



SWISSPEARL®

PREMIUM

SWISS QUALITY

FAÇADE SYSTEMS

FOR HIGH-END

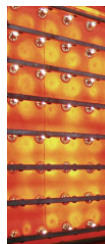
ARCHITECTURE



The long proven superior quality of SWISSPEARL ventilated façade 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 quality in a reliable way for architects and investors, SWISSPEARL panels do more than undergo the tests to fulfil the minimum standards legally required in Europe, the USA and many other countries.

Many other tests and approvals have been carried out 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 reduction, impact resistance, seismic, hail, etc.

The following pages show a small selection of available certificates and approvals, all performed by accredited independent institutes. You will also find the exhaustive list of the currently existing test reports. More to follow.



Heat-Rain Test method provides a practical moisture movement test of flat panels due to changes in moisture content. After 50 heat-rain cycles - 2 h 50 min water spray and 2 h 50 min radiant heat - the panels are inspected regarding their visible and physical condition.



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



Ball-throwing safety Bombarding the wall element with a handball.

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

On request of Eternit (Switzerland) AG, S-Cert AG audited the Swisspearl brochure ready to print "Tests and Approvals" together with all reports on tests and certificates listed on pages 01 to 16 of this document.

We confirm that

- **all statements given about test values and laboratory reports in this booklet correspond with the actual values and statements found in the actual test reports or 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 certificates are available and their number, validity, and scope are accurate.**
- **all documents are well-ordered 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.

Wildeg, 10/10/22

Dr. Yves Schiegg
Head of certification body



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

SWISSPEARL CARAT, REFLEX, XPRESSIV

Coloured through cement composite with either translucent or pigmented surface finish incl. R-colours

SWISSPEARL NOBILIS, PLANEA

Grey cement composite with either translucent or pigmented surface finish

Product data SWISSPEARL	Valid for warranty Eternit Standards	For information: values obtained by independent testing institutes			
		Third party institute EN Test. Nr.	Performance	Test Report 01-42233.01 (ATI) ICC-ESR-1248 ASTM Nr. Performance	
Density	1.7 – 1.9 g/cm ³ at 20 °C	EN 12467 7.3.1	1.9 g/cm ³		
Thickness	7.9 ± 0.5 mm	EN 12467 7.2.3	8.1 mm	C 120-90	0.310 inches
Weight	Approx. 16 kg/m ²				
Tolerances on Dimensions					
Panel thickness	± 0.5 mm	EN 12467	± 0.1 mm		
Panel length and width	± 1.0 mm	7.2.3	± 0.6 mm		
Straightness of edges	± 1.0 mm/m		≤ 2.0 mm/m		
Squareness of edges	± 0.5 mm/m		± 0.0 mm/m		
Modulus of rupture					
Crosswise dry	24 MPa ^[1]	EN 12467	30 MPa	C 120-90	28.6 MPa
Lengthwise dry	17 MPa ^[1]	EN 12467	21 MPa	C 1185-95	18.2 MPa
Average value (Mean crosswise/lengthwise)	21 MPa ^[1]	EN 12467	25 MPa	C 120-90	23.7 MPa
Modulus of Elasticity (Mean crosswise/lengthwise)	Approx. 15'000 MPa	EN 12467	16'000 PMa	C 120-90	18'450 MPa
Surface Burning Characteristics (Flame spread/Smoke)	0 / 0	-	-	E 84-99	0/15 (0/< 5) Did not ignite
Fire Classification	A2-s1, d0 Nonflammable/ Incombustible	EN 13501-1	A2-s1, d0 Nonflammable/ Incombustible	E 84-99	UPS Class 1 NFPA Class A
Coefficient of Thermal Expansion (Average) (-30 °C to +30 °C)	1.0 · 10 ⁻⁵ mm/mm °K	-	1.0 · 10 ⁻⁵ mm/mm °K	E 228-95	1.25 · 10 ⁻⁵ mm/mm °K
Coefficient of Thermal Conductivity	0.56 W/m °K	EMPA	0.56 W/m °K	C 518-98	7.5 Btu/h °F ft ²
Moisture content	< 6 M.-%	-	5 M.-%	C 1185-95	5.1 M.-%
Water Absorption	< 14 M.-%	-	12 M.-%	C 1185-95	9.2 M.-%
Moisture Movement (50 % to 90 % RH)	1 ‰	-	-	C 1185-95	0.8 ‰
Water Tightness	24 hours	EN 12467	24 hours	C 1185-95	No visible droplets or surface wetting

