



synthos



FORMULAS
FOR A BETTER
WORLD

AW43CX
SYNEXIL[®]

DISPERSION FOR PROFESSIONAL WOOD COATINGS

Synexil® AW 43CX

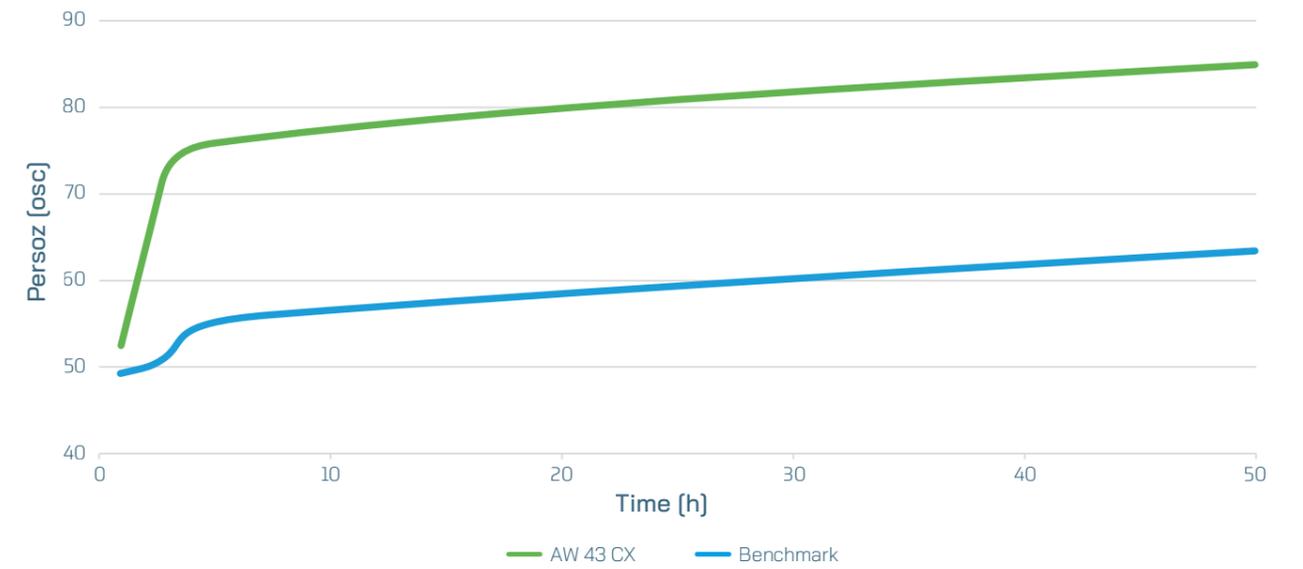
An acrylic self-crosslinking dispersion with complex morphology. The product has low VOC content, it does not contain any APEO emulsifiers or solvents.

Dispersion characteristics:

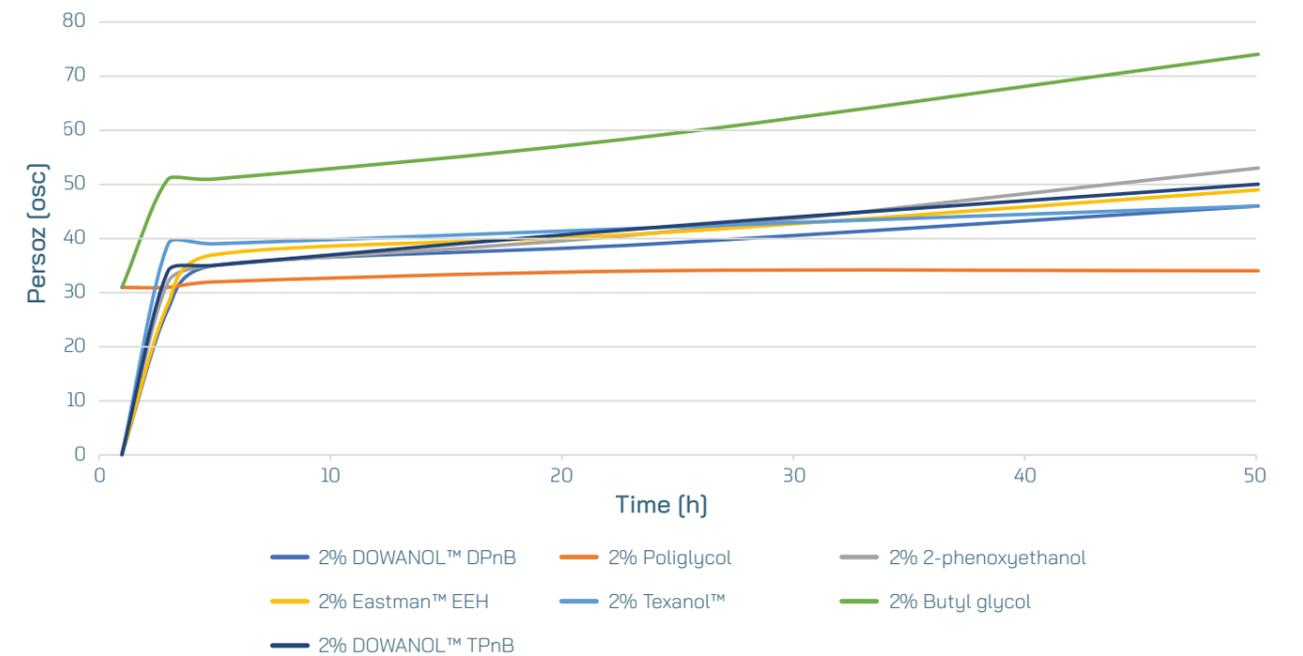
- Fast hardening
- Low water absorbability
- Very good anti-blocking
- Very good flexibility
- UV radiation resistance

