



Test Report

EN 927-3

Report No.: 146075-138

Assignor: Teknos A/S
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Denmark

Material: The test specimens were treated according to assignor's directions:
TEKNOL AQUA 1410-01. Dipping 90 (80-100) g/m²
AQUAPRIMER 2900-02 TST 615329015 Nut. Dipping 50 (45-55) g/m²
AQUATOP 2600-94 base T - TST 660319015 Nut. Spraying 200 (180-220) g/m²
AQUATOP 2600-94 base T - TST 660319015 Nut. Spraying 100 (90-110) g/m²

Sampling: The test material was sampled by the client and received at the Danish Technological Institute on 05-12-2022.

Method: EN 927: Paints and varnishes - Coating materials and coating systems for exterior wood Part 3:2019. Natural weathering test.
Substrate: Scotch pine (Pinus sylvestris L.).

Period: The testing was carried out from 04-01-2023 to 18-03-2024.
The weathering took place from 01-02-2023 to 01-02-2024.

Property	Evaluation scale Test method	Results after 12 months	
		Tested system	Reference
			WRM
Change of gloss	EN ISO 2813	-2.1	-2.7
Change in colour (ΔE^*_{ab}) ^a	EN ISO 11664-4	2.8	4.2
Blistering ^{1, b}	EN ISO 4628-2	0.0	0.0
Flaking ^{1, b}	EN ISO 4628-5	0.0	0.0
Cracking ^{1, b}	EN ISO 4628-4	0.0	0.0
Chalking ¹	EN ISO 4628-6	0.0	0.0
Mould growth ^{1, 3, 4}	EN 16492	0.0	0.0
Alge growth ^{1, 3, 4}	EN 16492	0.0	0.0
Adhesion ²	EN 927-3, Annex A	0.0	0.0
General appearance ^{1, 3, 6}	EN ISO 4628-1	3.0	1.0

¹ 0 = None, 5 = Dense - ² 0 = Excellent, 5 = Poor. Single-blade cutting tool is used - ³ After washing - ⁴ Intensity. ⁵ Average per 10 mm. ⁶ Microscope magnification of 250 X.

^a: Measurement geometry 45°/0°. ^b: Quantity is considered for the performance specification in EN 927-2

Assessment: According to EN 927-2:2022. Part 2: Performance specification: The system under test can be categorized as 'Stable' concerning the properties: Blistering, flaking, cracking and adhesion. The test is valid.

According to EN 927-1:2013. Part 1: Classification and selection: The exposure conditions are rated as 'Severe'.

Terms: This test was conducted accredited in accordance with international requirements ISO/IEC 17025:2017 and in accordance with the General Terms and Conditions of Danish Technological Institute. The test results solely apply to the tested item. This test report may be quoted in extract only if Danish Technological Institute has granted its written consent.

This document is only valid with a digital signature from Danish Technological Institute. The date of issue appears from the digital signature Approved and signed by:

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Detailed results

Substrate: Scotch pine (*Pinus sylvestris* L.).

Average density: 550 m³
Annual rings per 10 mm: 3-8

Weathering: Danish Technological Institute, Taastrup. Oriented 45° to the south, min. 1.5 m above terrain.
Danish Technological Institute, Denmark. 55°39'36.4"N; 12°16'34.5"E. Elevation: about 34 m. Average temperatures; maximum: 9-20°C, minimum: -2-5°C. Average annual precipitation: about 672 mm. Humidity: 70-80%.
The test site is located in an urban pasture ecosystem without high vegetation.

System under test:

Material specification: TEKNOL AQUA 1410-01. SKU 20 | 1711455. Lot no.: 370485-301.
AQUAPRIMER 2900-02 TST 615329015 Nut. BASE T. SKU 20 | 1111309. Lot no.: 385158-401.
AQUATOP 2600-94 base T - TST 660319015 Nut. SKU 20 | 2565477, Base T tinted to TST 660319015 Nut. Lot no.: 379347-201.
AQUATOP 2600-94 base T - TST 660319015 Nut. SKU 20 | 2565477, Base T tinted to TST 660319015 Nut. Lot no.: 379347-201.

Treatment:

Coat	Trade name	Type	Application method and date	Recommended amount [g/m ²]
1	TEKNOL AQUA 1410-01	Impregnation	Dipping 04-01-2023	80-100
2	AQUAPRIMER 2900-02 TST 615329015 Nut	Primer	Dipping 04-01-2023	45-55
3	AQUATOP 2600-94 base T - TST 660319015 Nut	Topcoat	Spraying 05-01-2023	180-220
4	AQUATOP 2600-94 base T - TST 660319015 Nut	Topcoat	Spraying 06-01-2023	90-110

Detailed results

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Results:

