



SWISSPEARL®

PREMIUM

SWISS QUALITY

FAÇADE SYSTEMS

FOR HIGH-END

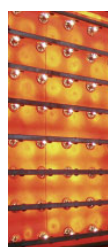
ARCHITECTURE



The long-proven superior quality of SWISSPEARL ventilated facade systems rests on a unique global quality approach, from the suppliers of raw materials up to the moment when the façades are installed. To guarantee this quality in a reliable way for architects and investors, Swisspearl panels do more than undergo the minimum tests required to fulfil the standards legally required in Europe or in the USA.

Many other tests and approvals are available to meet specific regulations in various markets or as information about other performance qualities and criteria of interest such as outdoor weathering, colour stability, sound, impact resistance, hail, etc.

The following pages only show a small selection of available tests and approvals, all performed through accredited independent institutes. At the end of the brochure you will find the exhaustive list of the currently existing test reports. More to follow.



Heat-Rain Test method provides a practical moisture movement test designed to determine the installed performance of flat sheets and cyclic changes in moisture content. After 50 heat-rains cycles - 2 h 50 min water spray and 2 h 50 min radiant heat - the panels are judged concerning of visible cracks, delamination, warping and bowing or other failures.



SBI Test Reaction to fire tests for building products exposed to the thermal attack of a single burning item.

The accredited Quality Supervision Company S-CERT Switzerland audited all these test reports to certify the accuracy of the list. For decision-makers, this is the guarantee that they can truly rely on the unmatched quality and performance for which SWISSPEARL is famous.



Schweizer Zertifizierungsstelle für Bauprodukte
 Organisme suisse de certification pour produits de construction
 Ente svizzero di certificazione per prodotti da costruzione
 Swiss certification body for construction products

creates confidence in construction products

S-CERT AG has received on 2008-08-20 a ready to print document "Test and approvals" by Eternit Schweiz AG.

The certifications listed on pages 01 to 16 of Swisspearl booklet "Tests and approvals" and the enclosed test reports have been assessed by S-Cert.

We confirm that

- all statements given about test values and laboratory tests in the booklet correspond with the actual values and statements found in the actual test reports enclosed permits.
- each report listed shows at least the name of the testing institute, a tracking number, test values, date of testing and the responsible persons name / signature.
- all listed certifications are valid and their number, validity, and scope are accurate.
- all documents are in-ord and accessible with minimal effort.

 S-CERT AG is a Swiss certification body for construction products and offers mainly inspections and certifications of construction products and manufacturing processes. S-CERT AG is accredited by Swiss Accreditation Service (SAS).

S-Cert performs certifications and audits in Switzerland and abroad on its own responsibility or under the authority of its partners CRIC Brussels, BBA London and Dancert Taastrup.

SIGNATURE



S-CERT
 Swiss certification
 body for construction
 products
www.scert.ch

SWISSPEARL CARAT, REFLEX, NOBILIS, PLANEA, XPRESSIV

Cement composite without asbestos.

Top finishing and core coloured through shade in shade.

Partially coated with acrylic dispersion paint

Product data SWISSPEARL	Valid for warranty Eternit Standards	For information: values obtained by independent testing institutes			
		Third party institute		Test Report 01-42233.01 (ATI) ICC-ESR-1248	
		EN Test. Nr.	Performance	ASTM Nr.	Performance
Density	1.7 – 1.9 g/cm ³ at 20 °C	EN 12467 7.3.1	1.9 g/cm ³		
Weight for thickness 7 - 8 mm	Approx. 16 kg/m ²				
Thickness	8 mm (7.9 ± 0.5 mm)			C 120-90	0.310 inches
Tolerances on Dimensions					
Cut panel Thickness	± 0.5 mm	EN 12467	± 0.1 mm		
Cut panel Length and Width	± 0.7 mm	7.2.3	± 0.6 mm		
Straightness of edges	± 1.0 mm		≤ 2.0 mm/m		
Squareness of edges	± 0.5 mm/m		± 0.0 mm/m		
Modulus of rupture 7 day					
Crosswise dry	24 MPa	EN 12467	31 MPa	C 120-90	28.6 MPa
Lengthwise dry	17 MPa	EN 12467	21 MPa	C 1185-95	18.2 MPa
Average value (Equilibrium cross / length)	21 MPa	EN 12467	26 MPa	C 120-90	23.7 MPa 23.7 MPa (Grade IV)
Modulus of Elasticity dry (Mean crosswise/lengthwise)	Approx. 15'000 MPa	EN 12467	16'000 PMA	C 120-90	18'450 MPa
Bending Strength 7 day (charact. value 5 % Fractile)	23 MPa	EN 12467	25 MPa		
Surface Burning Characteristics (Flame spread/Smoke)	0/0	-	-	E 84-99	0/15 (0/< 5) Did not ignite
Fire Classification	A2-s1, d0; Non-flammable/ incombustible	EN 13501-1	A2-s1,d0 non-inflammable	E 84-99	UPS Class 1 NFPA Class A
Coefficient of Thermal Expansion (Average) (-30 °C to +30 °C)	10 · 10 ⁻⁶ K ⁻¹	-	10 · 10 ⁻⁶ K ⁻¹	E228-95	1.25 · 10 ⁻⁵ mm/mm °C
Coefficient of Thermal Conductivity	<0.56 W/m °K E	EMPA	0.56 W/m °K E	C 518-98	7.5 Btu/h °F ft ²

SWISSPEARL CARAT, REFLEX, NOBILIS, PLANEA, XPRESSIV

Cement composite without asbestos.

Top finishing and core coloured through shade in shade.

