



TEST REPORT

issued by Testing Laboratory No. 1018.3
accredited pursuant to ČSN EN ISO/IEC 17025:2005 by Czech Accreditation Institute

No. 020-040090

on Initial Type Testing according to ČSN EN 998-1

- bond strength to substrate
- flexural and compressive strength
- density
- water absorption
- water vapour permeability
- content of natural radionuclides

Manufacturer: **OOO «PAK«RielInvest Ocenka»**
Address: Russian Federation, 352272, Krasnodarskij region,
Otradenskij rajon chutor Chloponin, Moskevskaja Str. 1
Company ID: 2345004377
Plant: Russian Federation, 352272, Krasnodarskij region,
Otradenskij rajon chutor Chloponin, Moskevskaja Str. 1
Test sample: **Cement plaster light No.16 T.M. "Power Plast"**
Order No.: Z020180162
Number of pages of the Test Report incl. title page: 3 Pages of Annexes: 1

Prepared by:

Marie Kubešová
specialist

Approved by:



Ing. Dana Pilařová
manager of the testing department

Print No.: 1
Number of prints: 2

České Budějovice, 21.11.2018

Stamp of Testing Laboratory No. 1018.3

Declaration: 1) The test results in this Report relate only to the tested article and they do not substitute any other documents
2) The Test Report must be copied as a whole only otherwise a written consent of the testing laboratory is needed.

1. Sample data

Evidence Number: VZ020182157
 Sample: Cement plaster light No.16 T.M. "Power Plast"
 Date of sample delivery: 26.09.2018
 Sampling method: 1 undamaged packaging
 Method of the sample preparation: 235 g water / 1000 g dry mixture.

Data of sampling conditions, plan and sampling procedure, if necessary, the name of the person performing the sampling are listed in the minutes of sampling, which is stored in the testing department

2. Test methods

ČSN EN 1015-10:2000 + A1:2007 Methods of test for mortar for masonry - Part 10: Determination of dry bulk density of hardened mortar.
 ČSN EN 1015-11:2000 + A1:2007 Methods of test for mortar for masonry - Part 11: Determination of flexural and compressive strength of hardened mortar.
 ČSN EN 1015-12:2017 Methods of test for mortar for masonry - Part 12: Determination of adhesive strength of hardened rendering and plastering mortars on substrates.
 ČSN EN 1015-18:2003 Methods of test for mortar for masonry - Part 18: Determination of water absorption coefficient due to capillarity action of hardened mortar.
 ČSN EN 1015-19 + A1:2005 Methods of test for mortar for masonry - Part 19: Determination of water vapour permeability of hardened rendering and plastering mortars.

Deviations from a standard procedure or the use of non-standardized methods: were not applied.

3. Test results

The tests were carried out on: 12.10.2018 - 21.11.2018

The tests were performed by: Marie Kubešová

Date about person performing the test, testing equipment and about test conditions are listed in test minutes. All measurement and test equipment are calibrated according to valid plan of the testing department.

3.1 Determination of adhesive strength according to ČSN EN 1015-12

Speed of the test machine 2 mm/min.

Substrate	Bond strength to the substrate [MPa]		Type of failure [%]
	partial	average	
Concrete	0.12	0.12	100 % in mortar
	0.11		100 % in mortar
	0.11		100 % in mortar
	0.12		100 % in mortar
	0.12		100 % in mortar



3.2 Determination of values in accordance with ČSN EN 1015-10, ČSN EN 1015-11, ČSN EN 1015-18, ČSN EN 1015-19

	Units	Determined value	
		partial	average
Flexural strength	MPa	3.45 3.65 3.70	3.6
Compressive strength	MPa	14.25 14.15 13.50 13.85 13.50 13.60	13.8
Dry bulk density of hardened mortar	kg/m ³	1 380 1 380 1 380	1 380
Water absorption capillarity coefficient c	kg/(m ² min ^{0,5})	0.18 0.16 0.16 0.17 0.17 0.16	0.17
Water vapour diffusion resistance factor μ	-	16 17 17 17 16	17

3.3 Determination of Content of natural radionuclides

The tests were performed by TZÚS Prague, Teplice Branch, Tolstého 447,4150 03 Teplice. The test results are stated in the Testing report No. 040-059542 date of 05.11.2018.