^[1] Age of 7 days

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
Frost Resistance (Flex. Strength/Swelling)	> 1000 cycles < 3 % after 200 cycles	EMPA	> 1000 cycles	C 1185-95	20.3 MPa
Warm Water Resistance (Average)	21 MPa	EN 12467	21 MPa	C 1185-95	19.7 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				G 155-05	
2000 hours					CARAT Sapphire 7060 $\Delta E = 1.1$ CARAT Black Opal 7020 $\Delta E = 1.3$ CARAT Coral 7030 $\Delta E = 0.6$ 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 Topaz 7073 $\Delta E = 0.4$ CARAT Jade 7050 $\Delta E = 0.5$ REFLEX Autumn Leaves 9270 $\Delta E = 0.8$
3000 hours					CARAT Azurite 7040 $\Delta E = 1.4$ CARAT Amber 7083 $\Delta E = 0.5$
5000 hours					CARAT Onyx 7099 $\Delta E = 0.3$ CARAT Azurite 7040 $\Delta E = 1.7$ CARAT Coral 7030R $\Delta E = 0.3$ CARAT Black Opal 7020R $\Delta E = 2.1$ REFLEX Champagne 9290 $\Delta E = 1.6$ REFLEX Black Velvet 9221 $\Delta E = 1.2$ XPRESSIV Brown 8270 $\Delta E = 1.6$ XPRESSIV Red 8230 $\Delta E = 0.5$ XPRESSIV Dark Grey 8220 $\Delta E = 1.3$ XPRESSIV Green 8050 $\Delta E = 1.3$ XPRESSIV White 8090 $\Delta E = 0.5$

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.



BBA
BRITISH BOARD OF AGREEMENT
TECHNICAL APPROVALS FOR CONSTRUCTION

Designated by Government to issue European Technical Approvals

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

Agreement Certificate No 07/4454

CI/SB
41 Rq2

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

Product



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.

<p>Requirement: A1 Comment:</p> <p>Requirement: B4(1) Comment:</p> <p>Requirement: C2b) Comment:</p> <p>Requirement: Regulation 7 Comment:</p>	<p>loading The products are acceptable for use. See the linked areas in the General section of these Front Sheets and the Strength and stability section of the accompanying Detail Sheet.</p> <p>External fire spread The products are unrestricted by this Requirement. See the linked areas in the Performance in relation to fire section of the accompanying Detail Sheet.</p> <p>Resistance to moisture The products do not provide a watertight facing, but will resist the passage of rainwater to the supporting structure. See the linked area of the Air and water penetration section of these Front Sheets.</p> <p>Materials and workmanship The products are acceptable. See the linked areas of the Durability section of the accompanying Detail Sheet.</p>
--	---

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

readers are advised to check the validity of this Certificate by either referring to the BBA's website (www.bbacerts.co.uk) or contacting BBA at Tel: +44 (0) 1835 441111 Fax: +44 (0) 1835 441111

DEUTSCHES INSTITUT FÜR BAUTECHNIK
Anstalt des öffentlichen Rechts

10829 Berlin, 21 December 2006
Kolonnenstraße 30 L
Phone: 030 78730-381
Fax: 030 78730-320
Reference: I 41-1-31.1-7/07

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.

DI06087



MPA
Berlin-Brandenburg

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





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

ZERTIFIKAT ◆ CERTIFICATE ◆ CERTIFICADO ◆ CERTIFICAT ◆ 證書註冊 ◆



CERTIFICATE

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



Eternit (Schweiz) AG
CH-8867 Niederurnen
CH-1530 Payerne

has introduced and applies a management system for

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

according to:

ISO 9001:2008 Quality management

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



Heinrich A. Bieler

Wallisellen, 19.05.2009
The certification body of Swiss TS Technical Services AG
A SVT1 and TÜV SÜD company





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

DIBT
Deutsches Institut für Bautechnik
www.dibt.de

MPA
Materialprüfungsanstalt Berlin-Brandenburg
www.mpa.de

SWISS TS TÜV
www.swisstts.ch

**СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ГОССТАНДАРТ РОССИИ**

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС СМ.СП35.Н00281
Срок действия с 14.05.2009г. по 14.05.2012г.

1071577

ОРГАН ПО СЕРТИФИКАЦИИ РОСС RU.0001.11СЛ35
ОС "ОПЫТНОЕ" МОСКОВСКОГО ОБЛАСТНОГО ОБЩЕСТВЕННОГО УЧРЕЖДЕНИЯ
"РЕГИОНАЛЬНЫЙ СЕРТИФИКАЦИОННЫЙ ЦЕНТР "ОПЫТНОЕ"
Россия, 105179, г. Москва, Е-179, а/я 5, тел. (495) 585-58-18, 725-38-99, факс (495) 585-58-18

ПРОДУКЦИЯ Цементно-композитные плиты марки "Swisspearl"
для строительства. Код ОК 005 (ОКП): 57 7000
Серийный выпуск Код ТН ВЭД: 6811820000

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ
ТУ 5770-003-87548910-2009.

