

Customer Nr.: 200-11-0116

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**INITIAL TYPE – TESTING REPORT (ITT) OF  
RENDERING AND PLASTERING MORTAR  
(EN 998-1: 2011)  
Nr. SK12/11/0074/1305**

Tested product: **IZONIL HARD  
(renovation mortar – EN 998-1)**

Producer: **IZONIL**

Place of production: **RED LION Co.,LTD, Ha Lam industrial zone  
Binh Phuc commune, Thang Binh district  
Quang Nam province, Vietnam**

Date of elaboration  
of ITT report: **15. 12. 2011**

Elaborated by: **Ing. Jana Otrubová**



**Attention:**

The initial type testing must be done again if essential alternation of production technology or basic materials should occur.

## 1 COMMON DATA

The product IZONIL HARD (renovation mortar) is identical with the product IZONIL renovation hydrophobic plaster, conformity of which was affirmed by the Report of initial type testing No. SK12/06/0052/1306 of 18. 12. 2006.

The producer of the mortar IZONIL HARD (IZONIL GROUP s.r.o.) has submitted the declaration on word of honour concerning these facts, issued by the producer of IZONIL renovation hydrophobic plaster, dated of 01. 12. 2011.

Test results from the Report of ITT No. SK12/06/0052/1306 were availed for conformity assessment of IZONIL HARD and were the background for this Report of ITT No. SK12/11/xxx/1305 of 15.12. 2011.

**1.1 Place of production:** RED LION Co.,LTD, Ha Lam industrial zone,  
Binh Phuc commune, Thang Binh district,  
Quang Nam province, Vietnam

**1.2 Mode of samples delivery:** samples delivered by producer

**1.3 Mode of sampling:** sampling done by producer

### 1.4 Prescriptions and documents used by initial – type testing

Directive 89/106/EEC of the Council of European Communities of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to the construction products (Construction Products Directive - CPD), amended by the Directive 93/68/EEC of the Council of European Communities of 22 July 1993

Act No. 90/1998 coll on Construction Products in wording of later regulations

Regulation of MVRR SR No. 558/2009 coll, establishing a list of construction products that must be labeled, systems of conformity attestation, and details of the use of conformity markings

Commission Decision of 4 October 1996 establishing the list of products belonging to Classes A „No contribution to fire“ provided for in Decision 94/611/EC implementing Article 20 of Council Directive 89/106/EEC on construction products

Act No. 67/2010 coll on chemicals and chemical mixtures conditions marketing and on obrogation and amendment of some acts (chemical act)

Act No. 126/2006 coll on public health and on abrogation and amendment of some acts

STN EN 998-1: 2011 Specification for mortar for masonry. Part 1: Rendering and plastering mortar (72 2430)

STN EN 1015-10: 2001 Methods of tests for mortar for masonry. Part 10: Determination of dry bulk density of hardened mortar (72 2441)

STN EN 1015-11: 2001 Methods of tests for mortar for masonry. Part 11: Determination of flexural and compressive strength of hardened mortar (72 2441)

STN EN 1015-12: 2001 Methods of tests for mortar for masonry. Part 12: Determination of adhesive strength of hardened rendering and plastering mortars on substrates (72 2441)

STN EN 1015-18: 2003 Methods of tests for mortar for masonry. Part 18: Determination of water absorption coefficient due to capillary action of hardened mortar (72 2441)

STN EN 1015-19: 2000 Methods of tests for mortar for masonry. Part 19: Determination of water vapour permeability of hardened rendering and plastering mortars (72 2441)

STN 73 2569: 1981

Test for frost resistance of surface finish of building structures

Technical sheet IZONIL HARD

Test report No. 39/2006, Central Testing Laboratory CLL a.s.(Cement Factory of Lietavská Lúčka, Inc., Žilinská cesta, 013 11 Lietavská Lúčka, of 23. 08. 2006

Test report No. 47/2006, Central Testing Laboratory CLL a.s.(Cement Factory of Lietavská Lúčka, Inc., Žilinská cesta, 013 11 Lietavská Lúčka, of 15. 11. 2006

## 1.5 Definition and application of the product

IZONIL HARD is factory-made dry mortar mixture for wall finish of interiors and exteriors, which consists of aggregate fraction 0/4, lime hydrate, cement, admixtures and polypropylene fibers. It is applied for damp-proofing and waterproofing of underground structures, for plaster renovation and reparation of ancient buildings and for waterproofing of pools, bathrooms and concrete bath tubs.

