESACOTE<sup>®</sup> AC 565

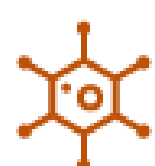
low cosolvent demand self crosslinking binder with excellent stain resistance



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# ESACOTE<sup>®</sup> 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

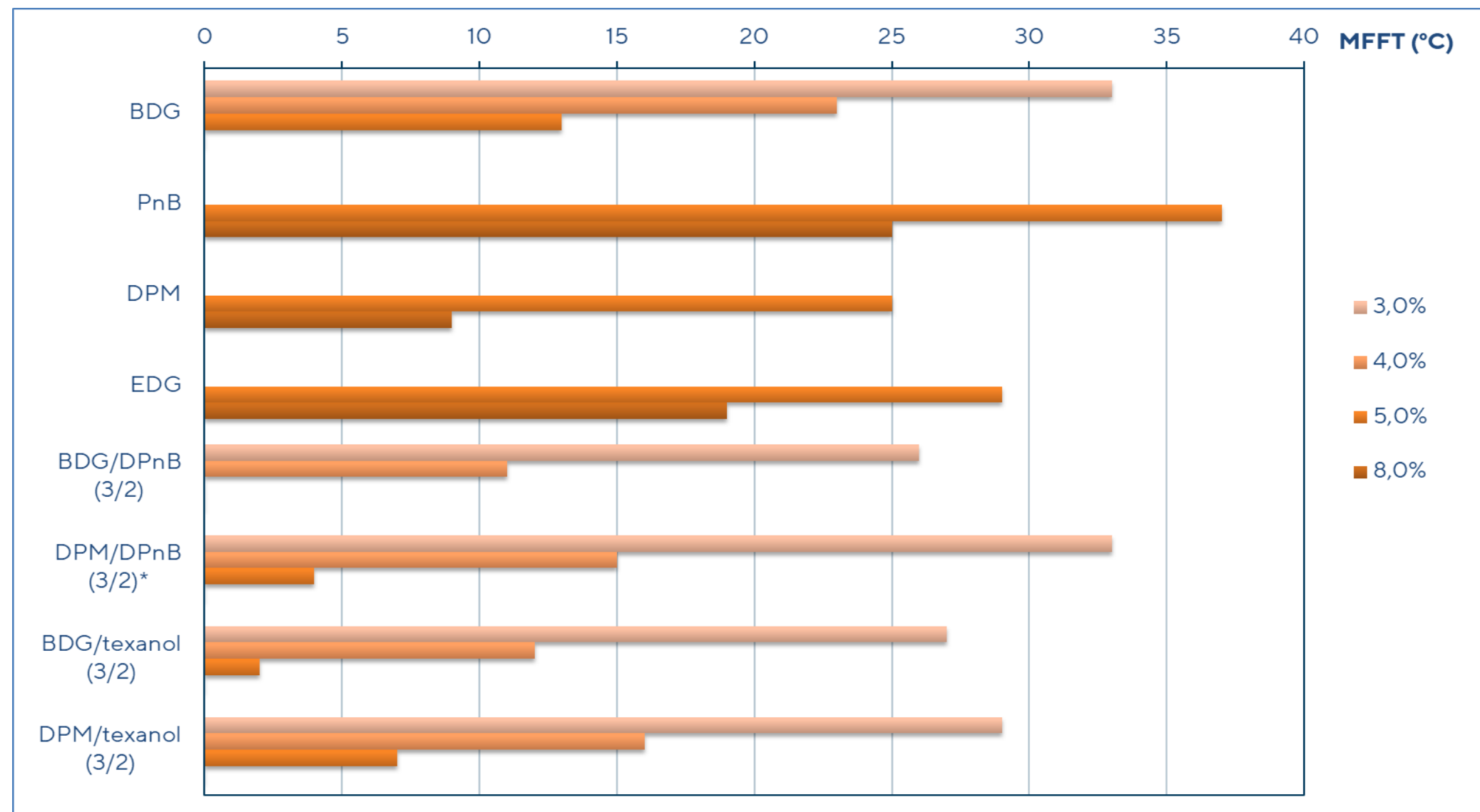
<b>Appearance at 25 °C:</b>	milky liquid
<b>pH:</b> (at 25°C on supplied product, ASTM E 70):	7.0-8.0
<b>Viscosity (mPa.s):</b> (Brookfield RVT @ 25 °C, 20 rpm spindle 2)	< 500
<b>Solid content, %:</b>	39.0-41.0