ИЗГОТОВИТЕЛЬ Eternit (Schweiz) AG
CH-8867 Niederurnen, Switzerland, Eternit Strasse, тел. + 4155-617-13-15, факс + 4155-617-12-23, Швейцария

СЕРТИФИКАТ ВЫДАН Eternit (Schweiz) AG
CH-8867 Niederurnen, Switzerland, Eternit Strasse, Швейцария, тел. + 4155-617-13-15, факс + 4155-617-12-23

НА ОСНОВАНИИ Протокола сертификационных испытаний №123 от 05.05.2009 ИЦ "Опытное"
28 ЦНИИ МО РФ, г. Балашиха, № РОСС RU.0001.21С306 от 30.08.2006
Санитарно-эпидемиологического заключения № 77.01.18.570.П.055583.08.07 от 27.08.2007 до 24.08.2012, выданного Управлением Роспотребнадзора по городу Москве.
Акта о результатах анализа состояния производства продукции, выпускаемой Eternit (Schweiz) AG.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Схема сертификации № За.

Руководитель органа: А.А. Дайлов
Эксперт: В.С. Митрохин

Сертификат не применяется при обязательной сертификации



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*.

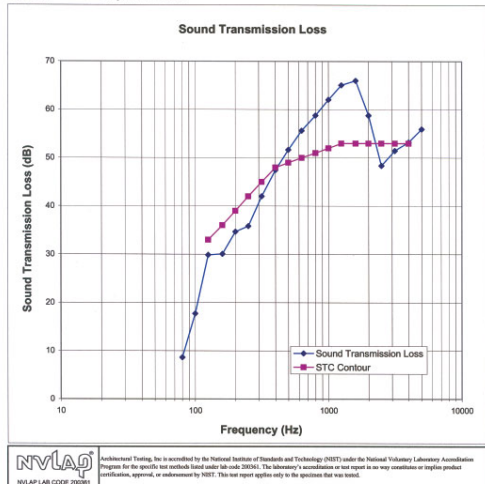
Test Specimen Description: The test specimens were provided to Architectural Testing by the client and had nominal dimensions of 2-7/8" x 5-7/8" x 5/16". The panels were represented as being of a fiber cement composition. Three colors were evaluated: CARAT Reflex Champagne and CARAT Onyx. Six samples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

130 Derry Court
York, PA 17406-8405
phone: 717-64-7700
fax: 717-64-4129
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



MIAMI-DADE COUNTY
BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-5968
www.miamidade.gov

NOTICE OF ACCEPTANCE (NOA)

Eternit (Schweiz) AG
Eternitstrasse 3
Niederurnen, Switzerland CH-8867

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (in Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: "Swisspearl Façade" Cement Composite Wall Panel System

APPROVAL DOCUMENT: Drawing No. C08-258, titled "Swisspearl Façade System Cement Composite Panel", sheets 1 through 31 of 31, prepared by CBuck Engineering, dated April 09, 2009, signed and sealed by James L. Buckner, P.E., on April 10, 2009 bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and the approval date by the Miami-Dade County Product Control Division.

MISSILE IMPACT RATING: Large and Small Missile Impact

LABELING: Each panel shall bear a permanent label with the manufacturer's name or logo, city, state and the following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of this page 1, evidence submitted page E-1 as well as approval document mentioned above. The submitted documentation was reviewed by Helmy A. Makar, P.E., M.S.



Handwritten signature and date: Helmy A. Makar, 04/21/2009

NOA No. 09-0115.05
Expiration Date: 04/22/2014
Approval Date: 04/22/2009
Page 1

ATI
Architectural
Testing Inc.
www.archtest.com

Miamidade
County
www.miamidade.gov

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 issue of a certification listing. The listing is public domain, whereas the test report itself is proprietary information belonging to the test report owner.



检验报告

No. 2010-0942

受检单位 北京瑞泰开国际贸易有限公司

产品名称 水泥纤维板

检验类型 委托检验

国家固定灭火系统和耐火构件质量监督检验中心



Most Widely Accepted and Trusted

ICC-ES Evaluation Report **ESR-1248**

Reissued September 1, 2009
This report is subject to re-examination in two years.

www.icc-es.org | (800) 423-6587 | (562) 699-0543 A Subsidiary of the International Code Council®

DIVISION: 07—THERMAL AND MOISTURE PROTECTION
Section: 07460—Fiber-reinforced Cementitious Panels

REPORT HOLDER:
ETERMIT (SCHWEIZ) AG
ETERMITSTRASSE 3
CH-8867 NIEDERURNEN
SWITZERLAND
41-64-817-11-11
www.etermit.ch
info@etermit.ch

EVALUATION SUBJECT:
SWISSPEARL® FIBER-CEMENT PANELS

1.0 EVALUATION SCOPE
Compliance with the following codes:
• 2006 International Building Code® (IBC)
• 2006 International Residential Code® (IRC)
Properties evaluated:
• Wind resistance
• Weather resistance
2.0 USES
SWISSPEARL® panels are used as exterior wall cladding over wood- or steel-framed walls in any type of construction in structures constructed in accordance with the IRC. The panels may also be used for interior applications as a Class A interior wall finish.