The product is mixed manually or by concrete mixer for 3 to 5 minutes. It is applied manually or mechanically onto dry, clean underlayer (substrate), free of residues and moisty parts and treated with cement grout. When relining walls damaged by dampness and mildew, old plaster must be removed.

Layer thickness of applied mortar shall be 10 mm, it is recommended to apply max. three layers. The surface of each layer shall be roughed up by finishing trowel.

Ambient and surface temperature during application must be between + 5° C and + 25° C. During setting and hardening the mortar must be protected against high temperature.

Dry mortar mixture is delivered in paper bags stocked on palettes. During storing the products must be protected against moisture and frost. Warranty period is 12 months from the production date, when keeping the storing conditions.

## 1.6 Data about previous initial type testing

Questioned construction products have not been yet the objects of the initial type testing according to the Act No. 90/1998 coll on Construction Products in wording of later regulations.

## 2 PRODUCTS TESTS EVALUATION

Within the initial – type testing particular tests were performed:

Determination of bulk density of hardened mortar, compressive strength, adhesive strength on substrate and failure pattern, capillarity (coefficient of capillary absorption), water penetration depth and water vapour permeability were performed by the Central Testing Laboratory CLL a.s. (Cement Factory of Lietavská Lúčka, Inc., Žilinská cesta, 013 11 Lietavská Lúčka. Test Report No. 39/2006 is enclosed.

Test of durability - adhesive strength on substrate after cycles of freezing and thawing was performed by the Central Testing Laboratory CLL a.s. (Cement Factory of Lietavská Lúčka, Inc., Žilinská cesta, 013 11 Lietavská Lúčka. Test Report No. 47/2006 is enclosed

Test results and advisement of the product characteristics are stated in Tab. No. 1.



**Tab. 1: Test results and evaluation of the product IZONIL HARD**

Test parameter	Test method	Prescription for conformity attestation	Measured value	Evaluation
Bulk density of hardened mortar [kg/m <sup>3</sup> ]	STN EN 1015-10	Technical sheet 1650 ± 50	1680	Meets
Compressive strength [N.mm <sup>-2</sup> ]	STN EN 1015-11	STN EN 998-1 CS II (from 1,5 to 5,0)	3,40	Meets
Adhesive strength of hardened mortar on substrates [N.mm <sup>-2</sup> ] and failure pattern FP a, b or c)	STN EN 1015-12	min. 0,1	0,2 – FP a) <sup>*)</sup>	Meets
Capillarity (coefficient of capillary absorption) [ kg/m <sup>2</sup> .min <sup>0,5</sup> ]	STN EN 1015-18	STN EN 998-1 ≤ 0,30 after 24 hours	0,3	Meets
Water penetration depth after the test of capillarity [mm]	STN EN 1015-18	STN EN 998-1 ≤ 5	1	Meets
Water vapour permeability coefficient μ [-]	STN EN 1015-19	STN EN 998-1 ≤ 15	12,4	Meets
Thermal conductivity coefficient λ <sub>10, dry</sub> [W.m <sup>-1</sup> .K <sup>-1</sup> ]	STN EN 1745, tab. A.12	STN EN 998-1	0,67 – value according to the table	-
Durability - adhesive strength on substrate after cycles of freezing and thawing [N.mm <sup>-2</sup> ] and failure pattern FP a, b or c)	STN 73 2579	Technical sheet min. 0,1	0,20 – FP a) *)	Meets
Reaction to fire	Regulation MVRR SR No. 558/2009 coll	STN EN 998-1	A1 <sup>**)</sup>	Meets

**Notes:** \*) mode of failure a): failure of adhesion – failure on interface of mortar and substrate. Value from test is equal to the value of adhesion

\*\*) class of fire reaction A – without testing

**3 LIST OF ENCLOSURES**

Enclosure No.	Title (content) of enclosure	Number of formats
1	Test report No. 39/2006, Central Testing Laboratory CLL a.s. (Cement Factory of Lietavská Lúčka, Inc.), Žilinská cesta, 013 11 Lietavská Lúčka, 23. 08. 2006	2 x A4
2	Test report No. 47/2006, Central Testing Laboratory CLL a.s. (Cement Factory of Lietavská Lúčka, Inc.), Žilinská cesta, 013 11 Lietavská Lúčka, 15. 11. 2006	2 x A4

**4 DISTRIBUTION LIST**

Copy No.	Recipient
1	IZONIL Slovak Republic
2	IZONIL Slovak Republic
3	QUALIFORM SLOVAKIA s.r.o., Pasienková 9 D, 821 06 Bratislava, Slovak Republic

**5 CONCLUSION**

The tested product conforms the requirements of standard STN EN 998-1 for renovation mortar.

