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TESTING LABORATORY

Husova 121
281 26 Týnec nad Labem

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L 1603

Test report no.: K-K-25-11743

Number of pages:	8
Order No.:	K-K-25-11743
Contracting authority:	ALPHA CZECH s.r.o. Mr. Pyšný U plynárny 348/83 CZ 10100 Prague 10 - Michle
Laboratory – location testing:	GRADUS, a.s.
Address:	Husova 121 CZ 281 26 Týnec nad Labem
Protocol prepared by:	Ing. Marek Schiller
Subject of testing:	**Your order e-mail dated 23.05.25 based on our price quote no. 4123 dated 13.05.25 Part*: Alpha Temper 4 pcs**
Test name:	**Determination of resistance under UV lamps**
Test according to:	AZP-13 (ČSN EN ISO 4892-3)
Test name:	**Determination of the mirror gloss of coatings**
Test according to:	ČSN ISO 2813
Test name:	**Colorimetric determination of color** differences
Test according to:	AZP-11 (ČSN EN ISO/CIE 11664-4)
Base material*:	fiber cement board
Coating characteristics*:	roller coating, water-soluble insulating coating for insulating hot pipes and equipment.
Sampling method:	sampling was performed by the client, testing concerns samples supplied by the customer, samples were tested as received
Sample preparation:	stored under laboratory conditions
Coating thickness (DFT):	according to ČSN EN ISO 2808 – method 4B – determination depth measurement – type 2 dial indicator (non-accredited test procedure)
Testing equipment:	QUV/SPRAY/RP chamber – Q-lab corporation, USA,
Test lamps used:	fluorescent UV lamps type 1A – UVA 340
Test cycle:	method A test cycle 1

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	8 hours of exposure at a temperature of (60 ± 3) °C, radiation intensity 0.76 Wm^{-2} x nm^{-1}
	4 hours of condensation without exposure at a temperature of (50 ±
3) °C Test equipment:	BYK micro tri gloss gloss meter, Byk – Gardner GmbH Test
equipment:	BYK-mac i23 colorimeter, Byk Gardner GmbH Measurement
conditions:	D65/10° illumination, without included gloss

Date of sample collection: May 23
Test date: 09 06.25 – 31.08.25

Test results

Determination of dry coating thickness

Sample number of sample	Sample Sample	ø DFT	Minimum value	Maximum value	Expanded uncertainty U
11743-1	-	**462**	415	480	-
11743-2	-	**480**	470	490	-
11743-3	-	**448**	425	475	-
11743-4	-	**455**	435	465	-

Measured thickness values for individual samples

11743-1	470	450	480	460	480	470	470	450	415	475
11743-2	480	470	490	480	490	490	480	475	475	470
11743-3	440	450	440	430	425	430	475	470	460	460
11743-4	460	465	455	450	465	460	435	450	460	450

Coating gloss measurement

Sample	Gloss before exposure [GU]		
	20	60°	85°
11743-1	1.3	2.3	0.5
11743-2	1.3	2.4	0.5
11743-3	1.3	2.4	0.5
11743-4	1.3	2.3	0.5

Sample	Gloss after 500 h exposure according to ČSN EN ISO 4892-3 [GU]		
	20	60	85
11743-3	1.2	2.2	0.5
11743-4	1.2	2.3	0.5

Sample	Gloss after 1000 h exposure according to ČSN EN ISO 4892-3 [GU]		
	20	60	85
11743-3	1.2	2.2	0.5
11743-4	1.2	2.2	0.5

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Sample	Gloss after 1500 hours of exposure according to ČSN EN ISO 4892-3 [GU]		
	20	60	85
11743-3	1.2	2.1	0.5
11743-4	1.2	2.1	0.5

Sample	Gloss after 2000 hours of exposure according to ČSN EN ISO 4892-3 [GU]		
	20	60	85
11743-3	1.1	2.0	0.5
11743-4	1.1	2.0	0.5

Color coordinate measurement

Sample	Color coordinates			Color Deviation
	L	a	b	ΔE
11743	95.99	-0.12	0.41	-

Sample	Deviations in color coordinates after 500 hours of exposure according to ČSN EN ISO 4892-3			Color deviation
	ΔL	Δa	Δb	ΔE
11743-3	0.04	0.01	-0.11	**0.12**
11743-4	0.05	0.03	-0.06	**0.09**