3.0 DESCRIPTION
3.1 General:
The SWISSPEARL® panel system consists of acrylic-coated, fiber-reinforced cement panels; EPDM backing strips installed over steel or wood substrating; fasteners; and a water-resistive barrier.
The SWISSPEARL® panels have a flame spread index of 25 or less and smoke developed index of 450 or less when tested in accordance with ASTM E 84.
3.2 Materials:
3.2.1 SWISSPEARL® Panels: The SWISSPEARL® panels are manufactured from portland cement, additives and reinforcing fibers, and comply with ASTM C 1186 as

Type A: The panels are available in lengths of 59.0, 78.7, 98.4 and 119.7 inches (1500, 2000, 2500 and 3040 mm), a 48-inch (1220 mm) width and thicknesses of 0.31 inch (8 mm), 0.39 inch (10 mm) and 0.47 inch (12 mm). Both faces of the panels are coated with either an opaque or a translucent material having an acrylic base. The panels are available under the trade names of SWISSPEARL® CARAT®, SWISSPEARL® REFLEX®, SWISSPEARL® XPRESSIV®, SWISSPEARL® NOBILIS and SWISSPEARL® PLANA.

3.2.2 EPDM Backing Strips: The EPDM backing strips are supplied by Eternit (Schweiz) AG and are available in 2.36-, 4.72- and 6.31-inch (60-, 120 and 160 mm) widths with a nominal thickness of 0.12 inch (3 mm). The backing strips have ridges and are used behind all vertical joints when installed over wood framing.

3.2.3 Fasteners:
3.2.3.1 Wood Framing: Fasteners used to attach the panels to wood framing have a 0.19-inch (4.8 mm) diameter and are minimum 1 1/2-inch-long (38.1 mm), stainless steel, washer-head Tox screws. The fasteners are provided by Eternit (Schweiz) AG. Fasteners must be of sufficient length to penetrate the wood framing a minimum of 1 inch (25.4 mm).
3.2.3.2 Steel Framing: Fasteners used to attach the panels to galvanized steel framing are 1/2-inch-diameter (4 mm) by 1 1/2- to 1 7/8-inch-long (18 to 30 mm) "pop" rivets manufactured from A3 steel. The rivets are provided by Eternit (Schweiz) AG.

3.2.4 Water-resistive Barrier: Water-resistive barriers used with the Eternit (Schweiz) AG system must comply with IRC Section 1403.2 or IRC Section R703.2, as applicable.

4.0 DESIGN AND INSTALLATION
4.1 Design:
The framing must be designed to resist loads in accordance with the applicable code. When the SWISSPEARL® panel system is installed in accordance with this report, allowable positive and negative transverse loads are a maximum of 21 psf (1.0 kN/m²) for both wood framing and light-gauge steel framing.
4.2 Installation:
The SWISSPEARL® panel system must be installed in accordance with IBC Section 1406.17.1 or IRC Section R703.10.1, as applicable, this evaluation report and the manufacturer's published installation instructions. The

ICC-ES Evaluation Reports are not to be construed as representing conditions or any other conditions not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, Inc. expressed or implied, in any finding or other matter in this report, or as to any product covered by the report.
Copyright © 2009

L. S. F. S.p.A. - LABORATORI DI STUDI E RICERCHE SUL FUECO Via Garibaldi, 38/A MONTANO LUCINO (CO) ITALY

ORIENTATIVE TEST SHEET NR. LSF/011246/00008

Montano Lucino, 10. 11. 2005

Test Method **SBI – EN 13823**

REQUESTING COMPANY
Eternit (Schweiz) AG
Eternitstrasse, 3
CH – 8867 Niederurnen

DENOMINATION OF THE MATERIAL :
SWISSPEARL® Carat Ivory 7090
Configuration of specimen under test: according to EN 12467:2004/prA2:2005

RESULTS :

	1 st	2 nd	3 rd	AVERAGE
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	36	31	36
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	36
dT_{max} 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 (=SPR integral) [m²]	61.7	30.4	46.0	46.1
SMOGRA [m³/s²]	5.8	7.6	8.4	7.3
Lateral Flame Spread_{edge}	no	no	no	no
Flaming Droplets Particles₁₀₋₁₀₀	no	no	no	no
Flaming Droplets Particles₁₀₋₁₀₀	no	no	no	no
CLASS (q_{net})	A2 - B	A2 - B	A2 - B	A2 - B
CLASS (smoke)	s2	s1	s1	s1
CLASS (dripping)	0	0	0	0



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

LSF PRESIDENT
HEAD OF RESEARCH TEAM
Silvio Messa

LABORATORY SUBSTITUTIVE DIRECTOR
Maddalena Pezzani

TEST OPERATOR
Dario Rossi

L.S.F. - Fire Laboratories ORIGINAL SHEET

Inštitut za ispitivanje materijala a.d. Beograd
Laboratorija za ispitivanje materijala
Beograd, Bulevar vojvođe M18/ta 43
tel: (011) 2650 322 fax: (011) 2650 772, 2652 782
e-mail: office@institutims.co.yu, www.institutims.co.yu

IZVEŠTAJ O ISPITIVANJU


Br. IZP-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 Bogunov, dipl.inž.arh.

