VILNIUS GEDIMINAS TECHNICAL UNIVERSITY
SCIENTIFIC INSTITUTE OF THERMAL INSULATION

LABORATORY OF BUILDING MATERIALS

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TEST REPORT Nr. 1-12-2015
2015-03-25
1 (1)
Valid for the tested testing object

1. CUSTOMER: OOO "Scanroc", Volgogradskaja str., 41, 03141, Kiev, Ukraine

2. PRODUCER: OOO "Scanroc", Volgogradskaja g., 41, 03141, Kijevas, Ukraina

3. PRODUCT: Concrete (facade) stone (600 × 105 × 30) mm

4. RECEIVING DATE: 2015-01-12 5. TESTING DATA: 2015-01-12 to 2015-03-24

6. TEST LOCATION: Sector of building products of laboratory of building materials

7. SAMPLES SELECTED BY: Samples sent to the laboratory for customer

8. TESTS WERE CARRIED OUT IN ACCORDANCE WITH: LST EN 490:2012, LST EN 491:2011

9. TEST RESULTS:

The Name of a Parameter	Test Method(s)	Test Result
Hanging length, mm	LST EN 491:2011, 5.2.3.1	see Annex 1
Squareness, mm	LST EN 491:2011, 5.2.3.1 LST EN 490:2012, 5.2.1	1
Cover width, mm	LST EN 491:2011, 5.3.3.2	599
Flatness, mm	LST EN 491:2011, 5.4	Does not exceed 3 mm
Mass, g	LST EN 491:2011, 5.5	2825
Minimum transverse strenght, N	LST EN 491:2011, 5.6	F_{min} = 930
Water impermeability	LST EN 491:2011, 5.7	Within 20 h ± 5 min. water drops falling from the underside of the samples, did not form
Durability (freeze-thaw resistance): - water impermeability (after 25, 100 and 150 cycles of freezing-thawing): - minimum transverse strenght, N (after 25 cycles of freezing-thawing): - minimum transverse strenght, N (after 100 cycles of freezing-thawing): - minimum transverse strenght, N (after 150 cycles of freezing-thawing):	LST EN 491:2011, 5.8	Within 20 h ± 5 min. water drops falling from the underside of the samples, did not form; F_{min} = 1080 F_{min} = 1060 F_{min} = 950
Nib support	LST EN 491:2011, 5.9	Test specimens held without falling not less than 1 min.

10. OTHER INFORMATION: -

11. ANNEXES: the data of tests' results are presented in annex 1 (4 sheet)

Head of laboratory Viktor Kizinievič

Head of sector of building products Jolanta Pranckevičienė

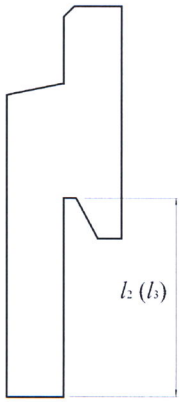
Vilniaus Gedimino technikos universitetas Termoizoliacijos mokslo institutas Statybinių medžiagų laboratorija VILNIUS

1. DETERMINATION OF HANGING LENGTH AND SQUARENESS

The test was determined according to LST EN 491:2011 „Concrete roofing tiles and fittings for roof covering and wall cladding - Test methods" requirements of section 5.2.3.1.

The principled scheme of measurement is presented in the figure. Number of samples: 3 samples with the size of (600×105×30) mm.

Squareness was calculated according to LST EN 490:2012 „Concrete roofing tiles and fittings for roof covering and wall cladding - Product specifications" requirements of section 5.2.1.



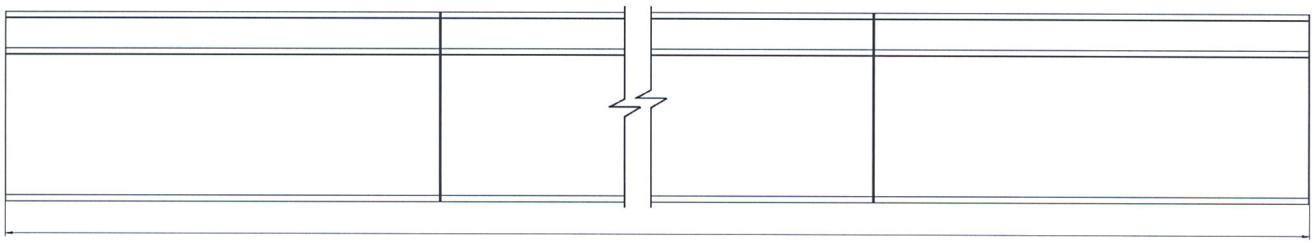
Principled scheme of measurement

No.	Dimension l_2, mm	Dimension l_3, mm	Average dimension l_1, mm	Squareness l_3 - l_2, mm
1	39	40	40	$1 \leq 4$ mm
2	38	39	39	$1 \leq 4$ mm
3	38	39	39	$1 \leq 4$ mm

2. DETERMINATION OF COVER WIDTH

The test was determined according to LST EN 491:2011 „Concrete roofing tiles and fittings for roof covering and wall cladding - Test methods" requirements of section 5.3.3.2.