Partially coated with acrylic dispersion paint

Product data SWISSPEARL	Valid for warranty Eternit Standards	For information: Values obtained by independent testing institutes			
		Third party institute		Test Report 01-42233.01 (ATI) ICC-ESR-1248	
		EN Test. Nr.	Performance	ASTM Nr.	Performance
Moisture content	< 6 M.-%	-	5.0 m.-%	C 1185-95	5.12 M.-%
Water Absorption	< 14 M.-%	-	12.0 M.-%	C 1185-95	9.15 M.-%
Moisture Movement (50 % to 90 % RH)	1 ‰	-	-	C 1185-95	0.08 %
Water Tightness	24 hours	EN 12467	24 hours	C 1185-95	No visible droplets or surface wetting
Frost Resistance (Flex. Strength) Swelling	> 1000 cycles < 3 % after 200 cycles	EMPA	> 1000 cycles	C 1185-95	2.944 psi 20.3 MPa
Warm Water Resistance (Average)	21 MPa (1.0 x 21 MPa)	EN 12467	21 MPa	C 1185-95	2.944 psi 20.3 MPa
Heat/Rain Exposure	50 cycles	EN 12467	50 cycles	C 1185-95	No damage or structural alterations visible
Resistance to acid rain	Resistant	-	-	D 1308-87	No visible change
Resistance to UV (Xenon Arc Light acc. Weathering) Exposure Duration	Resistant $\Delta E \leq 2.0$			G 155-05	
2000 hours				CARAT Sapphire 7060	$\Delta E = 1.1$
				CARAT Black Opal 7020	$\Delta E = 1.3$
				CARAT Coral 7040	$\Delta E = 0.6$
				CARAT Amber 7080	$\Delta E = 1.9$
				REFLEX Silver 9000	$\Delta E = 0.3$
				REFLEX Blue Ice 9040	$\Delta E = 1.2$
				REFLEX Sunset 9230	$\Delta E = 0.7$
2500 hours				CARAT Topaz 7070	$\Delta E = 0.5$
				CARAT Jade 7050	$\Delta E = 0.5$
				REFLEX Aut. Leaves 9230	$\Delta E = 0.8$
3000 hours				CARAT Azurite 7040	$\Delta E = 1.4$
				CARAT Amber 7083	$\Delta E = 0.5$
5000 hours				CARAT Onyx 7099	$\Delta E = 0.3$
				REFLEX Champagne 9290	$\Delta E = 1.6$

Building products are stressed by natural elements - wind, rain, cold, heat, sunlight - and by man-made phenomena - noise, fire, and blast. Architectural Testing's experts perform standard-based and custom-designed tests to measure product and system performance.

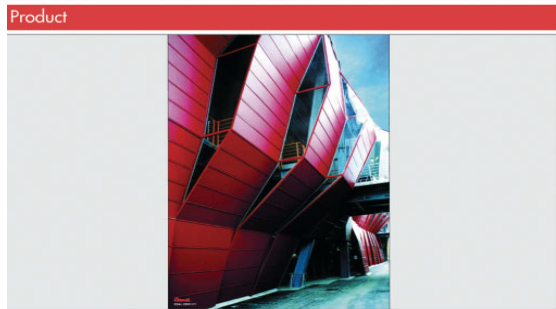


Eternit (Schweiz) AG
 Eternitstrasse 3
 CH-8867 Niederurnen
 Switzerland
 Tel: 00 41 55 6171111 Fax: 00 41 55 6171223
 email: info@eternit.ch
 website: www.eternit.ch

Agrement Certificate No 07/4454

Designated by Government to issue European Technical Approvals

SWISSPEARL CLADDING PANELS
 Façade en ciment renforcé par fibres
 Bekleidung mit faserverstärktem Zement



Product

THIS CERTIFICATE RELATES TO SWISSPEARL CLADDING PANELS, FIBRE-REINFORCED CEMENT BOARDS FOR WALL CLADDING.

The products meet the requirements of S EN 12467 : 2004.

The products are for use as exterior non-loadbearing, decorative panels for wall cladding.

The products have not been assessed for use as a sheathing material for timber-frame wallings.

Regulations — Detail Sheet 1

1 The Building Regulations 2000 (as amended) (England and Wales)

The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of cladding systems with the Building Regulations. In the opinion of the BBA, Swisspearl Cladding Panels, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements listed below.

Requirement: A1	Loadings
Comment:	The products are acceptable for use. See the listed areas in the General section of these Front Sheets and the Strength and stability section of the accompanying Detail Sheet.
Requirement: B4(1)	External fire spread
Comment:	The products are unrestricted by this Requirement. See the listed areas in the Performance in relation to fire section of the accompanying Detail Sheet.
Requirement: C2(b)	Resistance to moisture
Comment:	The products do not provide a watertight facing, but will resist the passage of rainwater to the supporting structure. See the listed area of the Air and water penetration section of these Front Sheets.
Requirement: Regulation 7	Acoustics and workmanship
Comment:	The products are acceptable. See the listed areas of the Durability section of the accompanying Detail Sheet.

readers are advised to check the validity of this Certificate by either referring to the BBA's website (www.bbaccerts.co.uk) or contacting BBA Direct (Telephone: 01203 646400)

DEUTSCHES INSTITUT FÜR BAUTECHNIK
 Anstalt des öffentlichen Rechts

10829 Berlin, 21 December 2006
 Kolonnenstraße 30 L
 Phone: 030 78730-361
 Fax: 030 78730-320
 Reference: I 41-1-31.1-707

Allgemeine bauaufsichtliche Zulassung
 (National technical approval, English translation by DIBt)

Number of approval: Z-31.1-158

Applicant: Eternit (Schweiz) AG
 Eternitstrasse 3
 8867 NIEDERURNEN
 SWITZERLAND

Subject of approval: "Swisspearl"-fibre-cement flat sheet for ventilated cladding for external walls

Validity until: 31. Dezember 2011

The above-mentioned subject of approval is herewith granted an allgemeine bauaufsichtliche Zulassung (National technical approval).

This allgemeine bauaufsichtliche Zulassung comprises nine pages and two Annexes.



Certificate of Conformity

Reg.-No. 08/2216/01

In compliance with § 22 of the Building Regulations of Berlin (BauOBln) in the version of 03 September 1997, modified at last on 16 July 2001 it was stated that the

Construction product: „SWISSPEARL[®] – Fibre-cement sheets to the clothing of outer walls

produced in the factory: Eternit (Schweiz) Aktiengesellschaft
 Factory Niederurnen
 Eternitstrasse 3
 CH – 8867 Niederurnen / Switzerland

according to the results of the factory production control and the continuous surveillance performed by the officially recognised body:

Materialprüfungsanstalt MPA
 Berlin-Brandenburg GmbH
 Voltastrasse 5, Geb. 10.6
 D – 13355 Berlin / Germany

fulfills all requirements of the general technical approval of the German Institute of Civil Engineering (Deutsches Institut für Bautechnik – DIBt)

Nr. Z-31.1-158 from 21 December 2006

The producer is therefore entitled to mark the construction product with the sign of conformity.

