



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

Akreditovaná zkušební laboratoř, Autorizovaná osoba, Notifikovaná osoba, Oznamovaný subjekt, Subjekt pro technické posuzování, Certifikační orgán, Inspekční orgán • Accredited Testing Laboratory, Authorized Body, Notified Body, Technical Assessment Body, Certification Body, Inspection Body • Prosecká 811/76a, 190 00 Praha 9 - Prosek, Czech Republic

Authorized Body 204
empowered by the Decision of COSMT No. 05/2017
Branch 0100 – Prague

REPORT

of the product certification

according to the Article 5 of the Government Decree No. 163/2002 Coll., as amended by Government Decree No. 312/2005 Coll. and by the Government Decree No. 215/2016 Coll.

No. 010-037853

Trade name:

Products for protective coatings and coatings of the mineral substrates and masonry

type / variation: FUNKČNÍ NÁTĚR (FN-1), FUNKČNÍ NÁTĚR (FN-2), FUNKČNÍ NÁTĚR (FN-3),
PROTECTAM FN1®, PROTECTAM FN2®, PROTECTAM FN3®

Manufacturer:

Advanced Materials - JTJ s.r.o.

INo: 26763842
Address: Kamenné Žehrovice 23, 27301 Kladno
Plant: Advanced Materials - JTJ s.r.o.
Address: Kamenné Žehrovice 570, 27301 Kladno
Order: Z010080146

Number of pages including the front page: 5 Number of Annexes: 3

Stamp of the Authorized Body 204

Prague, 31 March 2017



Ing. Zdeněk Kočí
Head Assessor

Note: This Report may not be reproduced otherwise but complete without a written consent of the Authorised body deputy manager.

Technical and Test Institute for Construction Prague, Branch 0100-Praha, Prosecká 811/76a, 190 00 Praha 9, Czech Republic
Phone: 286 019 400, Fax: +420 286 891 393, Internat.: +420 286 019 400, e-mail: jiroutova@tzus.cz, www.tzus.cz
Bank Name: KB Praha 1 Czech Republic, Account Number: 1501-931/0100, INo: 000 15679, VAT: CZ000156

1. General

1.1. Information about the manufacturer

Manufacturer: Advanced Materials - JTJ s.r.o.
INo: 26763842
Address: Kamenné Žehrovice 23, 27301 Kladno

1.2. Information about the product and its intended use

Product: Products for protective coatings and coatings of the mineral substrates and masonry

type / variation: FUNKČNÍ NÁTĚR (FN-1), FUNKČNÍ NÁTĚR (FN-2), FUNKČNÍ NÁTĚR (FN-3), PROTECTAM FN1®, PROTECTAM FN2®, PROTECTAM FN3®

Products FUNKČNÍ NÁTĚR (FN-1), FUNKČNÍ NÁTĚR (FN-2), FUNKČNÍ NÁTĚR (FN-3), PROTECTAM FN1®, PROTECTAM FN2®, PROTECTAM FN3® are top coating, active, photocatalytic layers on basis of titanium dioxide, without solvent. Products are possible to use them as sanitary photoactive paints which are suitable for a regular type of renders, masonry or gypsum plasterboards, interior and exterior coatings of buildings. The layer cleans air and removes organic pollutants including reduction of viruses and bacteria as result of photoactive oxidation effect. The coating is white. The layer is active immediately after an incidence of a daylight or an artificial light containing UV spectrum.

Plant: Advanced Materials - JTJ s.r.o., Kamenné Žehrovice 570, 27301 Kladno

Products "Products for protective coatings and coatings of the mineral substrates and masonry; type/variation: FUNKČNÍ NÁTĚR (FN-1), FUNKČNÍ NÁTĚR (FN-2), FUNKČNÍ NÁTĚR (FN-3), PROTECTAM FN1®, PROTECTAM FN2®, PROTECTAM FN3®" meet the requirements of the Annex No. 2, group 05, consecutive number 14 of the Government Decree No. 163/2002 Coll., as subsequently amended, and the prescribed conformity assessment system complies with § 5 of the above mentioned Decree.

1.3. List of documentation submitted by the manufacturer to the product certification

- Documentation according to § 5, cl.1, letter b), c), d) of the Government Decree No. 163/2002 Coll., as subsequently amended.