Natural radionuclide	Measured activity concentration "a" [Bq·kg ⁻¹]	Activity concentration index "I" (calculation)
Ra-226	a _{Ra} 6 ± 2	0.08 (for a _K = 0) to 0.05 (for a _K = 19)
Th-228	a _{Th} 7 ± 2	
K-40	a _K 82 ± 22	

4. Annexes

Testing report No. 040-059542 date of 05.11.2018 – TZÚS Teplice.

END OF THE TEST REPORT





TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague

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 Laboratoř radionuklidů č. m.: 113

REPORT No. 040-059542

Measuring and evaluating the content of natural radionuclides in construction materials.

Basic data:

Client: **OOO «PAK«RielInvest Otsenka»**
 Address: Russian Federation, 352272, Krasnodar Territory, Otradnensky District, Hutor Khloponin, Moskovskaya Street, No.1
 Company identification No.: ---
 Production plant: **OOO «PAC«RisellInvestRating»**
 Address: Russian Federation, 352272, Krasnodar Territory, Otradnensky District, Hutor Khloponin, Moskovskaya Street, No. 1
 Job No.: Z040 18 0256

Sample data:

Sample No.: VZ 040 18 2205
 Sample: Cement Plaster No16 T.M. Power Plast
 Kind of material: Building products of concrete, gypsum, cement and lime
 Sampling site: Plant
 Sampling date: 05.10.2018 (delivered to the Czech Republic)
 Date received: 10.10.2018
 Measurement date: 02.11.2018

Permission to measure and evaluate the content of natural radionuclides in construction materials was granted to Technický a zkušební ústav stavební Praha, s.p. – Teplice Branch by the decision of State Office for Nuclear Safety ref. No. SÚJB/OPZ/16533/2008 on 15 July 2008 with unlimited validity

Result of the test:

Test: Measuring and evaluating the content of natural radionuclides in construction materials.
 Test procedure: The sample was measured in a standard Marinelli beaker after radioactive equilibrium was established by EMS-1 SH detection system, ser. No.: ÚJP 025, made by EMPOS, s. r. o. Praha (scintillation detector NaJ/Tl 50 × 50 mm, MCA 1256), verified pursuant to Act on Metrology No. 505/1990 Coll. - Verification Certificate ČMI No. 1054-PS-50031-17 of 29 December 2017, valid until 31 December 2019.
 Responsible worker: Mr. Lukáš Rulf (Decision of SÚJB to grant authorization ZOZ ref. No. SÚJB/OPR/14241/2018)
 Sample taken by: manufacturer's representative

Natural radionuclide	Measured activity concentration "a" [Bq·kg ⁻¹]	Activity concentration index "I" (calculation)
Ra-226	a _{Ra} 6 ± 2	0,08 ± 0,05
Th-228	a _{Th} 7 ± 2	$I = a_K / 3000 \text{ Bq} \cdot \text{kg}^{-1} + a_{Ra} / 300 \text{ Bq} \cdot \text{kg}^{-1} + a_{Th} / 200 \text{ Bq} \cdot \text{kg}^{-1}$
K-40	a _K 82 ± 22	(see Section 3 (h) of the SÚJB Decree No. 422/ 2016 Coll.)

Test evaluation:

The mass activity index does not exceed the value I = 1 as defined in Decree No 422/2016 Sb. for building materials used for residential or residential premises.

Testing equipment:

The used instruments and gauges are verified and calibrated according to the valid plan at the Teplice Testing Facility.

Author:

Lukáš Rulf
 author of this document

Approved by:

Ing. Pavel Bartoš
 testing facility manager deputy
 Teplice on 05.11.2018



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This Report has 1 page and is issued as 1 copy.

Statement: The test results presented in this Report apply only to the tested object and do not substitute any other documents.

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