During adhesion tests of hardened mortar on substrates and adhesion tests after cycles of freezing and thawing the failure occurred in the bond between mortar and substrate. It means that adhesion is equal to the test value.

In 2012 the producer has to work out new initial type-testing according to STN EN 998-1 on the basis of new tests of IZONIL HARD parameters.

**TEST REPORT No. 39/2006**

**Cementáreň Lietavská Lúčka, a.s.**  
**Centrálne skúšobné laboratórium CLL a.s.**  
 (Cement Factory of Lietavská Lúčka, Inc.  
 Central Testing Laboratory CLL a.s.)

Žilinská cesta, 013 11 Lietavská Lúčka  
 tel. 041/7340 282; fax 041/5688 532

**Producer:** Izonil Slovakia spol. s r.o., ul. Športová 334, 946 31 Chotín  
**Place of production:** Izonil Slovakia spol. s r.o., ul. Športová 334, 946 31 Chotín  
**Applicant of tests:** QUALIFORM SLOVAKIA s.r.o., Ružová dolina 27, 821 09 Bratislava

**Tested product: IZONIL – renovation mortar**

**Standards resp. testing methods:**

STN EN 1015-10: Determination of dry bulk density of hardened mortar (August 2001)  
 STN EN 1015-11: Determination of flexural and compressive strength of hardened mortar (August 2001)  
 STN EN 1015-12: Determination of adhesive strength of hardened rendering and plastering mortars on substrates (October 2001)  
 STN EN 1015-18: Determination of water absorption coefficient due to capillary action of hardened mortar (June 2003)  
 STN EN 1015-19: Determination of water vapour permeability of hardened rendering and plastering mortars (September 2000)  
 STN 73 2579: Test for frost resistance of surface finish of building structures (April 1981)

**Mode of samples delivery:** samples delivered by the applicant

**Date of sample accepting:** 26.05.2006

**Mode of sampling:** sampling done by the producer

**Storing and handling of samples:** Samples prepared and treated according to STN EN 1015-11: temperature  $20 \pm 2$  °C, relative humidity  $95 \pm 5\%$ ,  $65 \pm 5\%$ ,  $50 \pm 5\%$ .

**Date of preparing and processing of samples:** 30.05.2006, Dosage of water : 390 ml/2 kg

**Date and time of testing:**

30.05.2006 08:00 a.m. (value of flow)  
 27.06.2006 14:30 a.m. (bulk density of hardened mortar, flexural strength, compressive strength, adhesive strength on substrate)  
 04.07.2006 18:30 a.m. (coefficient of vapour resistance)  
 14.08.2006 10:00 a.m. (capillary action)

**Used equipment and their metrological traceability:**

name of equipment	reg. No.	range	accuracy/uncertainty
electromechanical exact weight	203	(0,01-2100) g	class of accuracy 2
flowing table			
testing breaking machine	115	(0,2-10) kN	0,07 %
testing press machine	114	(3-300) kN	0,15 %
testing tension machine	388	(0-2-5-10) kN	0,2 %
vibration table	135	48,5 Hz	
hygrometer	20/2	(0-100) %	
thermometer	385	(-10+50) °C	