Berlin, 17 March 2008



K. Gruner
 Dipl.-Ing. K. Gruner
 Head of the certification body



CERTIFICATE

The certification body of Swiss TS Technical Services AG hereby certifies that the company

Eternit[®]
 Eternit (Switzerland) Ltd
 CH-8867 Niederurnen
 CH-1530 Payerne

has introduced and applies a quality management system for

Development, fabrication and sale of building materials for roofing, facade, interior construction and garden

according to:

ISO 9001:2000

Registration number: 08-217-052
 Initial certification date: 13.12.1995
 Valid until: 19.05.2011

Heinrich A. Bieler
 Waailisellen, 07.05.2008
 The certification centre of Swiss TS Technical Services AG
 A SVT1 and TÜV SÜD company



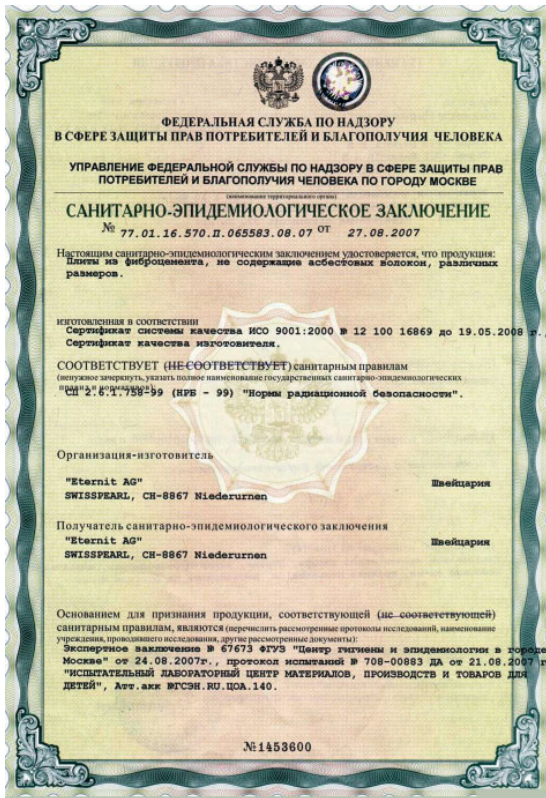



BBA
 British Board of Agrément
www.bbaccerts.co.uk

DIBT
 Deutsches Institut für Bautechnik
www.dibt.de

MPA
 Materialprüfungsanstalt Berlin-Brandenburg
www.mpa.de

SWISS TS TÜV
www.swisstst.com



PERFORMANCE TEST REPORT

Rendered to:
 ETERNIT (Schweiz) AG
 Eternitstrasse 3
 8867 Niederurnen
 Switzerland

Report No: 71019.04-106-31
 Test Date: 01/29/07
 Through: 04/24/08
 Report Date: 05/05/08
 Expiration Date: 04/24/12

Project Summary: Architectural Testing, Inc. was contracted by Eternit (Schweiz) AG Switzerland to conduct 5000 hours of accelerated weathering with color evaluations on two colors of SWISSPEARL® fiber cement facade panels. Color measurements were taken at 500 hours, then every 1000 hours of exposure. This report details the panels and color evaluations. Average results of the exposed samples are contained in the following table:

Sample	Overall Color Change - ΔE / Gray Scale Exposure Duration (hours)					
	500	1000	2000	3000	4000	5000
CARAT Reflex Champagne # 9290	2.05 / 4.0	1.94 / 4.0	1.80 / 4.0	1.26 / 4.5	1.66 / 4.0	1.61 / 4.0
CARAT Onyx # 7099	0.43 / 4.5	0.36 / 5.0	0.42 / 5.0	0.29 / 5.0	0.28 / 5.0	0.29 / 5.0

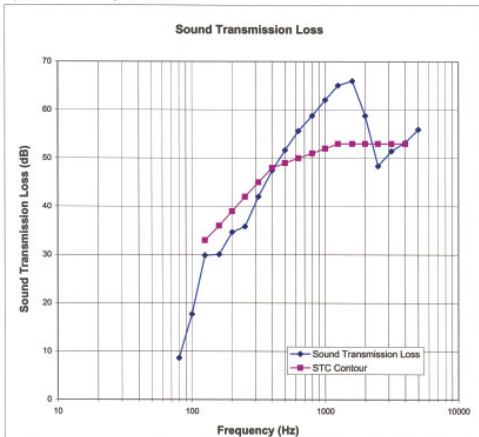
Test Specification: The panel specimens were weathered in accordance with ASTM G 155-05, Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials.

Test Specimen Description: The test specimens were provided to Architectural Testing by the client and had nominal dimensions of 2-7/8" x 5-7/8" x 5/16". The panels were represented as being of a fiber cement composition. Three colors were evaluated: CARAT Reflex Champagne and CARAT Onyx. Six samples of each color were exposed.

130 Derry Court
 York, PA 17406-8405
 phone: 717-764-7700
 fax: 717-764-4129
 www.archtest.com



Architectural Testing
 ATI No. 73293.01A Date 05/29/07
 Client Eternit (Schweiz) AG
 Specimen Base wall construction, single stud wall, 3-5/8" steel studs, 24" on center, 3-1/2" fiberglass insulation, and one layer of Densglass on each side
 Specimen Area 140.00 Sq Ft
 Filler Area 0.00 Sq Ft
 Operator Benjamin W. Green



NVLAP
 Architectural Testing, Inc. is accredited by the National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program for the specific test methods listed under 04-006-2003. This laboratory's accreditation is not subject to any conditions or restrictions of product certification, approval, or endorsement by NIST. This test report applies only to the specimens that were tested.
 ATI 00026 Revised 09/05/06



MIAMI-DADE COUNTY PERFORMANCE TEST REPORT

Rendered to:
 ETERNIT (SCHWEIZ) AG
 Eternitstrasse 3
 CH-8867 Niederurnen
 SWITZERLAND

Report No.: 77956.01-109-18
 Test Dates: 02/07/08
 Through: 03/20/08
 Report Date: 04/07/08
 Expiration Date: 03/20/18
 Miami-Dade County Notification No.: ATI 07088

Project Summary: Architectural Testing, Inc. was contracted by Eternit (Schweiz) AG to perform testing per Florida Building Code, Test Protocols for High Velocity Hurricane Zone, Protocols TAS 201-94, TAS 202-94, and TAS 203-94 on four Series/Model Swisspearl, fiber-cement facade panel system. The samples tested met the performance requirements set forth in the protocols for a +63.0 psf Design Pressure rating. Test specimen description and results are reported herein. The samples were provided by the client.