1.4. List of the other documentation used during the product certification

Checklist of 14 December 2016 of the Factory Product Control system of the manufacturer, TZÚS Prague, s. p., Branch 0100-Prague, Authorized Body 204.

Act No. 22/1997 Coll., of product's technical requirements and of the amendment and of the completion of certain acts, as subsequently amended.

Government Decree No. 163/2002 Coll., laying down technical requirements for construction products, as subsequently amended.

Act No. 350/2011 Coll. of chemical substances and mixtures, and of the amendment of certain acts, as subsequently amended.

Act No. 258/200 Coll., of the public health protection and of the amendment of certain related acts, as subsequently amended

Regulation (EC) No.1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive

1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No.1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles, as subsequently amended.

Regulation No. 6/2003 Coll., which lays down hygienic limits of chemical, physical and biological indicators for interior of living rooms in some buildings.

Conformity declaration of products FUNKČNÍ NÁTĚR (FN-1) a PROTECTAM FN1®, FUNKČNÍ NÁTĚR (FN-2) and PROTECTAM FN2®, FUNKČNÍ NÁTĚR (FN-3) and PROTECTAM FN3® of 17 June 2014, issued by Advanced Materials - JTJ s.r.o.

Comparative LCA Study FN2 and an air purifier of January 2015, issued by Czech Technical University in Prague, Faculty of Mechanical Engineering, Department of Management and Economics, Karlovo náměstí 13, 121 35 Prague 2.

Experimental study of 22 June 2015 of decrease volume of NO and NO₂ as result of surface photocatalytic reaction of photocatalytic paint Protectam FN®, issued by J. Heyrovského Institute of Physical Chemistry, v.v.i., Dolejšova 2155/3, 182 23 Praha 8. Technical specifications of manufacturing of functional paints – AMJTJ1-01, AMJTJ1-02 and AMJTJ FN3.

Technical and safety data sheets of products.

TN 05.14.01 Protective paints and coatings for mineral elements and masonry.

1.5. Technical specification and technical regulations relating to the product certification

- National technical approval No. 010-037852 of 24 March 2017 valid until 31 March 2020, issued by TZÚS Prague, s. p., Branch 0100-Prague, Authorized Body 204.

1.6. Information about previous product certification

- The previous certification was performed as order Z010080146. The certificate No. 204/C5/2014/010-033869 of 16 December 2014 was issued by TZÚS Prague, s. p., Branch 0100-Prague, Authorized Body 204.

2. Result of the review of the documentation submitted by the manufacturer

The documentation is accordance with §5, cl.2, letter a) of the Government Decree No. 163/2002 Coll. as subsequently amended.

3. Product assessment

3.1. Technical requirements

Technical requirements of products “Products for protective coatings and coatings of the mineral substrates and masonry; type/variation: FUNKČNÍ NÁTĚR (FN-1), FUNKČNÍ NÁTĚR (FN-2), FUNKČNÍ NÁTĚR (FN-3), PROTECTAM FN1®, PROTECTAM FN2®, PROTECTAM FN3®” are laid down in the National technical approval No. 010-037852 of 24 March 2017 valid until 31 March 2020, issued TZÚS Prague, s. p., Branch 0100-Prague, Authorized Body 204.

The following characteristics are assessed according to the National technical approval No. 010-037852, of 24 March 2017:

- Surface finish adhesion
- Frost resistance – 25 freezing cycles

- Surface finish adhesion after the test of Frost resistance
- Health safety
- Reduction of viruses and bacteria

3.2. List of the Test Reports:

- Test report No. 010-036625 of 23 May 2016 of surface finish adhesion tests, issued by TZUS Prague, s.p., Central laboratory – department Prague, testing laboratory No. 1018.3.
- Test report No. 010-023226 of 30 July 2008 of functional paints tests, issued by TZUS Prague, s.p., Accredited testing laboratory No. 1018.3.
- Test report No. 9266/2014 of 21 March 2014 of total and respirable dust concentration and TiO₂ content tests, issued by Medical Institute based in Ústí nad Labem, Accredited testing laboratory No. 1388.
- Test report No. S 1459/14 of 27 May 2014 of sensory test, issued by The National Institute of Public Health, National reference laboratory for food contact material and products for children under 3 years of age.
- The Expertise of 29 May 2014 to safety paints assessment, type of paints PROTECTAM FN1®, FN2® a FN3®, issued by The National Institute of Public Health, Šrobárova 48, Prague 10.
- Test report of 16 July 2014 of a photocatalytic activity test, issued by J. Heyrovského Institute of Physical Chemistry, v.v.i.
- Test report No. 409/2010 of 29 March 2010 of laboratory tests result, The National Institute of Public Health, microbiological laboratory department, National reference laboratory for a disinfection and sterilization, Accredited testing laboratory ČIA, according to ČSN EN ISO/IEC 17025 No. 1206.4, Šrobárova 48, 100 42 Prague 10.