Application	 <p>wood enamels elements of windows and doors, primers and topcoats, wooden facade paints, varnishes</p>
Dispersion features	 <p>APEO-free, solvent-free, self-crosslinking, core-shell, Low VOC</p>
Polymer type	acrylic copolymer
pH	7,3-9,0
Solids content (%)	41 ± 1
Brookfield viscosity [mPa·s]	<200
MFFT [°C]	ca. 12
Tg [°C]	ca. 2/64
Mean particle size [nm]	100 ÷ 140

Increase in Persoz coating hardness with time



Hardness curve for coalescing agents, 2% by weight



Lacquers

Primer

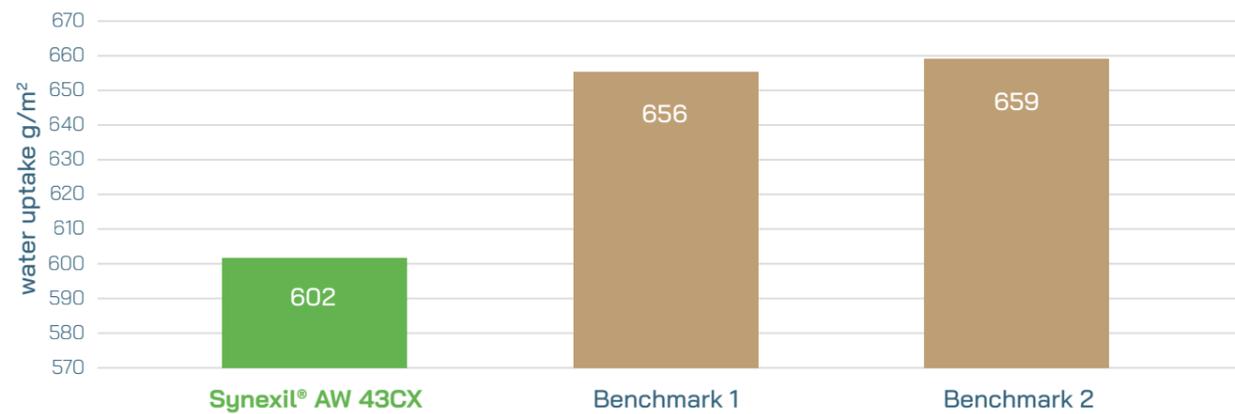


Example of primer components:

raw materials	% weight	components
WATER	34,80 %	
DISPERSION	60,00 %	Synexil® AW 43CX – Synthos
ADDITIVES	5,20 %	Butyl glycol 1,20 %
		BYK® -3455 0,80 %
		Nuosept™ 78 0,15 %
		SunCare™ UV concentrate 2,00 %
		Borchers® AF 0871 0,15 %
		Borchi® Gel 0625 0,90 %

Primer water uptake

Water uptake is tested after 2 days of conditioning the samples at 15°C and 75% humidity. The coatings are sprayed onto spruce wood in two layers, 60 g/m² each. Then the samples are immersed in water for 3 days.