Test Procedures: The test specimens were evaluated in accordance with the following:

- TAS 201-94, Impact Test Procedures.
- TAS 202-94, Criteria for Testing Impact and Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure Loading.
- TAS 203-94, Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.

Drawing Reference: The test specimen drawings have been reviewed and verified by Architectural Testing and are representative of the samples tested.

Test Specimen Description:

Series/Model: Swisspearl
 Product Type: Fiber-Cement Façade Panel System
 Overall Size: 16' 6-1/2" wide by 10' 6-3/4" high

130 Derry Court
 York, PA 17406-8405
 phone: 717-764-7700
 fax: 717-764-4129
 www.archtest.com

ATI
 Architectural Testing
 Inc.
 www.archtest.com

A fire test is a means of determining whether or not fire protection products meet minimum performance criteria as set out in a building code or other applicable legislation. Successful tests in laboratories holding national accreditation for testing and certification result in the issuance of a certification listing. The listing is public domain, whereas the test report itself is proprietary information belonging to the test sponsor.

DANAK
10748 Sv. 12

2007-01-17
Sag nr.: PF12546
Løbe nr.: 11003
Ref.: CAF/MFA
Blag: 1

Prøvningsrapport

Swissperl facadeplader

HBC A/S
Kalundborgvej 123
4300 Holbæk

Dansk Brand- og sikringsteknisk Institut

Resultatene gælder kun de prøvede etniker. Prøvningsrapporten må kun benyttes i referens, i udvalgte kun med udstyret i overensstemmelse med standarden.

Jernholmen 12
DK-2650 Hvidovre
Tlf.: 36 34 90 00
Fax: 36 34 90 01
Email: info@dbi-net.dk
www.brandensikring.dk

VTEC #100-2414 ETERNIT ASTM E136 - NYC MEA VERSION

Material Tested:
Supplier: Eternit (Schweiz) AG
Product Description: Swisspearl Anthrazite N 7020
Specimen Dimensions: 1.5" x 1.5" x 2.0"
Color: Gray
Sample Selection: Supplier
Material Description by: Supplier and VTEC
Date of Selection: May 2006
Purpose of Test: Combustion Characteristics

NOTE: The specimen was made up of 7 pieces 1.5" by 1.5" stacked on top of each other to 2" high.

Conditioning:
The specimens were conditioned according to the ASTM E136 specification.

Results:
The conditions for passing the test are as follows:
At least three of the four specimens tested exhibit:
1. Zero% weight loss
2. No flaming after the first 30 seconds
3. Final center and surface temperatures must be less than 30°C above the furnace starting temperature (750°C)

Sample #	Weight Before (grams)	Weight After (grams)	Final Center Temperature (deg.C)	Final Surface Temperature (deg.C)	Weight Loss (percent)	Flaming After First 30 Seconds?
1	153.0	135.8	720	714	11.2	No
2	152.1	137.3	748	739	9.7	No
3	149.6	138.5	738	729	7.4	No
4	151.9	133.3	736	730	12.3	No
Average:	151.6	136.2	736	728	10.1	

The samples provided did not meet all the passing criteria as specified by ASTM E136 MEA test. The weight loss was more than zero percent.

N. Schultz
N. Schultz
Executive Director

A. Rahim
Amirudin Rahim
Technical Director

L. S. F. LABORATORI DI STUDI E RICERCHE SUL FUEGO Via Garibaldi, 38/A SOTTOANO LUCINO (CO) ITALIA

ORIENTATIVE TEST SHEET NR. LSF/OI1246/0008

Montano Lucino, 10. 11. 2005

Test Method **SBI - EN 13823**

REQUESTING COMPANY
Eternit (Schweiz) AG
Eternitstrasse, 3
CH - 8867 Niederuzenen

DE NOMINATION OF THE MATERIAL :
SWISSPEARL® Canal Ivory 7000
Configuration of specimen under test: according to EN 12467:2004/prA2:2005

RESULTS :

	1 st	2 nd	3 rd	AVERAGE
SPECIMEN SPECIMEN SPECIMEN				
Ignition time (visual) [s]	280	58	235	191
Ignition time (dRHR+3kW) [s]	141	138	291	190
Ignition time (dT+2.5K) [s]	423	369	498	430
RHR30s maximum [kW]	42	35	31	35
THR600s (RHR integral) [MJ]	2.1	1.9	2.1	2.0
FIGRA [W/s] 0.2 MJ	35	33	39	36
FIGRA [W/s] 0.4 MJ	35	33	39	35
dT ₅₀₀ maximum [K]	42.3	44.5	33.1	39.9
dT integral [K.s]	42842	43700	38933	41825
RSP60s maximum [m2/s]	0.5	0.5	1.0	0.7
TSP600s (TSPR integral) [m³]	61.7	30.4	46.0	46.1
SMOGR1A [m³/s]	5.8	7.6	8.4	7.3
Lateral Flame Spread edge	no	no	no	no
Flaming Droplets Particles _{edge}	no	no	no	no
Flaming Droplets Particles _{top}	no	no	no	no
CLASS (general)	A2 - B	A2 - B	A2 - B	A2 - B
CLASS (smoke)	s2	s1	s1	s1
CLASS (dropping)	00	00	00	00

To this material, adding the other tests required in accordance with SBI method, class A2 or B shall be attributed, according to the EN ISO 1716 or EN ISO 11925-2 tests, respectively.