Beograd, februar 2007.godine

CBMA
China Building
Materials Academy
www.cbma.com.cn

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

ICC-ES
ICC Evaluation Service
www.icc-es.org

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

SWISSPEARL®

	Certification	Authority	Product/Panel
	1 December 2006 ICC Report ESR-1248	ICC Evaluation Services Inc. 5360 Workman Mill Road Whittier, California 90601	SWISSPEARL Fibre 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 Fibre Cement Panels
	7 August 2007 BBA Agrément Certificate No 07/4454	BBA British Board of Agrément Bucknalls Lane, Garston Watford Herts WD25 9BA UKAS 113	SWISSPEARL Cladding Panels 8 mm and 12 mm
	24 August 2007 Hygiene certificate No. 1453600	Public health authority / Labour inspectorate Moscow	SWISSPEARL
	17 March 2008 Certificate of conformity Reg.-No. 08/2216/01	MPA Materialprüfungsanstalt Berlin-Brandenburg GmbH Voltastrasse 5, Geb. 10.6 D-13355 Berlin	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
	Issued 6-2008 Revised 11-2010 Product Approval Application ID: FL 9931 issued ID: FL 13951 revised	FBC Florida Building Commission Florida Department of Building	SWISSPEARL Panels Walls
	20 February 2009 Fire certificate No. 0228011	MOOU RSZ "OPITNOJE" E-179, Gagarina a/5 105179 Moscow, Russia	SWISSPEARL Panel
	14 May 2009 System Certificate GOST-R No. 1071577	MOOU RSZ "OPITNOJE" E-179, Gagarina a/5 105179 Moscow, Russia	SWISSPEARL Panel and System
	22 April 2009 Notice of Acceptance (NOA) No. 09-0115.05	MIAMI-DADE COUNTY Building Code Compliance Office (BCCO) Product Control Division 140 West Flager Street, Suite 1603 Miami, Florida 33130-1563	"SWISSPEARL Façade" Cement Composite Wall Panel System

Quality Management System, compliance with **ISO 9001**
 Factory production control compliance with **EN 12467**
 Product performance and compliance with
EN 12467, ICC-ESR-1248, BBA 07/4454, ULI/ULC R25793



Year	Date	Institute / Authority	Audit Report No.	Date of issue	Result
2008	17 October	ATI / ICC Architectural Testing Inc. / International Code Council ICC-ESR-1248 b IAS AA-676	84483.01-103-74	22 Oct. 2008	Passed
2008	31 October	ULI / ULC Underwriters Laboratories Inc. of Canada	R2579310810311243	31 Oct. 2008	Passed
2008	10 / 11 December	MOOU RZC OPITNOJE Russia	Akt No. 060/OS-08	12 Dec. 2008	Passed
2008	12 December	BBA / S-Cert AG British Board of Agrément UKAS 113	07/4454	22 Dec. 2008	Passed
2009	24 February	ATI / ICC Architectural Testing Inc. / International Code Council ICC-ESR-1248; IAS AA-676	87141.01-103-74	03 March 2009	Passed
2009	20 March	ULI / ULC Underwriters Laboratories Inc. of Canada	R2579310903200910	20 March 2009	Passed
2009	28 April	MPA BB Berlin Brandenburg Reports on Surveillance EN/ISO/IEC 17020 and 17025	09/2216/06/B	30 July 2009	Passed
2009	04 / 05 May	TÜV SÜD Management Service ISO 9001	70003078_2009	12 May 2009	Passed
2009	05 June	ULI / ULC Underwriters Laboratories Inc. of Canada	R2579310906050956	05 June 2009	Passed
2009	02 July	BBA / S-Cert AG British Board of Agrément UKAS 113	07/4454	22 July 2009	Passed
2009	11 August	DOW CORNING Structural Glazing		11 August 2009	Passed
2009	09 September	ULI / ULC Underwriters Laboratories Inc. of Canada	R2579310909091133	09 Sep. 2009	Passed
2009	12 / 13 October	PRI/ICC International Code Council ICC-ESR-1248; PRI AA-709		13 Oct. 2009	Passed
2009	17 November	ULI / ULC Underwriters Laboratories Inc. of Canada	R2579310911171251	17 Nov. 2009	Passed
2009	10 December	BBA / S-Cert AG British Board of Agrément UKAS 113	07/4454	10 Dec. 2009	Passed
2010	10 / 11 May	TÜV SÜD Management Service ISO 9001	70765081	12 May 2010	Passed
2010	04 June	ULI / ULC Underwriters Laboratories Inc. of Canada	R2579311006041146	04 June 2010	Passed
2010	26 July	QCC Quality Control Consultants, LLC	ESR-1248 Form Q-21	26 July 2010	Passed
2010	09 September	ULI / ULC Underwriters Laboratories Inc. of Canada	R2579311009091049	09 Sep. 2010	Passed
2010	22 October	BBA / S-Cert AG British Board of Agrément UKAS 113	07/4454	22 Oct. 2010	Passed