Sample	Deviations in color coordinates after 1000 hours of exposure according to ČSN EN ISO 4892-3			Color deviation
	ΔL	Δa	Δb	ΔE
11743-3	-0.38	0.02	-0.12	**0.40**
11743-4	0.04	0.03	-0.17	**0.18**

Sample	Deviations in color coordinates after 1500 hours of exposure according to ČSN EN ISO 4892-3			Color deviation
	ΔL	Δa	Δb	ΔE
11743-3	-0.57	0.05	-0.18	**0.60**
11743-4	0.18	0.03	-0.10	**0.21**

Sample	Deviations in color coordinates after 2000 hours of exposure according to ČSN EN ISO 4892-3			Color deviation
	ΔL	Δa	Δb	ΔE
11743-3	-0.58	0.05	-0.19	**0.61**
11743-4	0.39	-0.01	-0.10	**0.40**

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Photos of samples No. 3, 4 **500 hours of exposure under UV lamps**

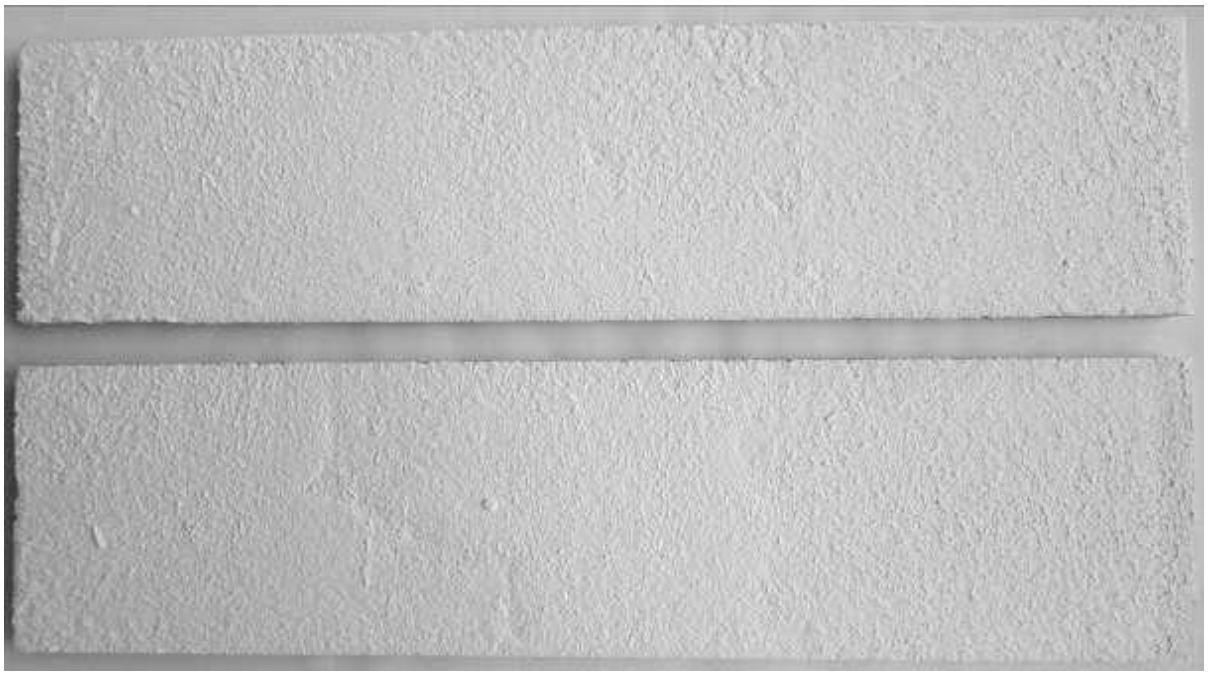

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Photo of samples no. 3, 4 1000 hours of exposure under UV lamps