LSF PRESIDENT: Silvio Messa
HEAD OF RESEARCH TEAM: Maddalena Pizzoni
LABORATORY SUBSTITUTIVE DIRECTOR: Maddalena Pizzoni
TEST OPERATOR: Dario Rossi

L.S.F. - Fire Laboratories ORIGINAL SHEET

UMC IMS ИНИСТИТУТ УМЦ ИО БЕОГРАД

Institut za ispitivanje materijala a.d. Beograd
Laboratorija za ispitivanje materijala
BEOGRAD, Bulevar Vojvode Mitice 43
tel: (011) 2650 222 fax: (011) 2650 772, 2697 782
email: info@institutims.co.yu www.institutims.co.yu

IZVEŠTAJ O ISPITIVANJU
Br. GFT-3645/07

Predmet ispitivanja: Gorivost vlaknastocementne ploče "Swisspearl".

Naručilac: "ESAL" d.o.o. Anhovo
Vojkova 9,
5210 Deskle
(Slovenija).

Zahtev/Ponuda/Ugovor: ponuda br. 410-10241/852 od 18.08.2006.

Sadržaj: Ukupno 17 strana, od čega 12 u prilogu

Izveštaj odobrio: Tehnički rukovodilac Laboratorije,
Slaviša Bogunović
Slaviša Bogunović, dipl.inž.arh.

Beograd, februar 2007.godine

DBI
The Danish Institute of Fire and Security Technology
en.dbi-net.dk

L.S.F.
LSFire Testing Laboratories
www.lsfire.it

NYC Buildings
New York City
Department of Buildings Mission
www.nyc.gov

VTEC
VTEC Laboratories Inc.
www.vteclabs.com

UMC IMS
Institut za ispitivanje materijala a.d.
Beograd
www.institutims.co.yu



Certification	Authority	Product/Panel
21 September 2006 Request for Equivalency	City of Vancouver , Office of the chief building official. Community Services, 453 West 12th Avenue, Vancouver, BC, V5Y 1V4	SWISSPEARL CARAT Façade Cladding Material
30 October 2006 MEA Report 500-6-M	NYC Department of Buildings 280 Broadway, New York, NY 10007	SWISSPEARL Cladding Panels 8 mm and 12 mm
1 December 2006 ICC Report ESR-1248	ICC Evaluation Services Inc. 5360 Workman Mill Road Whittier, California 90601	SWISSPEARL Fiber-Cement Panels
21. December 2006 Zulassung Z-31.1-158	DIBt Deutsches Institut für Bautechnik Kolonnenstrasse 30 L D-10829 Berlin	SWISSPEARL-Faserzementtafeln zur Bekleidung von Aussenwänden, 8 mm
25 July 2007 Application for new general approval or technical modification	City of Los Angeles Department of Building and safety	SWISSPEARL Fiber cement Panels
7 August 2007 BBA Agrément Certificate No 07/4454	BBA British Board of Agrément Bucknalls Lane, Garston Watford, Herts WD25 9BA	SWISSPEARL Cladding Panels 8 mm and 12 mm
17 March 2008 Certificate of conformity	MPA Materialprüfungsanstalt Berlin-Brandenburg GmbH Voltastrasse 5, Geb. 10.6 D-13355 Berlin, Germany	SWISSPEARL Fibre-cement sheets
27 May 2008 Commentary on Standards Comparison Fact Sheet for SWISSPEARL Exterior Wall Cladding Products for Use in Canada Q & A Fact Sheet for Canada	A.C. Consulting Solutions Inc. Anthony Crimi 10660 Yonge St., Richmond Hill, ON, Canada, L4C 4H0	SWISSPEARL Exterior Wall Cladding Products
23 June 2008 Product Approval Application ID: FL 9931	Florida Department of Building Florida Building Code Information System	SWISSPEARL Panels Walls
In progress Zulassung Z-31.1-158	DIBt Deutsches Institut für Bautechnik Berlin, Germany	SWISSPEARL Fassadentafel 8 mm, System MODULA C
In progress Avis Technique	CSTB Centre scientifique et technique du bâtiment, Marne-la-Vallée, France	SWISSPEARL Plaques de parement, ossature métallique
In progress Avis Technique	CSTB Centre scientifique et technique du bâtiment, Marne-la-Vallée, France	SWISSPEARL Plaques de parement, ossature bois

Factory production control compliance with **EN 12467**
 Quality Management System, compliance with **ISO 9001**
 Product performance and compliance with **EN 12467** flat sheet panels for façade
 Product performance and compliance with **ICC-ESR-1248**
 Product performance and compliance with **BBA 07/4454**



Year	Date	Institute / Authority	Audit Report No.	Date of issue	Result
2006	11 April	BBA British Board of Agrément	M2/36217	1 Sep. 2006	Passed
2006	24 + 25 April	TÜV SÜD Management Service.	70003078_2006	26 April 2006	Passed
2006	14 November	ATI / ICC Architectural Testing, Inc. / International Code Council ICC-ESR-1248	68646.01-103-74	22 Nov. 2006	Passed
2006	7 December	BBA / S-Cert AG British Board of Agrément	04/4355	21 Dec. 2006	Passed
2007	26 February	ATI / ICC Architectural Testing, Inc. / International Code Council ICC-ESR-1248	70710.01-103-74	5 March 2007	Passed
2007	14 + 16 May	TÜV SÜD Management Service.	70003078_2007	16 May 2007	Passed
2007	21 May	ATI / ICC Architectural Testing, Inc. / International Code Council ICC-ESR-1248	72686.01-103-74	23 May 2007	Passed
2007	22 May	MPA Berlin Brandenburg Report on Surveillance	7/2013/23B	21 Sep. 2007	Passed
2007	12 + 13 June	CSTB Centre scientifique et technique du bâtiment	Certification CSTBat 22	20 June 2007	Passed
2007	27 August	ATI / ICC Architectural Testing, Inc. / International Code Council ICC-ESR-1248	75259.01-103-74	29 August 2007	Passed
2007	24 October	MPA Berlin Brandenburg Reports on Surveillance	7/2013/25B 8/2216/01-B	18 March 2008 17 March 2008	Passed Passed
2007	28 November	ATI / ICC Architectural Testing, Inc. / International Code Council ICC-ESR-1248	77457.01-103-74	30 Nov. 2007	Passed
2007	13 December	BBA / S-Cert AG British Board of Agrément	07/4454	20 Dec. 2007	Passed
2008	17 March	ATI / ICC Architectural Testing, Inc. / International Code Council ICC-ESR-1248	80784.01-103-74	8 April 2008	Passed
2008	22 April	MPA Berlin Brandenburg Reports on Surveillance	80/2216/02-B	29 July 2008	Passed
2008	5 + 7 May	TÜV SÜD Management Service.	70003078_2008	9 May 2008	Passed
2008	30 June	ATI / ICC Architectural Testing, Inc. / International Code Council ICC-ESR-1248	82907.01-103-74	16 July 2008	Passed
2008	8 July	BBA / S-Cert AG British Board of Agrément	07/4454	15 July 2008	Passed