3.3. Evaluation of the test results of the product tests and assessment

Table No. 1: Products for protective coatings and coatings of the mineral substrates and masonry

Product characteristic	Test Report	Test Method	Test Results	Required/declared level	Evaluation
Surface finish adhesion [MPa]	010-036625	National technical approval No. 010-037852	4,7 ¹⁾ 5,0 ²⁾ 4,8 ³⁾	D: ≥ 1,0	Pass
Frost resistance – Surface finish adhesion – 25 freezing cycles [MPa]	010-023226		25 cycles Without surface disruption 3,2	D: 25 cycles Without surface disruption D: ≥ 1,0	Pass
Health safety	S 1459/14		Complying	R: Complying	Pass
Reduction of viruses and bacteria	409/2010		Complying	R: Complying	Pass ⁴⁾

¹⁾ Measured value of product FUNKČNÍ NÁTĚR (FN-1).

²⁾ Measured value of product FUNKČNÍ NÁTĚR (FN-2).

³⁾ Measured value of product FUNKČNÍ NÁTĚR (FN-3).

⁴⁾ Photocatalytic paints with reference control were tested by semiquantitative method imitating practical use. Volume 0.1 ml of suspension of virus was dripped onto painted boards. The boards were exposed to light. Two supplied fluorescent lamps were in

distance of 30 cm in perpendicular direction. Tested photocatalytic paints FN2-P and FN2-H were active against virus of small plant unenveloped viruses (E. coli bacteriophage ΦX 174). Both paints had the same effect after 6 hours of testing.

Conclusion of the evaluation of the test results: Products correspond in their characteristics to the technical specification.

4. Factory Production Control assessment

4.1. Requirement of the technical specification, technical regulations regarding Factory Production Control:

Requirements of the ensuring of the Factory Production Control in the plant for product „ Products for protective coatings and coatings of the mineral substrates and masonry; type / variation: FUNKČNÍ NÁTĚR (FN-1), FUNKČNÍ NÁTĚR (FN-2), FUNKČNÍ NÁTĚR (FN-3), PROTECTAM FN1®, PROTECTAM FN2®, PROTECTAM FN3®“ are laid down in the National technical approval No. 010-037852 of 24 March 2017, valid until 31 March 2020, issued by TZÚS Prague, s. p., Branch 0100-Prague, Authorized Body 204.

4.2. Evaluation of the Factory Production Control Assessment Result:

- The conclusion of the Factory Production Control Assessment is stated in the checklist of 14 December 2016 of the Factory Production Control of the manufacturer, issued by TZÚS Prague, s. p., Branch 0100-Prague, Authorized Body 204.
- Technical documentation of the manufacturer contains a description of a way of the Factory Production Control system.
- The Factory Production Control is in accordance with technical specifications and technical regulations and its function is ensured.
- No non-conformities were found.

5. Conclusion

- Samples of product are in accordance to the requirements of the technical specification and technical regulations in the monitored characteristics.
- The Factory Production Control complies with technical documentation and ensures that products put on the market meet the requirements laid down in the Government Decree No. 163/2002 Coll., as amended, and its effective function is ensured.
- Products meet the requirements of the Government Decree No. 163/2002 Coll., as amended.
- Findings and conclusions mentioned in this Report are valid providing the conditions under them FPC assessment was carried out remain unchanged (e.g. technical regulations, technical specifications, production technology, incoming raw and manufacturing equipment).
- In compliance with provision of § 5 Clause 1 and 4 of the Government Decree No. 163/2002 Coll., as amended, the technical documentation has to be complemented with Surveillance Reports.

6. Annexes

- Test report No. 010-036625 of 23 May 2016 of surface finish adhesion tests, issued by TZUS Prague, s.p., Central laboratory – department Prague, testing laboratory No. 1018.3.