**Amendments and exception from standard process:** ---



**Test results :**

Tested parameter	Test prescription	Measured value	Uncertainty of measurement U	Test identification
Value of flowing	STN EN 1015-3	173x173 173x173 <b>173x173 mm</b>		N
dry bulk density of hardened mortar	STN EN 1015-10	1680 1680 1680 <b>1680 kg/m<sup>3</sup></b>	10,0 %	A
flexural strength	STN EN 1015-11	1,60 1,55 1,65 <b>1,60 N.mm<sup>-2</sup></b>	0,47 %	A
compressive strength	STN EN 1015-11	3,15 3,10 3,60 3,50 3,65 3,60 <b>3,40 N.mm<sup>-2</sup></b>	0,80 %	A
capillary action	STN EN 1015-18	0,30 0,30 0,25 0,25 0,30 0,25 <b>0,30 kg.m<sup>-2</sup></b>	0,11 %	A
water penetration depth	STN EN 1015-18	1 0 1 0 1 1 <b>1 mm</b>		N
weight of dried sample (g)	STN EN 1015-18	219,4 221,3 210,5	219,8 220,5	223,6
adhesive strength on concrete substrate	STN EN 1015-12	0,25 0,25 0,25 0,30 0,25 <b>0,25 N.mm<sup>-2</sup></b>	0,16 %	A
failure in the bond between mortar and concrete substrate				
coefficient of vapour resistance	STN EN 1015-19	12,9 12,3 12,0 <b>12,4</b>		N
adhesive strength on concrete substrate	STN 73 2579		0,18 %	A

Note : A – accredited test  
N – not accredited test

**Declaration:**

Test results refer to the subject of testing only and do not substitute other documents. Without written agreement of testing laboratory, it is not allowed to reproduce this report incomplete.

Nor test report nor any of its part can be disused or approved by the customer for promotional or publication purpose.

Test report itself does not mean in any case the approval of the product by the accreditation body or by any other body.

**Date of report issue:** 23.08.2006

**Tested by:** Kozelová

**Report elaborated by:** RNDr. Dana Rosinčinová

**Approved by:** Head of Central Testing Laboratory (signature illegible)

**Stamp: CLL** Cement Factory of Lietavská Lúčka, Inc.  
Central Testing Laboratory

**TEST REPORT No. 47/2006**

**Cementáreň Lietavská Lúčka, a.s.**  
**Centrálne skúšobné laboratórium CLL a.s.**  
(Cement Factory of Lietavská Lúčka, Inc.  
Central Testing Laboratory CLL a.s.)

Žilinská cesta, 013 11 Lietavská Lúčka  
tel. 041/7340 282; fax 041/5688 532

**Producer:** Izonil Slovakia spol. s r.o., ul. Športová 334, 946 31 Chotín

**Place of production:** Izonil Slovakia spol. s r.o., ul. Športová 334, 946 31 Chotín

**Applicant of tests:** QUALIFORM SLOVAKIA s.r.o., Ružová dolina 27, 821 09 Bratislava

**Tested product:** IZONIL – renovation mortar

**Standards resp. testing methods:**

STN 73 2579 Test for frost resistance of surface finish of building structures (April 1981)

**Mode of samples delivery:** samples delivered by the applicant

**Date of sample accepting:** 13.09.2006

**Mode of sampling:** sampling done by the producer

**Storing and handling of samples:** water temperature  $(20 \pm 3) ^\circ \text{C}$ , freezer temperature  $(-20 \pm 2) ^\circ \text{C}$ , air temperature  $(20 \pm 3) ^\circ \text{C}$ , relative air humidity  $(55 \pm 10) \%$ .

**Date of preparing and processing of samples:** 15.09.2006

**Date and time of testing:** 15.11.2006; 10:40 a.m. (durability- frost resistance of surface finish)

**Used equipment and their metrological traceability:**

name of equipment	reg. No.	range	accuracy/uncertainty
electromechanical exact weight	203	(0,01-2100) g	class of accuracy 2
testing tension machine	366	(0-2-5-10) kN	class of accuracy 2
freezer			

**Amendments and exception from standard process:** ---



**Test results :**

Tested parameter	Test prescription	Measured value	Uncertainty of measurement U	Test identification
adhesive strength after cycles of freezing and thawing	STN 73 2579	0,20 0,20 0,25 0,25 0,25 <b>0,20 N.mm<sup>-2</sup></b>	0,18 %	A
failure in the bond between mortar and substrate				

Note : A – accredited test

**Declaration:**

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Test report itself does not mean in any case the approval of the product by the accreditation body or by any other body.

**Date of report issue:** 15.11.2006

**Tested by:** Kozelová

**Report elaborated by:** RNDr. Dana Rosinčinová

**Approved by:** Head of Central Testing Laboratory (signature illegible)

**Stamp: CLL** Cement Factory of Lietavská Lúčka, Inc.  
Central Testing Laboratory