Report No. Attestation No. Classification / Test	Institute / Authority	Product / Panel	Standard	Result
13 April 2005 53954.02-106-31 Accelerated Weathering	ATI Architectural Testing Inc. 130 Derry Court, York, PA 17406-8405 AA-676	SWISSPEARL 8 mm - CARAT Sapphire 7060 (Titanium) - CARAT Black Opal 7020 (Anthrazite) - CARAT Azurite 7040 - CARAT Coral 7030 (Ruby)	ASTM G 155-00	Weathering 2000 hours $\Delta E = 1.1$ $\Delta E = 1.3$ $\Delta E = 2.3$ $\Delta E = 0.6$
22 July 2005 55776.06-106-31 Accelerated Weathering	ATI Architectural Testing Inc. 130 Derry Court, York, PA 17406-8405 AA-676	SWISSPEARL 8 mm - REFLEX Silver 9000 - REFLEX Blue Ice 9040 - CARAT Amber 7080 - REFLEX Sunset 9230	ASTM G 155-00	Weathering 2000 hours $\Delta E = 0.3$ $\Delta E = 1.2$ $\Delta E = 1.9$ $\Delta E = 0.7$
31 August 2006 62327.04-106-31 Accelerated Weathering	ATI Architectural Testing Inc. 130 Derry Court, York, PA 17406-8405 AA-676	SWISSPEARL 8 mm - REFLEX Autumn Leaves 9270 - CARAT Topaz 7070 - CARAT Topaz 7073 - CARAT Jade 7050	ASTM G 155-00	Weathering 2500 hours $\Delta E = 0.8$ $\Delta E = 0.5$ $\Delta E = 0.4$ $\Delta E = 0.5$
25 January 2007 62327.06-106-31 Accelerated Weathering	ATI Architectural Testing Inc. 130 Derry Court, York, PA 17406-8405 AA-676	SWISSPEARL 8 mm - CARAT Azurite 7040 - CARAT Amber 7083	ASTM G 155-00	Weathering 3000 hours $\Delta E = 1.4$ $\Delta E = 0.5$
24 May 2007 62327.08-106-31 Accelerated Weathering	ATI Architectural Testing Inc. 130 Derry Court, York, PA 17406-8405 AA-676	SWISSPEARL 8 mm - CARAT Black Opal 7020 R - CARAT Coral 7030 R	ASTM G 155-05	Weathering 5000 hours $\Delta E = 2.1$ $\Delta E = 0.3$
22 August 2007 71019.02-106-31 Accelerated Weathering	ATI Architectural Testing Inc. 130 Derry Court, York, PA 17406-8405 AA-676	SWISSPEARL 8 mm - REFLEX Champagne 9290 - CARAT Onyx 7099 - XPRESSIV Dark gray 7220	ASTM G 155-05	Weathering 3000 hours $\Delta E = 1.3$ $\Delta E = 0.3$ $\Delta E = 3.6$
5 May 2008 71019.04-106-31 Accelerated Weathering	ATI Architectural Testing Inc. 130 Derry Court, York, PA 17406-8405 AA-676	SWISSPEARL 8 mm - REFLEX Champagne 9290 - CARAT Onyx 7099	ASTM G 155-05	Weathering 5000 hours $\Delta E = 1.6$ $\Delta E = 0.3$
2008 88240.01-106-31 In progress Accelerated Weathering	ATI Architectural Testing Inc. 130 Derry Court, York,, PA 17406-8405 AA-676	SWISSPEARL 8 mm - REFLEX Platinum 9020 - CARAT Black Opal 7020 (NRI) - XPRESSIV Topaz 8270 - XPRESSIV Coral 8230 - XPRESSIV Black 8220	ASTM G 155-05	Weathering 5000 hours $\Delta E =$ $\Delta E =$ $\Delta E =$ $\Delta E =$ $\Delta E =$