## 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



# ESACOTE® AC 565: MFFT reduction



Stability AC 565 with co-solvents at 50°C				
Co-solvent	Starting point	7 days	15 days	21 days
5% DPM/DPnB (3/2)	64 Cps	64 Cps	60 Cps (precipitate)	60 Cps (precipitate)
8% DPM/DPnB (3/2)	72 Cps	64 Cps	48 Cps (precipitate)	64 Cps (precipitate)
5% Butyldiglicol	72 Cps	72 Cps	68 Cps	72 Cps
8% Butyldiglicol	88 Cps	72 Cps	68 Cps	72 Cps

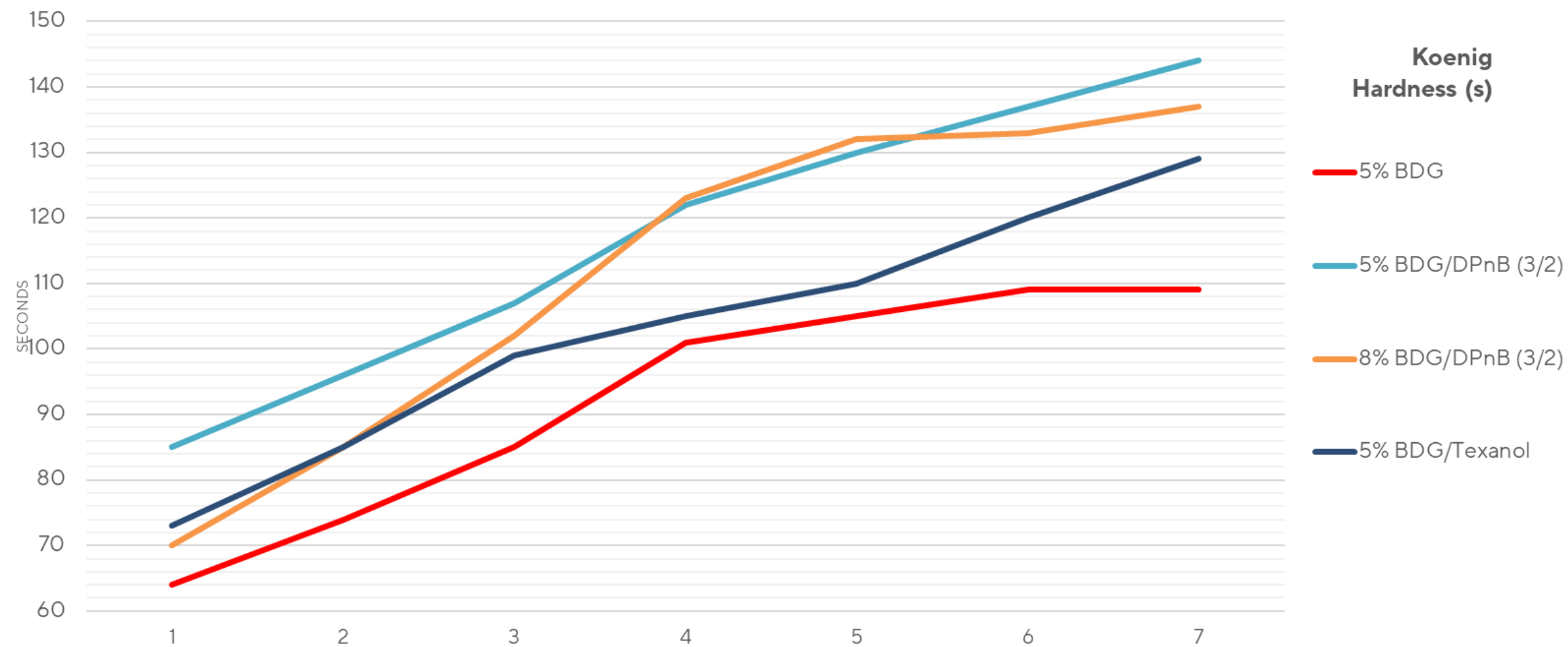
Butylglycol (BG) is not compatible with ESACOTE AC 565



# ESACOTE® AC 565: Koenig hardness

Koenig hardness (seconds) ESACOTE AC 565 with co-solvents							
Co-solvent	1 day	2 days	3 days	4 days	5 days	6 days	7 days
5% BDG	64	74	85	101	105	109	109
8% BDG	64	74	85	105	109	119	119
5% DPM/DPnB (3/2)*	69	80	92	101	108	111	115
8% DPM/DPnB (3/2)*	67	85	98	110	115	125	125
5% BDG/DPnB (3/2)	85	96	107	122	130	137	144
8% BDG/DPnB (3/2)	70	85	102	123	132	133	137
5% BDG/Texanol	73	85	99	105	110	120	129

\*\* ESACOTE AC 565 with DPM/DPnB (3/2) co-solvent mix is not stable.