END OF THE REPORT OF THE PRODUCT CERTIFICATION



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

Akreditovaná zkušební laboratoř, Autorizovaná osoba, Notifikovaná osoba, Oznamovaný subjekt, Subjekt pro technické posuzování,
Certifikační orgán, Inspekční orgán / Accredited Testing Laboratory, Authorised Body, Notified Body, Technical Assessment Body,
Certification Body, Inspection Body, Prosecká 811/76a, 190 00 Praha 9

Central laboratory

Testing department Praha, Prosecká 811/76a, 190 00 Praha 9

tel.: +420 286 019 435, e-mail: praha@tzus.cz, www.tzus.eu



L 1018.3

TEST REPORT

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

No. 010-036625

on Tests of consistence of bond strength by pull-off

Ordering Party: Advanced Materials – JTJ s.r.o.
Address: Kamenné Žehrovice 23, 273 01 Kladno

Company ID: 26763842

Manufacturer: Advanced Materials – JTJ s.r.o.
Address: Kamenné Žehrovice 570, 273 01 Kladno

Test sample: Protectam FN1
Protectam FN2
Protectam FN3

Order No.: Z010080146

Number of pages of the Test Report incl. title page: 3 Pages of Annexes: -

Prepared by:

Approved by:



Print No.: A
Number of prints: 4

Slavomír Štubňa
specialist

RNDr. Vojtěch Hötzel
head of the testing department

Prague, on 23.05.2016

razítko zkušební laboratoře č. 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.

Technical and Test Institute for Construction Prague, Central laboratory

Nemanická 441, 370 00 České Budějovice, Czech Republic

Bank: Komerční banka, Praha 1

Phone.: +420 387 023 211

Account No.: 1501-931/0100

www.tzus.eu

e-mail: pilarova@tzus.cz

Entered in the Commercial Register maintained by Municipal Court in Prague, Section ALX, Insert 711, Comp. ID: 00015679, VAT: CZ00015679

1. Sample data

Evidence Number: VZ010160222 (Protectam FN1)
VZ010160223 (Protectam FN2)
VZ010160224 (Protectam FN3)

Sample: Protectam FN1
Protectam FN2
Protectam FN3

Order: Z010080146

Date of sample delivery: 09.05.2016

Sampling place: Advanced Materials - JTJ s.r.o., Kamenné Žehrovice 570, 27301 Kladno

Sampling method: not mentioned

Method of the sample preparation: Preparation of test samples was performed according to technical requirements of the applicant and test samples were prepared according to relevant standard.

2. Test methods

ČSN EN 1542: 2000 Products and systems for the protection and repair of concrete structures - Test methods - Measurement of bond strength by pull-off

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

3. Test results

The tests were carried out on: 10.-12.05.2016, 20.05.2016

The tests were performed by: Slavomír Štubňa

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.

Laboratory conditions: temperature: (21±2) °C, relative humidity: (60±10) %

3.1 Protectam FN1

Determination of bond strength by pull-off acc. to ČSN EN 1542:2000

Sample marking	Thickness (mm)	Bond strength (MPa)	*Type of failure [%]
1	0,1	3,9	A = 100%
2	0,1	5,2	A = 100%
3	0,1	5,2	A = 100%
4	0,1	5,3	A = 100%
5	0,1	4,0	A = 100%
Arithmet. mean		4,7	

*Type of failure

A: cohesion failure in the concrete substrate



3.2 Protectam FN2

Determination of bond strength by pull-off acc. to ČSN EN 1542:2000

Sample marking	Thickness (mm)	Bond strength (MPa)	*Type of failure [%]
1	0,1	5,2	A = 100%
2	0,1	5,0	A = 100%
3	0,1	4,5	A = 100%
4	0,1	5,2	A = 100%
5	0,1	5,1	A = 100%
Arithmet. mean		5,0	

*Type of failure

A: cohesion failure in the concrete substrate

3.3 Protectam FN3

Determination of bond strength by pull-off acc. to ČSN EN 1542:2000

Sample marking	Thickness (mm)	Bond strength (MPa)	*Type of failure [%]
1	0,1	5,2	A = 100%
2	0,1	4,6	A = 100%
3	0,1	4,5	A = 100%
4	0,1	4,4	A = 100%
5	0,1	5,1	A = 100%
Arithmet. mean		4,8	

*Type of failure

A: cohesion failure in the concrete substrate

END OF THE TEST REPORT