Report No. Attestation No. Classification / Test	Institute / Authority	Product / Panel	Standard
20 November 2002 42233.01/02 Performance Physical Properties	ATI Architectural Testing Inc. 130 Derry Court, York,, PA 17406-8405 AA-676	SWISSPEARL CARAT Black Opal 8 mm (11/20/2002: PELICOLOR)	ASTM AC 90 ASTM C 120-90 ASTM C 518-98 ASTM C 1185-95 ASTM D 1308-87 ASTM E 84-99 ASTM E 228-95 ASTM G 155-00
29 January 2003 L03-337-1059 Cavity Pressure Equalization, Air tightness, Freeze/Thaw Cycling, Water penetration, Pull-out resistance of panel clip, Anchor evaluation.	CAN-BEST Canadian Building Envelope Science and Technology 38 Regan Road, Unit4, Brampton, Ontario, Canada, L7A 1C6	SWISSPEARL 8 mm (Rainscreen Cladding System)	ASTM E 283 ASTM E 331
10 March 2003 File No: 2830-22 / Lab. No: L-03-870 Three-story mockup. Air Infiltration test, Water penetration	Smith-Emery Laboratories 781 East Washington Boulevard, Los Angeles, California 90021, AA-554	SWISSPEARL	ASTM E 283 ASTM E 330 ASTM E 331 AAMA 501.1
3 October 2003 Gutachten/Expertise "Korrosionstechnische Beurteilung von Niet-Befesti- gern für eine vorgehängte Fassade beim Bauprojekt Caltrans District at Los Angeles (USA)"	Prof. Dr. Ulf Nürnberger, Stirnenweg 7, D-70378 Stuttgart SFS Intec AG Fastening Systems	SWISSPEARL 8 mm and 10 mm	DIN 18516-1/3
10 February 2004 # G400532 Galvanic Corrosion Testing of a Wall Panel	Bodycote Materials Testing Inc. 15 High Ridge Court, Cambridge, Ontario, Canada, N1R 7L3		ASTM G87-02
15 November 2005 42233.03-106-26 Performance Transverse Wind Load Strength. Timber sub-frame	ATI Architectural Testing Inc. 130 Derry Court, York,, PA 17406-8405 AA-676	SWISSPEARL	ASTM E 72 ASTM C 20 ASTM C 1185 ASTM C 1186
26 May 2006 42233.04-106-26 Performance Transverse Wind Load Strength. Steel sub-frame	ATI Architectural Testing Inc. 130 Derry Court, York,, PA 17406-8405 AA-676	SWISSPEARL 8 mm	ASTM E 72
13 December 2006 69384.01-113-11 Sound Transmission Loss	ATI Architectural Testing Inc. 130 Derry Court, York,, PA 17406-8405 AA-676	SWISSPEARL 8 mm SWISSPEARL CARAT Black Opal 8 mm	ASTM E 90-04 ASTM E 413-04 ASTM E 1332-90 ASTM E 2235-04 ISO 140-3 ISO 717-1

Result

Flexural Strength
Grade IV
Flame Spread
complies
Dimensional Requirements
complies
Water Tightness and further
water related test results
complies

No leakage into wall
assembly.
Almost no visible surface
deterioration.
No failure or permanent
deformation of the an-
choring system

No failure and gross
permanent distortion of
exterior panels

The use of Aluminium rivets
to attach cement composite
board to galvanized steel
is safe in a non-corrosive
atmosphere as present in
a city environment

The use of Aluminium rivets
to attach cement board to
galvanized steel is unlikely
to cause a problem in
service in a curtain wall

ICC ESR-1248

ICC ESR-1248

Sound Transmission Class
(STC)
33 dB
Outdoor/Indoor
Transmission Class (OITC)



Report No. Attestation No. Classification / Test	Institute / Authority	Product / Panel	Standard
13 December 2006 69389.01-113-11 Sound Transmission Loss	ATI Architectural Testing Inc. 130 Derry Court, York,, PA 17406-8405 AA-676	SWISSPEARL CARAT Coral 12 mm	ASTM E 90-04 ASTM E 413-04 ASTM E 1332-90 ASTM E 2235-04 ISO 140-3 ISO 717-1
19 March 2007 69596.01-113-11 Acoustical performance. Vibration testing of Resonance Frequency	ATI Architectural Testing Inc. 130 Derry Court, York,, PA 17406-8405 AA-676	SWISSPEARL CARAT Black Opal 8 mm	
20 March 2007 69597.01-113-11 Acoustical performance. Vibration testing of Resonance Frequency	ATI Architectural Testing Inc. 130 Derry Court, York,, PA 17406-8405 AA-676	SWISSPEARL CARAT Coral 12 mm	
07/09/2007 73293.01-113-11 Sound transmission loss and Noise Reduction Index	ATI Architectural Testing Inc. 130 Derry Court, York,, PA 17406-8405 AA-676	SWISSPEARL 8 mm (Façade panel / Cladding System)	ASTM E 90-04 ASTM E 413-04 ASTM E 1332-90 ASTM E 2235-04 ISO 717-1
1 August 2007 70780.01-120-32 Seismic Drift testing	ATI Architectural Testing Inc. 130 Derry Court, York,, PA 17406-8405 AA-676	SWISSPEARL 8 mm (Façade panel / Cladding System)	AAMA 501.6-01
04 July 2008 77956.01-109-18 Miami-Dade County Testing	ATI Architectural Testing Inc. 130 Derry Court, York,, PA 17406-8405 AA-676	SWISSPEARL CARAT 8 mm	TAS 201-94 TAS 202-94 = ASTM E 330 TAS 203-94

Result

Sound Transmission Class (STC)
34 dB
Outdoor/Indoor Transmission Class (OITC)
31 dB
Sound Reduction Index R_w
35 dB

Resonance Frequency
4.9 Hz.
Dampening factor
0.04
Coincidence Frequency
2629 Hz.

Resonance Frequency
7.25 Hz.
Dampening factor
0.15
Coincidence Frequency
1739 Hz

Sound Reduction Index R_w Base Wall
47 dB
Cladding Wall
62 dB
Noise Reduction Improvement
15 dB

Proven for a 6" (152.4 mm) interstorey drift for vertical and horizontal layout configuration.

The samples tested met the requirements set for ± 63 psf ($= \pm 3.0$ kPa) Design pressure.
Test Pressure = ± 94.5 psf ($= \pm 4.5$ kPa)