Date of issue Attestation No. 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 IAS TL-144; AAMA	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 $\Delta E = 1.1$ $\Delta E = 1.3$ $\Delta E = 2.3$ $\Delta E = 0.6$
27 July 2005 55776.01-106-31 Accelerated Weathering	ATI Architectural Testing Inc. 130 Derry Court, York PA 17406-8405 IAS TL-144; AAMA	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 IAS TL-144; AAMA	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 IAS TL-144; AAMA	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 IAS TL-144; AAMA	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 IAS TL-144; AAMA	SWISSPEARL 8 mm - REFLEX Champagne 9290 - CARAT Onyx 7099 - XPRESSIV Dark Grey 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 IAS TL-144; AAMA	SWISSPEARL 8 mm - REFLEX Champagne 9290 - CARAT Onyx 7099	ASTM G 155-05	Weathering 5000 hours $\Delta E = 1.6$ $\Delta E = 0.3$
16 December 2008 80240.02-106-31 Accelerated Weathering	ATI Architectural Testing Inc. 130 Derry Court, York PA 17406-8405 IAS TL-144; AAMA	SWISSPEARL 8 mm - REFLEX Platinum 9020 - XPRESSIV Brown 8270 - XPRESSIV Red 8230 - XPRESSIV Dark Grey 8220	ASTM G 155-05	Weathering 5000 hours $\Delta E = 2.5$ $\Delta E = 1.6$ $\Delta E = 0.5$ $\Delta E = 1.3$
17 November 2009 89997.02-106-31 Accelerated Weathering	ATI Architectural Testing Inc. 130 Derry Court, York PA 17406-8405 IAS TL-144; AAMA	SWISSPEARL 8 mm - CARAT Azurite 7040 - XPRESSIV Green 8050 - XPRESSIV White 8090 - REFLEX Black Velvet 9221	ASTM G 155-05	Weathering 5000 hours $\Delta E = 1.7$ $\Delta E = 1.3$ $\Delta E = 0.5$ $\Delta E = 1.2$



Date of issue Attestation No. Test	Institute / Authority	Product / Panel	Standard
10 February 2004 # G400532 Galvanic Corrosion Testing of a Wall Panel	Bodycote Materials Testing Inc. 15 High Ridge Court, Cambridge Onta- rio, Canada, N1R 7L3 Accr. Lab. No 6; AAMA	SWISSPEARL	ASTM G 87-02
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 IAS TL-144; AAMA	SWISSPEARL 8 mm	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 IAS TL-144; AAMA	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 IAS TL-144; AAMA	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
13 December 2006 69389.01-113-11 Sound Transmission Loss	ATI Architectural Testing Inc. 130 Derry Court, York PA 17406-8405 IAS TL-144; AAMA	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 IAS TL-144; AAMA	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 IAS TL-144; AAMA	SWISSPEARL CARAT Coral 12 mm	
10 May 2007 030407 Simulated static and dynamic wind load	Dörig Bauphysik AG Haltelhusstrasse CH-9402 Mörschwil	SWISSPEARL 8 mm SIGMA 8	EC 1
9 July 2007 73293.01-113-11 Sound transmission loss and Noise Reduction Index	ATI Architectural Testing Inc. 130 Derry Court, York PA 17406-8405 IAS TL-144; AAMA	SWISSPEARL 8 mm (Façade panel / Cladding Sys- tem)	ASTM E 90-04 ASTM E 413-04 ASTM E 1332-90 ASTM E 2235-04 ISO 717-1

Result

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)
28 dB
Sound Reduction Index R_w
33 dB

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

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

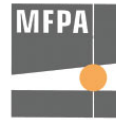
Resonance Frequency
7.25 Hz.
Dampening factor
0.15
Coincidence Frequency
1739 Hz