Topcoats



Example of acrylic topcoat components:

raw materials	% weight	components
WATER	10,50 %	
DISPERSION	80,00 %	Synexil® AW 43CX – Synthos
ADDITIVES	9,50 %	Butyl glycol 1,60 %
		BYK® -3455 0,80 %
		Nuosept™ 78 0,15 %
		LUBA-print® 164/G 5,00 %
		SunCare™ TopCoat 1,30 %
		Borchers® AF 0871 0,15 %
		Borchi® Gel 0625 0,50 %



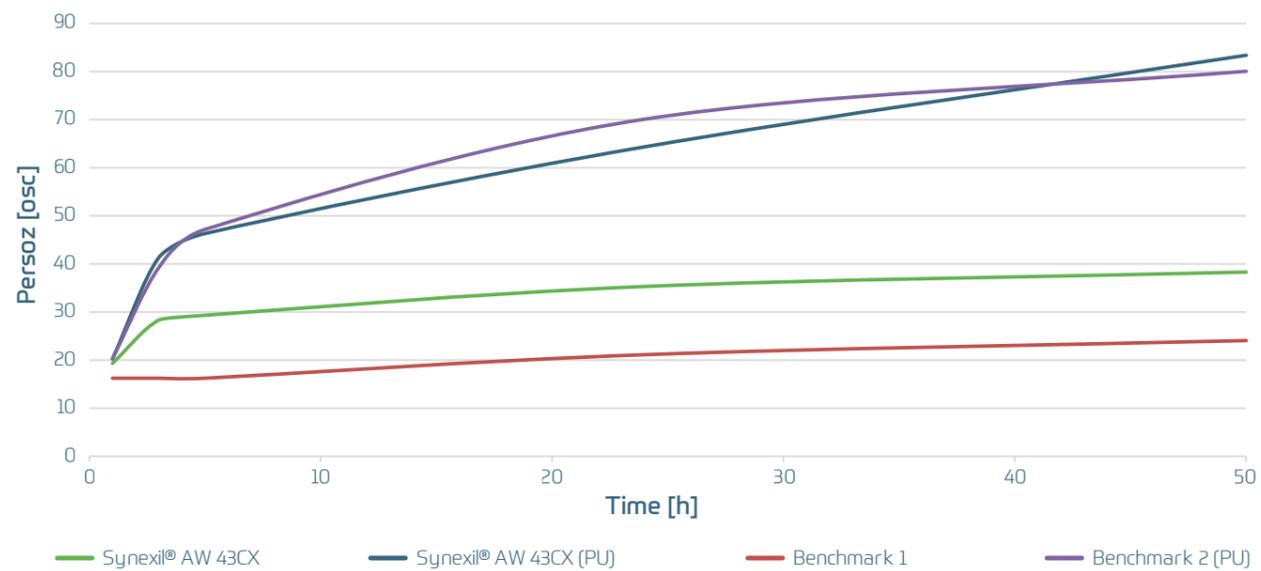
Example of acrylic-polyurethane topcoat components:

raw materials	% weight	components
WATER	10,80 %	
DISPERSION	80,00 %	Synexil® AW 43CX – Synthos 40,00 % ESACOTE® PU 147 40,00 %
ADDITIVES	8,57 %	Butyl glycol 0,80 %
		BYK® -3455 0,80 %
		Nuosept™ 78 0,15 %
		LUBA-print® 164/G 5,00 %
		SunCare™ TopCoat 1,00 %
		Borchers® AF 0871 0,15 %
		Borchi® Gel 0625 0,67 %



Coating systems

Increase in Persoz coating hardness with time



Parameters	Synexil® AW 43CX	Benchmark 1	Synexil® AW 43CX PU	Benchmark 2 PU	Test method
Gloss 60° [GU]	46,9	43,9	38,5	37	PN-EN 2813
Scratch resistance*	6B	6B	3B	4B	PN-ISO 15184
Thermoplasticity**	2	2	1	1	Internal testing method
Antiblocking**	2	3	0	0	Internal testing method

* hardness scale (from highest to lowest): 6B, 5B, 4B, 3B, 2B, B, HB, F, H, 2H, 3H, 4H, 5H, 6H
 ** rating from 0 to 5 (0 - severe effect, 5 - no effect)

Coating system primer / topcoat

Synexil® AW 43CX / Synexil® AW 43CX topcoat

primer based on Synexil® AW 43CX, applied by spraying in two coats, 60 g/m² each, and topcoat based on Synexil® AW 43CX, applied by spraying in one layer, 120 g/m²

Synexil® AW 43CX / Synexil® AW 43CX topcoat PU 1:1

primer based on Synexil® AW 43CX, applied by spraying in two layers, 60 g/m² each, and topcoat based on Synexil® AW 43CX and polyurethane applied by spraying in one layer, 120 g/m².

Benchmark / Benchmark topcoat

primer based on benchmark, applied by spraying in two layers, 60 g/m² each, and topcoat based on benchmark, applied by spraying in one layer, 120 g/m².

