

LIMITED LIABILITY COMPANY
"SCIENTIFIC AND TESTING CENTER "EUROSTANDARD"

International Laboratory Accreditation Cooperation (ILAC)

National Accreditation Agency of Ukraine
№ 2H1069 (DSTU ISO/IEC 17025:2006)

Approved by
Director of the LLC S&T Center "Eurostandard" Ilnytskyi O.
"04"__02__2019

PROTOCOL №1/Г3-19

of the certification tests - determination of the flammability group
according to

DSTU B.V.1.1-2-97(GOST 3042-96)

Finishing material, flexible tile on a sand-polymer composition, that is used for producing:

Flexible clinker "IN-CLINKER"

Flexible brick "IN-BRICK"

Flexible ceramics "IN-KERAM"

manufactured by

LLC "IN DEMAND"

Indicator B1 (hardly flammable)

Copy 1 - Owner
Copy 2 - Client

Client:

LLC "IN-DEMAND", 37710, Ukraine, Poltava reg., Orzhitsky dist., Lazirky, Tsentralna st. 2B/2

Testing center:

LLC "SCIENTIFIC AND TESTING CENTER "EUROSTANDARD"

Legal-actual address: Lviv reg., Gorodotsky dist., Cherlyany, Polyova st. 99A;

tel. 0962703195.e-mail: nvz-es@ukr.net, <http://lab-eurostandart.com>.

License of the State Department of Fire Safety of the Ministry of Emergencies of Ukraine No. 518682 dated 03.04.2010 p.

Accreditation certificate No. 2H1069 issued by the National Accreditation Agency of Ukraine dated September 25, 2014, valid until September 24, 2019.

Testing was performed in accordance with:

1. Application letter

Testing object: Finishing material, flexible tile on a sand-polymer composition:

Flexible clinker "IN-CLINKER"

Flexible brick "IN-BRICK"

Flexible ceramics "IN-KERAM"

Registration number "БЛ No. Д2-343"

Testing methodology: according to DSTU B "B.1.1-2-97 (GOST 30402-96)" "Building materials. The flammability test method." consists in determination of the parameters of the material flammability, at the levels, specified by the standard, of the radiant heat flux and flame from the ignition source impacting the surface of the sample. Surface density of the heat flux (φ) should stay within the limits of 10kW/m² up to 50kW/m².

In order to classify the materials according to the flammability groups the following parameters are determined: critical surface density of the heat flux (φ) and the period of time between the beginning of the test and the sample ignition.

$K\varphi$ - the minimum value of the surface density of the heat flux causing the combustion that does not stop until the next impact of the flame of the ignition source on the sample.

According to the testing results, depending on the value of $K\varphi$, the combusting building materials are divided into 3 flammability groups: B1, B2 and B3 (table 1).

Table 1.

Classification of the building materials in accordance with
DSTU B B.1.1-2-97 (GOST 30402-96)

The material flammability group	$K\varphi(\text{kW/m}^2)$
B1	$35 \leq K\varphi$
B2	$20 \leq K\varphi \leq 35$
B3	$K\varphi \leq 20$

The samples for the testing:

The testing was performed on the finishing material, flexible tile on a sand-polymer composition: 3-5mm width.

The samples are put onto the asbestos-cement sheet of the size 165mmx165mm. The samples were conditioned at air temperature (23±2) °C and relative air humidity (50±2)% for 48 hours.

Conditions for testing performance:

- date 01.02.2019;
- air temperature: 16 °C;
- relative air humidity: 66%;
- atmospheric pressure: 100.3 kPa.

Test equipment: For the test, an installation for studies of building materials for flammability, and measuring equipment, which are listed in Table 2, were used.

Table 2

Measuring equipment

№	Name of equipment or instrument	Factory number	Measurement range	Measurement error	Date of the next verification
1	2	3	4	5	6
1	Potentiometer (ТРПО8-ТП 4)	4620-10	from 0 to 1300°C	±1°C	4 qtr 2019
2	Thermotransformer (TXA-1007)	30	from 0 to 1100°C	2 kl	4 qtr 2019
3	Radial heat flux sensor (ПАП-12УМ.2)	011	from 0 to 100 kW/m ²	±3%	4 qtr 2019
4	Metallic ruler	-	from 0 to 500 mm	±3 mm	2 qtr 2019
5	Caliper of type 1	00913574	from 0 to 125 mm	±0.05%	2 qtr 2019
6	Aspiration psychrometer (MB-4M)	4507	from -25 to 50°C/ from 10 to 100%)	±2°C/±4%	2 qtr 2019
7	Mechanical stopwatch (COC пр-26-2-000.4295B)	0779	from 0 to 60 sec; from 60 to 3600 sec	±6 sec/ ±1.8 sec	4 qtr 2019
8	Aneroid meteorological barometer (БАММ-1)	353	from 80 to 106 kPa	0.02%	2 qtr 2019

Testing results: The results of the tests are indicated in table 3.

Table 3

Testing results

№ of sample	Value of φ which impacts the sample, kW/m ²	Period of time before the sample ignition, sec	Critical surface density of the heat flux, kW/m ²
1	30	No ignition	40
2	35	No ignition	
3	40	284	
4	35	No ignition	
5	40	269	

Conclusion:

According to p.5 of the DSTU B B.1.1-2-97 (GOST 30402-96) the sample, the finishing material, flexible tile on a sand-polymer composition, 3-5mm width, manufactured by LLC "IN-DEMAND", belongs to the materials of the flammability group B1 (hardly flammable).

Note:

1. The protocol № "1-Г3-19" relates only to the samples that were under testing.
2. The protocol is a complete document and can be rewritten only in full with the written confirmation from the LLC "SCIENTIFIC AND TESTING CENTER "EUROSTANDARD".
3. The document is valid for 3 years.
4. The copies of the protocols are valid only after being signed at the LLC "SCIENTIFIC AND TESTING CENTER "EUROSTANDARD".

Acting head of the laboratory

Pykus V.

Test-engineer

Karpyak M.