The principled scheme of measurement is presented in the figure. Number of samples: 10 samples with the size of (600×105×30) mm.



C_{wc}

Principled scheme of measurement

No.	Cover width of 10 samples c_{wc}, mm	Mean cover width c_w, mm
1	5991	599

3. DETERMINATION OF FLATNESS

The test was determined according to LST EN 491:2011 „Concrete roofing tiles and fittings for roof covering and wall cladding - Test methods" requirements of section 5.4.

The steel round bars with a diameter of 3 mm and $c_w/100$ = 6 mm were used. Number of samples: 3 samples with the size of (600×105×30) mm.

No.	Test with 6 mm diameter steel round bar	Test with 3 mm diameter steel round bar
1	The clearance is less than 6 mm in diameter of steel round bar	The clearance is less than 3 mm in diameter of steel round bar
2	The clearance is less than 6 mm in diameter of steel round bar	The clearance is less than 3 mm in diameter of steel round bar
3	The clearance is less than 6 mm in diameter of steel round bar	The clearance is less than 3 mm in diameter of steel round bar

4. DETERMINATION OF MASS

The test was determined according to LST EN 491:2011 „Concrete roofing tiles and fittings for roof covering and wall cladding - Test methods" requirements of section 5.5.

Number of samples: 3 samples with the size of (600×105×30) mm.

No.	Mass of sample, g	Mean mass of sample, g
1	2850	2825
2	2825	
3	2825	

5. DETERMINATION OF TRANSVERSE STRENGHT

The test was determined according to LST EN 491:2011 „Concrete roofing tiles and fittings for roof covering and wall cladding - Test methods" requirements of section 5.6. Number of samples: 3 samples with the size of (600×105×30) mm.

The distance between the supports - 200 mm. The distance between the supports was selected taking into account the manufacturer's installation manual for concrete (facade) stone products and consisted of 2/3 of the distance between the vertical axes of mounting profiles.

No.	Maximum transverse strength, N
1	1010
2	**F_{min} = 930**
3	980

6. DETERMINATION OF WATER IMPERMEABILITY

The test was determined according to LST EN 491:2011 „Concrete roofing tiles and fittings for roof covering and wall cladding - Test methods" requirements of section 5.7, using the test apparatus presented in figure a) of the standard. Number of samples: 3 samples with the size of (600×105×30) mm.

No.	Within 20 h ± 5 min. water drops falling from the underside of the samples
1	Did not form
2	Did not form
3	Did not form

7. DETERMINATION OF DURABILITY (FREEZE-THAW RESISTANCE)

The test was determined according to LST EN 491:2011 „Concrete roofing tiles and fittings for roof covering and wall cladding - Test methods" requirements of section 5.8. Number of samples: 9 samples with the size of (600×105×30) mm. The freeze-thaw test was conducted on samples for 25, 100 and 150 cycles. After 25, 100 and 150 cycles of freezing-thawing, no damage was detected.

After 25, 100 and 150 cycles of freezing-thawing, water impermeability according to LST EN 491:2011 „Concrete roofing tiles and fittings for roof covering and wall cladding - Test methods" requirements of section 5.7 and transverse strength according to LST EN 491:2011 „Concrete roofing tiles and fittings for roof covering and wall cladding - Test methods" requirements of section 5.6 were determined. The distance between the supports - 200 mm. Test results are presented in table.

No.	Within 20 h ± 5 min. water drops falling from the underside of the samples	Maximum transverse strength, N
After 25 cycles of freezing-thawing		
1	Did not form	**F_{min} = 1080**
2	Did not form	1160
3	Did not form	1220
After 100 cycles of freezing-thawing		
4	Did not form	**F_{min} = 1060**
5	Did not form	1200
6	Did not form	1100
After 150 cycles of freezing-thawing		
7	Did not form	**F_{min} = 950**
8	Did not form	1060
9	Did not form	1020

8. NIB SUPPORT

The test was determined according to LST EN 491:2011 „Concrete roofing tiles and fittings for roof covering and wall cladding - Test methods“ requirements of section 5.9. Number of samples: 3 samples with the size of (600×105×30) mm.

No.	The test sample held without falling:
1	Not less than 1 min.
2	Not less than 1 min.
3	Not less than 1 min.

Test were carried out by: **V. Pukienė**

V. Kizinievič