The samples tested fulfilled the requirements of EC 1

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



中國建築材料科學研究總院
CHINA BUILDING MATERIALS ACADEMY



Date of issue Attestation No. Test	Institute / Authority	Product / Panel	Standard
1 August 2007 70780.01-120-32 Seismic Drift testing	ATI Architectural Testing Inc. 130 Dery Court, York PA 17406-8405 IAS TL-144; AAMA	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 Dery Court, York PA 17406-8405 IAS TL-144; AAMA	SWISSPEARL CARAT 8 mm	TAS 201-94 TAS 202-94 = ASTM E 330 TAS 203-94
12 September 2008 210808 Simulated static and dynamic wind load	Dörig Bauphysik AG Haltelhusstrasse CH-9402 Mörschwil	SWISSPEARL 12 mm SIGMA 12 Perforated panels	EC 1
26 November 2008 231008 Simulated static and dynamic load	Dörig Bauphysik AG Haltelhusstrasse CH-9402 Mörschwil	SWISSPEARL 8 mm Engraved panels	EC 1
5 May 2009 No 123 Certification tests (Material, System and fire)	MOOU RZC OPITNOJE E-179 Gagarina 5 105179 Moscow Russia GOST-R Accreditation	SWISSPEARL CARAT Coral 8 mm	GOST-R IZ-OPTINOJE ROSS RU.001.21C3096
8 July 2009 No 344-0194T-09 Uniform static wind load	Force Engineering & Testing Inc 19530 Ramblewood Drive Humble, Texas 77338 Texas Reg. No F-4611 Dade County Lab Certification No. 05-1122.13	SWISSPEARL CARAT Black Opal 8 mm	ASTM E 330-02
22 July 2009 Report No. 6531-09-1 Sound absorption coefficient	Institut für Lärmschutz Kühn + Blickle Gewerbestrasse 96 CH-6314 Unterägeri Member of Swiss association of acoustic	SWISSPEARL CARAT 8 mm and 12 mm perforated	EN ISO 354
25 March 2010 No 2010L-00080 Material characteristics	National Research Center of Testing Techniques for Building Materials Guanzhuang, Chaoyang District P.R.C. Beijing 100024	SWISSPEARL REFLEX Black Velvet 8 mm	GB/T7019-1997 GB/T9266-1988 GB/T9265-1988 GB/T6739-1996 SN/T0308-93
10 June 2010 S2.2/10-189-1	MFPA Leipzig GmbH Hans-Weigel-Strasse 2b DE-04319 Leipzig	SWISSPEARL CARAT Black Opal 12 mm	DIN 18032-3 1997
18 August 2010 S2.1/10-345	MFPA Leipzig GmbH Hans-Weigel-Strasse 2b DE-04319 Leipzig	SWISSPEARL CARAT Azurit 8 mm	DIN 18032-3 1997

Result

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)

The samples tested fulfilled the requirements set by the City Tunneln Authority of Malmö (Sweden)

The samples tested fulfilled the requirements of EC1

Certification of the panels and the façade system GOST-R for Russia

Design pressure
80 psf
Ultimate Test pressure
120 psf
without failure

Sound absorption coefficient in relation to frequency and hole or slot size/pattern in SWISSPEARL panels
Max. $\alpha_s = 0.94$ at
 $f = 800$ Hz

Material parameters
Material fulfil the criteria and is conform to the standard

Testing the ball-throwing safety. Fulfil the criteria
Resistant to ball throwing.

Testing the ball-throwing safety. Fulfil the criteria
Resistant to ball throwing.



Date of issue Attestation No. Test	Institute / Authority	Product / Panel	Standard
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 (8 Oct. 2003: ETERPLAN PLUS, ETERPLAN N 8 mm)	EN 13501-1 EN 13823 EN ISO 1716
18 November 2003 Certificate Br. 016/03 PP	LTM d.o.o. HR-10000 Zagreb	SWISSPEARL NOBILIS 8 mm (18 Nov. 2003: NATURA 8 mm)	DIN 4102-1
2 November 2006 LTM Br. 2647/06-1	LTM d.o.o. HR-10250 Zagreb	SWISSPEARL	DIN 4102-1
10 Nov. 2005 / 6 Dec. 2005 Orientating 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 (10 Nov. 2005: CARAT Ivory 7090)	EN 13501-1 EN 13823 EN ISO 1716
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
17 May 2006 VTEC # 100-2414-2	VTEC Laboratories Inc. 212 Manida Street, Bronx New York 10474	SWISSPEARL CARAT Black Opal 8 mm (17 May 2006: Anthrazite N 7020)	ASTM E136
18 May 2006 VTEC # 100-2451 Toxicity	VTEC Laboratories Inc. 212 Manida Street, Bronx New York 10474	SWISSPEARL CARAT Black Opal 8 mm (17 May 2006: Anthrazite N 7020)	Pittsburgh Protocol
13 June 2006 906027 SRC 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)
30 October 2006 Code Section 27-131	NYC Department of Buildings 280 Broadway, New York Y 10007	SWISSPEARL CARAT Black Opal 8 mm (17 May 2006: Anthrazite N 7020)	ASTM E136 Pittsburgh Protocol
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 ISO 1716