# ESACOTE<sup>®</sup> AC 565

Starting formulations



# 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



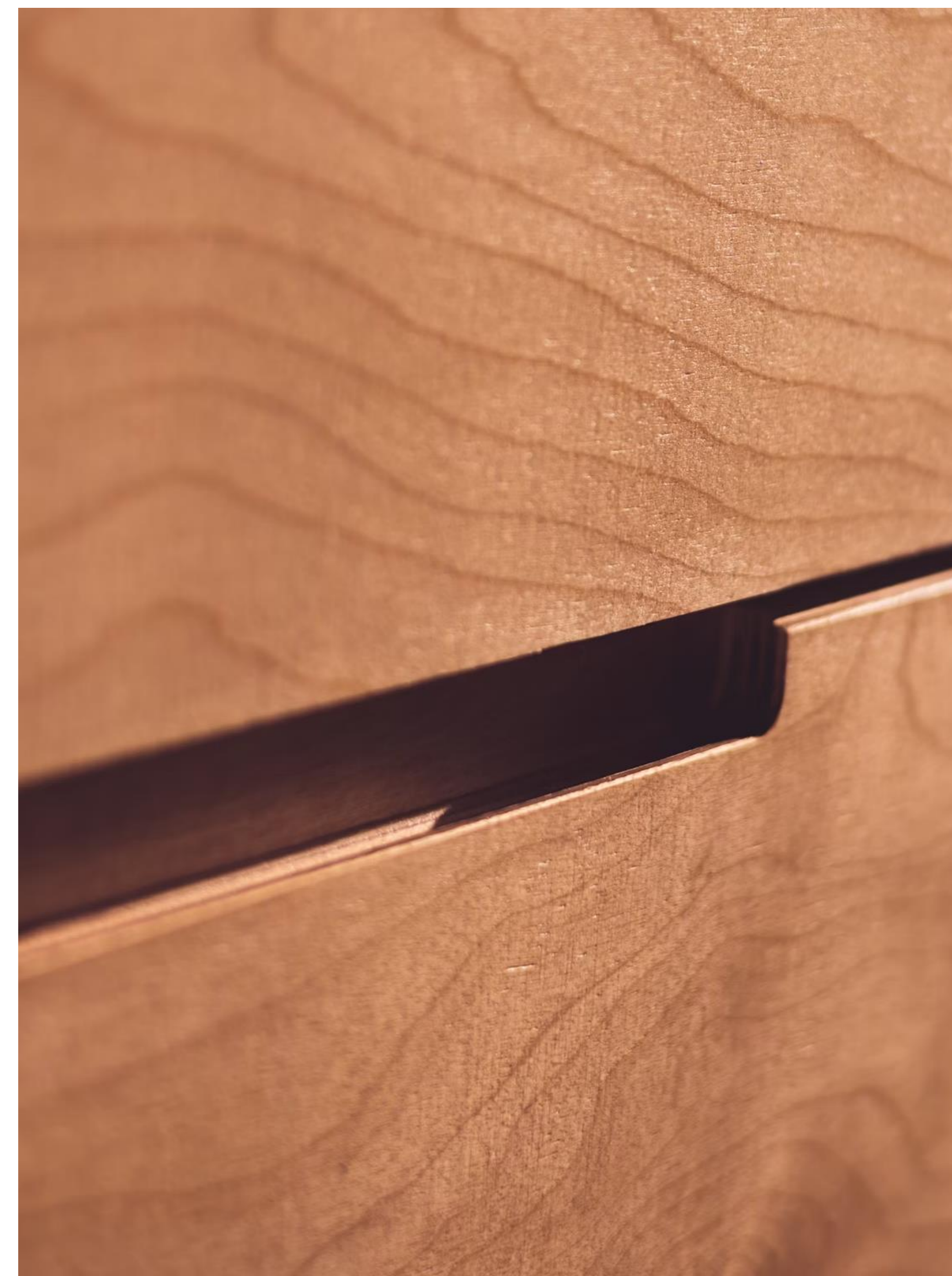
# 1K GLOSSY WHITE TOP COAT

	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