Test panels		Un-exposed	Exposed			Average
Panel no.		13801	13802	13803	13804	
Application data for EN 927-3						
Coat 1 [g/m ²]		106	81	94	92	93
Coat 2 [g/m ²]		52	48	49	47	49
Coat 3 [g/m ²]		183	201	202	192	194
Coat 4 [g/m ²]		109	92	108	100	102
Inspection before exposure						
Film thickness [μm] ³⁾		88				88
Gloss		32.6	33.4	33.1	35.9	-
Colour	L*	24.5	22.0	21.6	20.5	-
	a*	13.6	11.9	12.4	11.4	-
	b*	22.9	18.4	18.1	16.4	-
Initial defects		-	-	-	-	-
Inspection after exposure ¹⁾						
Blistering		-	0	0	0	0.0
Flaking		-	0	0	0	0.0
Cracking		-	0	0	0	0.0
Chalking		-	0	0	0	0.0
Mould growth ²⁾		-	0	0	0	0.0
Alge growth ²⁾		-	0	0	0	0.0
General appearance		-	3	3	3	3.0
Inspection after exposure and washing ¹⁾						
Gloss		28.7	30.9	31.6	33.7	-
Change of gloss		-3.9	-2.5	-1.5	-2.2	-2.1
Colour	L*	24.5	21.7	20.5	19.4	-
	a*	12.8	11.9	11.4	11.4	-
	b*	21.5	16.3	14.4	14.4	-
Change in colour ΔE^*_{ab}		1.7	2.1	4.0	2.2	2.8
Mould growth ²⁾		-	0	0	0	0.0
Alge growth ²⁾		-	0	0	0	0.0
Adhesion		0.0	0.0	0.0	0.0	0.0
General appearance		-	3	3	3	3.0

¹⁾ Average is calculated for exposed test panels. ²⁾ Average is calculated for the Intensity. ³⁾ Microscope magnification of 250 X

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Detailed results

WRM on test system substrate:

Material specification: TEKNOL AQUA 1415-01. SKU 20 | 2579931. Lot no.: 381175-201.
 AQUAPRIMER 2900-22 - TST 615329015 Nut. SKU 20 | 2148540. Lot no.: 382683-201.
 ANTISTAIN AQUA 5300-22 + HARDENER 7531-20. Clear. SKU 20 | 2687940/2687926.
 Lot no.: 382785-201.
 AQUATOP 2600-94 base T - TST 660319015 Nut. SKU 20 | 2565477, Base T tinted to
 TST 660319015 Nut. Lot no.: 379347-201.

Treatment:

Coat	Trade name	Type	Application method and date	Recommended amount [g/m ²]
1	TEKNOL AQUA 1415-01	Impregnation	Dipping 17-01-2023	135-165
2	AQUAPRIMER 2900-22 - TST 615329015 Nut	Primer	Dipping 17-01-2023	45-55
3	ANTISTAIN AQUA 5300-22 + HARDENER 7531-20	Primer	Spraying 17-01-2023	180-220
4	AQUATOP 2600-94 base T - TST 660319015 Nut	Topcoat	Spraying 18-01-2023	180-220

Detailed results

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Results:

Test panels		Un-exposed	Exposed			Average
Panel no.		11801	11802	11803	11804	
Application data						
Coat 1 [g/m ²]		155	164	162	141	156
Coat 2 [g/m ²]		47	53	54	55	52
Coat 3 [g/m ²]		222	205	196	192	204
Coat 4 [g/m ²]		200	200	200	210	202
Inspection before exposure						
Film thickness [μm] ³⁾		158				158
Gloss		41.2	41.1	40.4	40.2	-
Colour	L*	22.3	25.4	23.6	28.7	-
	a*	10.4	11.8	11.4	14.2	-
	b*	18.9	23.9	21.1	28.9	-
Initial defects		-				-
Inspection after exposure¹⁾						
Blistering		-	0	0	0	0.0
Flaking		-	0	0	0	0.0
Cracking		-	0	0	0	0.0
Chalking		-	0	0	0	0.0
Mould growth ²⁾		-	0	0	0	0.0
Alge growth ²⁾		-	0	0	0	0.0
General appearance		-	1	1	1	1.0
Inspection after exposure and washing¹⁾						
Gloss		38.7	37.8	37.5	38.4	-
Change of gloss		-2.5	-3.3	-2.9	-1.8	-2.7
Colour	L*	21.8	24.6	23.3	26.7	-
	a*	10.5	12.2	11.4	14.0	-
	b*	17.9	20.4	17.9	23.5	-
Change in colour ΔE^*_{ab}		1.1	3.6	3.2	5.7	4.2
Mould growth ²⁾		-	0	0	0	0.0
Alge growth ²⁾		-	0	0	0	0.0
Adhesion		0.0	0.0	0.0	0.0	0.0
General appearance		-	1	1	1	1.0

¹⁾ Average is calculated for exposed test panels. ²⁾ Average is calculated for the Intensity. ³⁾ Microscope magnification of 250 X