Result

Reaction to fire
Classification A2-s1, d0

Reaction to fire
Classification A2

Reaction to fire
Classification A2

Reaction to fire
Classification A2-s1, d0

Total Heat Release (THR)
73 MJ
Fire Growth Rate (FIGRA)
0.11 kW/s
Total Smoke Production
(TSP)
396 m³
Smoke Growth Rate
(SMOGRA)
0.46 m²s²
Flaming Droplet Particles
none

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

Toxicity
LC₅₀ > 100g
LA₅₀ = 6.158

Complies with
CAN/ULC-S134

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

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

Reaction to fire
Classification A2

Reaction to fire
Classification A2-s1, d0

Underwriters
LaboratoriesFIRE 消防指南
.NET.CN

Date of issue Attestation No. Test	Institute Authority	Product / Panel	Standard
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 ISO 1716
22 July 2008 R25793 07/CA59279	ULC Underwriters' Laboratories of Canada 7 Underwriters Road Toronto, ON M1R 3B4 Canada IAS TL-213	SWISSPEARL CARAT 8 mm	CAN/ULC-S134
21 October 2008 PF 12971 / 11772	DANAK / DBI Dansk-og sikringsteknisk Institut Jerholmen 12 DK-2650 Hvidovre	SWISSPEARL 8 mm	DS/INSTA 412 NT FIRE 004 DS 1065-1
18 December 2008 No. 1218 Large fire system test	MOOU RSZ OPITNOJE E-179 Gagarina 5 105179 Moscow E-179 Russia	SWISSPEARL CARAT Coral 7030 8 mm	GOST 30244-94 GOST R 30402-96 GOST 12.1.044-89
12 January 2009 LSF/E00162 Classif. LSF/13205/E00163/08 SBI LSF/13205/E00163/06 PCS LSF/13204/E00162/08 SBI LSF/13204/E00163/06 PCS	L.S.F. Via Alessandro Volta 36 I-22070 Grandate NB No. 1598	SWISSPEARL 8 mm REFLEX, XPRESSIV	EN 13501-1 EN 13823 EN ISO 1716
18 May 2009 No. 01.14431.01.104 [1] Large fire system test (ISMk)	SWRI Southwest Research Institute, Fire Technology Dep. 6220 Culebra Road SanAntonio, 78238-5166 Texas, USA IAS-TL-214	SWISSPEARL CARAT Black Opal 7020 8 mm	NFPA 285-06
08 July 2009 LSF/E00152 Classif. LSF/13157/E00152/08 SBI LSF/13157/E00152/06 PCS LSF/13158/E00153/08 SBI LSF/13158/E00153/06 PCS	L.S.F. Via Alessandro Volta 36 I-22070 Grandate NB No. 1598	SWISSPEARL 8 mm System MODULA C REFLEX CARAT Onyx and Black Opal 7020	EN 13501-1 EN 13823 EN ISO 1716
04 November 2009 NP-03935/A/09/BP Large scale fire test	ITB Instytut Techniki Budowlanej Up. Filtrowa 1 00_611 Warszawa	SWISSPEARL CARAT Onyx 12 mm Coral 12 mm	Large scale test ISO 13785-2
09 December 2009 NP-03113/P/09/BP Large scale fire test	ITB Instytut Techniki Budowlanej Up. Filtrowa 1 00_611 Warszawa	SWISSPEARL CARAT System SIGMA 8 Black Opal 8 mm	Large scale test ISO 13785-2
26 March 2010 No 2010-0942 Material characteristics	China National Center for Quality Supervision and Test of Fire-Resisting Building Components No.110, South Weijin Road, Nankai District Tianjin, China	SWISSPEARL REFLEX Black Velvet 8 mm	GB8624-2006 (EN 13501-1) GB/T14402 (ISO 1716) GB/T20285 GB/T20284

Result

Reaction to fire
Classification A2-s1, d0Complies with NBC of
Canada for external
wall assemblies

Material Class A

Reaction to fire
Flammability Group B1
Ignitability Group V1
Classification K0Reaction to fire
Classification A2-s1, d0Fire propagation
characteristic fulfilled
the acceptance criteria
stated in NFPA 285Reaction to fire
Classification A2-s1, d0Fall of surface 9.4% < 10%
Pieces do not burn
Maximal temperature 1200°C
Materials fulfil all criteriaFall of surface 5.6% < 10%
Pieces do not burn
Maximal temperature 1200°C
Materials fulfil all criteriaReaction to fire
Classification A2-s1, d0, t0

SWISSPEARL®

Authorized Distributor

www.swisspearl-architecture.com

PREMIUM

SWISS QUALITY

FAÇADE SYSTEMS

FOR HIGH-END

ARCHITECTURE