Photos of samples No. 3, 4 exposure for 1500 hours under UV lamps

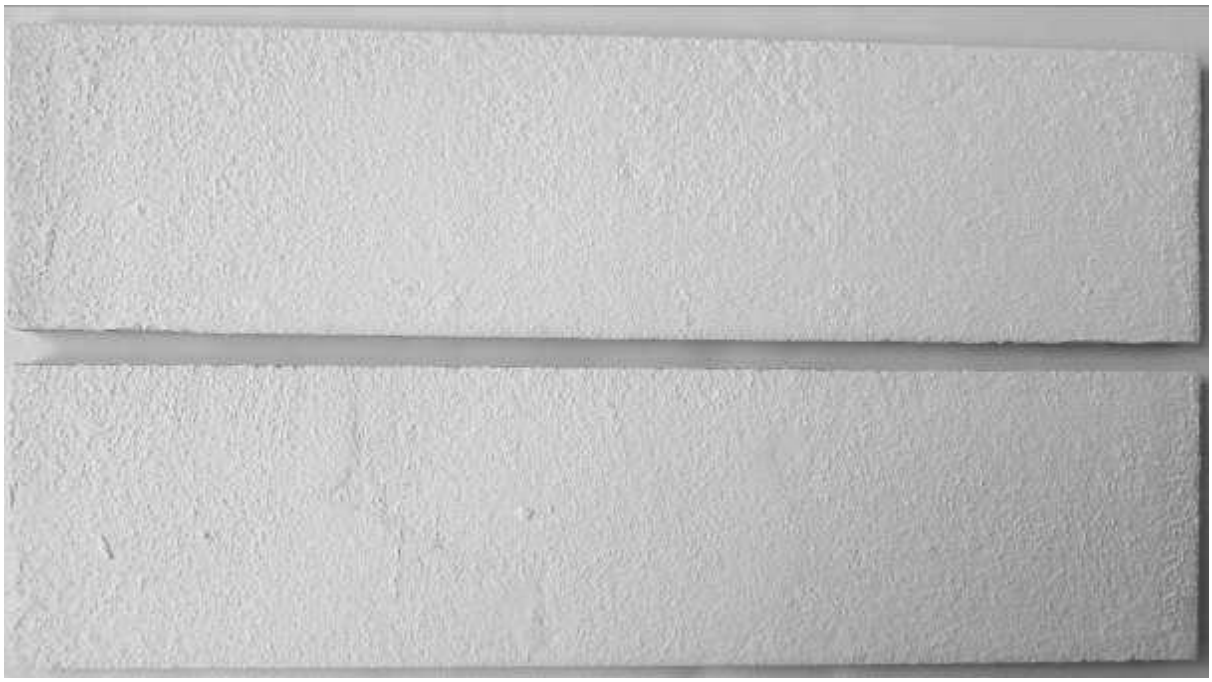

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Photo of samples no. 3, 4 **2000 hours of exposure under UV lamps**

Nametests:	**Tear test – Adhesion test** **Surface treatments of building structures for the substrate**
Test according to:	ČSN 73 2577
Testing equipment:	AMB 10 pull-off device, Roklan electronic, Czech Republic Test
conditions:	The test was performed in a laboratory at (23 ± 2)°C and (50 ± 5)
%	humidity
Reference test:	samples in the delivered state were conditioned for more than 24 hours
in laboratory conditions	conditioned for more than 24 hours under laboratory conditions
Samples after exposure:	Samples after testing according to ČSN EN ISO 4892-3 exposure 2000 hours, stored in laboratory conditions for 168 hours prior to tear test
Test specimens:	aluminum test specimens with a diameter of 50 mm
Adhesive used:	Bison two-component epoxy adhesive Adhesive drying
time:	24 hours at laboratory temperature
Cutting of test	with a core drill with a diameter of 56 mm

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Unusual phenomena and anomalies: Test results

No phenomena or anomalies occurred during the test

Tear test – reference test samples without exposure, only conditioned under laboratory conditions.
Samples 11743-1, 11743-2

Tear strength [MPa]	1.	2.	3.	4.	5.	6.	Average
	0.53	0.61	0.48	0.42	0.48	0.48	**0.50 ± 0.06**
Character of the quarry	A	A	A	A	A	A	-

Tear test – test after 2000 hours of exposure Test according to ČSN EN ISO 4892-3 Samples 11743-3, 11743-4

Tear strength [MPa]	1.	2.	3.	4.	5.	6.	Average
	0.38	0.44	0.39	0.40	0.50	0.43	**0.42 ± 0.04**
Refractive index	A	A	A	A	A	A	-

Photo of parts no. 1, 2 after tear test - without exposure

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Photo of parts no. 3, 4 after tear test – exposure 2000 h under UV lamps

*Information provided by the customer.

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Approved by: Ing. Martin Kaška, Ph.D., Head of Laboratory