Report No. Attestation No. Classification / Test	Institute / Authority	Product / Panel	Standard
17 September 2002 SGS No. 170982	SGS U.S. Testing Company Inc., 5555 Telegraph Road, Los Angeles, CA 90040 AA-692	Eternit AG Cementitious Fiber Material	ASTM E 84-01 (UL 723, ANSI/NFPA No. 225, UBC No. 8-1)
10 March 2008 MPA NRW 230003556-1 MPA NRW 23001870-3 SBI MPA NRW 23001870-7 PCS	MPA NRW Dortmund Auf den Thränen 2 D-59597 Erwitte NB No. 0432	SWISSPEARL PLANEA 8 mm (10/08/2003: TECTURA 8 mm) (08/10/2005: TECTURA 8 mm)	EN 13501-1 EN 13823 EN 1716
10 March 2008 MPA NRW 230003556-2 MPA NRW 23001870-2 SBI MPA NRW 23001870-5 PCS	MPA NRW Dortmund Auf den Thränen 2 D-59597 Erwitte NB No. 0432	SWISSPEARL NOBILIS 8 mm (10/08/2003: NATURA 8 mm) (08/10/2005: NATURA 8 mm)	EN 13501-1 EN 13823 EN 1716
8 Oct. 2003 / 10 June 2005 MPA NRW 230003555-1 MPA NRW 23001915-2 SBI MPA NRW 23001915-6 PCS	MPA NRW Dortmund Auf den Thränen 2 D-59597 Erwitte NB No. 0432	SWISSPEARL TECTURA 12 mm (06/10/2005: PELICOLOR 12 mm)	EN 13501-1 EN 13823 EN 1716
8 Oct. 2003 / 10 June 2005 MPA NRW 230003555-2 MPA NRW 23001915-3 SBI MPA NRW 23001915-8 PCS	MPA NRW Dortmund Auf den Thränen 2 D-59597 Erwitte NB No. 0432	SWISSPEARL NATURA 12 mm (06/10/2005: NATURA 12 mm)	EN 13501-1 EN 13823 EN 1716
10 March 2008 MPA NRW 230003556-3 MPA NRW 23001870-1 SBI MPA NRW 23001870-6 PCS	MPA NRW Dortmund Auf den Thränen 2 D-59597 Erwitte NB No. 0432	SWISSPEARL ETERPLAN PLUS 8 mm (10/08/2003: ETERPLAN PLUS, ETERPLAN N 8 mm)	EN 13501-1 EN 13823 EN 1716
18 November 2003 Certificate Br. 016/03 PP	LTM d.o.o. HR-10000 Zagreb	SWISSPEARL NOBILIS 8 mm (11/18/2003: NATURA 8 mm)	DIN 4102-1
11/02/2006 LTM Br. 2647/06-1	LTM d.o.o. HR-10250 Zagreb	SWISSPEARL	DIN 4102-1
11/10/2005//12/06/2005 Orienting test LSF/11246 LSF/O11246/00008 SBI LSF/C05078-05081/06 PCS	L.S.F. Via Garibaldi 28/A I-22070 Montano Lucino NB No. 1598	SWISSPEARL CARAT Onyx 8 mm (11/10/2005: CARAT Ivory 7090)	EN 13501-1 EN 13823 EN 1716 / EN ISO 11925-2
18 May 2006 VTEC # 100-2451 Toxicity	VTEC Laboratories INC. 212 Manida Street, Bronx, New York 10474	SWISSPEARL CARAT Black Opal 8 mm (05/17/2006: Anthrazite N 7020)	Pittsburgh Protocol
17 May 2006 VTEC # 100-2414-2	VTEC Laboratories INC. 212 Manida Street, Bronx, New York 10474	SWISSPEARL CARAT Black Opal 8 mm (05/17/2006: Anthrazite N 7020)	ASTM E136
30 October 2006 Code Section 27-131	NYC Department of Buildings, 280 Broadway, New York, Y 10007	SWISSPEARL CARAT Black Opal 8 mm (05/17/2006: Anthrazite N 7020)	ASTM E136 Pittsburgh Protocol

Result

NFPA Class A
UBC Class I
Flame spread 0
Smoke density 15

Reaction to fire
Classification A2-s1, d0

Reaction to fire
Classification A2-s1, d0

Reaction to fire
Classification A2-s1, d0

Reaction to fire
Classification A2-s1, d0

Reaction to fire
Classification A2-s1, d0

Reaction to fire
Classification A2

Reaction to fire
Classification A2

Reaction to fire
Classification A2-s1, d0

Toxicity
LC₅₀ > 100g
LA₅₀ = 6.158

Reaction to fire
Passed all criteria as
specified by ASTM E136
non-combustible

MEA 500-06-M
Satisfy Building code
Requirements of NYC



Report No. Attestation No. Classification / Test	Institute Authority	Product / Panel	Standard
15 May 2006 LSF/11520/NC Room Corner Test (RCT)	L.S.F. Via Garibaldi 28/A I-22070 Montano Lucino NB No. 1598	Ventilated façade SwissPearl - Thickness 8 mm	ISO 9705 prEN 14390
13 June 2006 906027 SRC SENEZ REED CALDER Fire Modelling Report in Support of an Equivalency to permit the use of combustible exterior cladding	Senez Reed Calder Fire Engineering Inc., Vancouver BC Canada V5Z 1K5	SWISSPEARL CARAT	CAN/ULC-s134 ISO 9705 NBC 2005 VBBL 1999
27 September 2006 EQ 401959 Equivalency	City of Vancouver Chief Building Official	SWISSPEARL Exteriore Wall Cladding Product 8 mm	VBBL 1999 (Vancouver Building By-Law)
February 2007 GFT-3645/07	UMC / IMS 11000 Beograd	SWISSPEARL	DIN 4102-1
30 Mar. 2007 / 16 Mar. 2007 LSF/E00118 EN 13501-1 LSF/12081/E00118/08 SBI LSF/12081/E00118/06 PCS	L.S.F. Via Garibaldi 28/A I-22070 Montano Lucino NB No. 1598	SWISSPEARL CARAT Onyx 8 mm	EN 13501-1 EN 13823 EN 1716 / EN ISO 11925-2
13 July 2007 / 29 June 2007 LSF/E00129 EN 13501-1 LSF/12323/E00129/08 SBI LSF/12323/E00129/06 PCS	L.S.F. Via Garibaldi 28/A I-22070 Montano Lucino NB No. 1598	SWISSPEARL CARAT Black Opal 8 mm System SIGMA 8	EN 13501-1 EN 13823 EN 1716 / EN ISO 11925-2
R25793/2008 07/CA59279	ULC Underwriters' Laboratories of Canada, Ottawa	SWISSPEARL CARAT 8 mm	CAN/ULC-S134

Result

Total Heat Release (THR)
73 MJ
Fire Growth Rate (FIGRA)
0.11 kW/s
Total Smoke Production
(TSP)
396 m²
Smoke Growth Rate
(SMOGRA)
0.46 m²s²
Flaming Droplet Particles
none

**Complies with
CAN/ULC-S134**

**SWISSPEARL meets
the acceptance criteria
required by the VBBL**

**Reaction to fire
Classification A2**

**Reaction to fire
Classification A2-s1, d0**

**Reaction to fire
Classification A2-s1, d0**

**Complies with NBC of
Canada for external wall
assemblies**

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