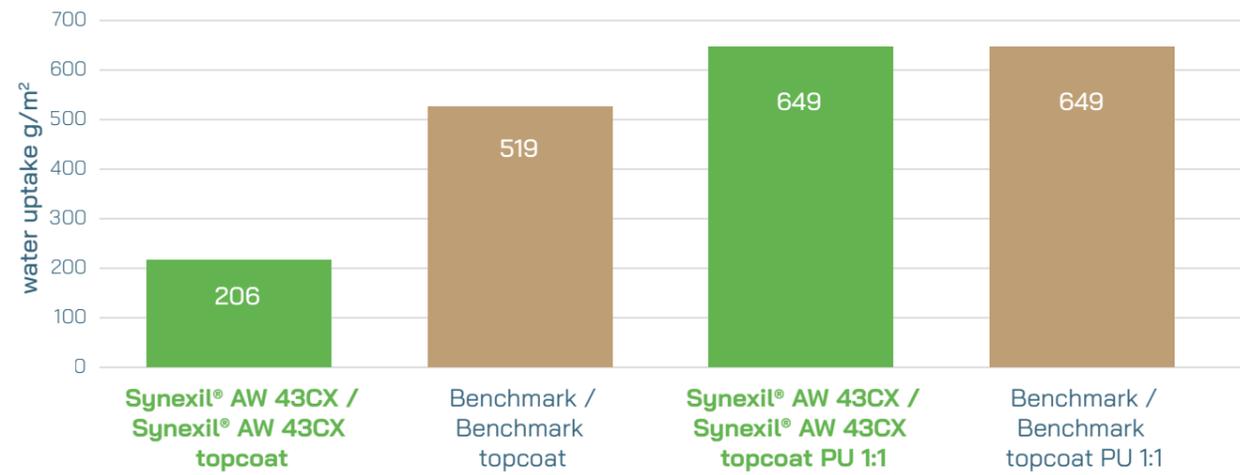
Benchmark / Benchmark topcoat PU 1:1

primer based on benchmark, applied by spraying in two layers, 60 g/m² each, and topcoat based on benchmark, applied by spraying in one layer, 120 g/m².



Water uptake of the coating systems

Water uptake is tested after 2 days of conditioning the samples at 15°C and 75% humidity. The coatings are sprayed onto spruce wood. Then the samples are immersed in water for 3 days.



Parameters	Synexil® AW 43CX / Synexil® AW 43CX topcoat	Benchmark / Benchmark topcoat	Synexil® AW 43CX / Synexil® AW 43CX topcoat PU 1:1	Benchmark / Benchmark topcoat PU 1:1	Test method
Wet adhesion	0	0	0	0	Internal testing method
Chemical resistance*:					
water	0	1	0	0	Internal testing method
ink	0	2	0	1	
cement slurry	0	3	0	0	

*rating from 0 to 5 (0 - severe effect, 5 – no effect)



Additives recommendation

Antifoams:

- Borchers® AF 0871
- BYK® -024
- Nopcomaster ENA 505
- TEGO® Airex 904 W
- TEGO® Antifoam 2-57
- TEGO® Foamex 810
- CLIQSMART® 1052
- Drewplus™ S-4287

Acrylic thickeners:

- Synexil® ATH 30
- CRAYVALLAC® LA-380
- TAFIGEL® AP 10
- Hisol D 180

Biocides:

- PREVENTOL® D 8
- Nuosept™ 78

Matting agents:

- Ceridust® 3910
- ULTRALUBE® D-838
- ULTRALUBE® D-840
- ACEMATT® TS 100
- mju:wax® 2594
- Ceraflour® 1000

Coalescents:

- DOWANOL™ DPnB
- DOWANOL™ TPnB
- Texanol™
- Eastman™ EEH
- 2-fenoksyetanol
- Butyl glycol

Thickeners:

- CLIQFLOW® 615
- LAPONITE® -SL 25

PUR thickeners:

- Borch® Gel 0625
- Borch® Gel L 76
- RHEOBYK-L 1400 VF
- RHEOLATE® 299
- Rheovis® PU 1214
- TEGO® ViscoPlus 3030
- CLIQFLOW® 645 VR
- TAFIGEL® PUR 41
- ACRY SOL™ RM-12W

Wetting agents:

- CLIQFLOW® 615
- CLIQSPERSE® 152
- Optiflow SL 25
- BYK® -3455
- Dynol™ 360
- TEGO® Twin 4100
- LUCRAMUL® WT 100





synthos

SYNTHOS S.A.
Ul Chemików 1
32-600 Oświęcim, POLAND
tel. +48 33 844 18 21...25
VAT UE PL5490002108

SALES DEPARTMENT:
dispersions.sales@synthosgroup.com

SYNTHOSGROUP.COM

