

Lamilux Heinrich Strunz GmbH
Zehstrasse 2
DE-95111 REHAU
Tyskland**CLASSIFICATION OF FIRE RESISTANCE IN
ACCORDANCE WITH EN 13501-2:2016**

(1 appendix)

Sponsor / owner of the report:	Lamilux Heinrich Strunz GmbH Zehstrasse 2 DE-95111 REHAU GERMANY
Prepared by:	RISE - Research Institutes of Sweden Box 857 SE-501 15 Borås SWEDEN
Product name:	CI-System fire protection glass roof REI30 (CI-System Brandschutzglasdach REI30)
Classification report No.:	7P06992-2Rev2
Date of issue:	January 29, 2018

Note:

Rev2: This report is a revision and replaces the previous report 7P06992-2Rev1 dated January 23, 2018. This revision refers to: Deep information and drawings of the classified object is removed from the report. Refer to the test report instead.

Rev1: This report is a revision and replaces the previous report 7P06992-2 dated January 18, 2018. This revision refers to: Correction of fire resistance class, removal of one drawing and changed reference to test report.

This classification report consists of five pages and one appendix and may only be used or reproduced in its entirety.

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1 Introduction

This classification report defines the resistance to fire classification assigned to element CI-System fire protection glass roof REI30 in accordance with the procedures given in EN 13501-2:2016.

2 Details of classified product

2.1 General

The element, CI-System fire protection glass roof REI30, is defined as a loadbearing roof with fire separating function.

2.2 Description

The element, CI-System fire protection glass roof REI30, is fully described below or is fully described in the test report(s) and/or the extended application report(s) in support of classification listed in 3.1.

2.2.1 Description of the construction

The construction consisted of one load-bearing roof of glass with steel reinforced aluminum profiles. The maximum dimension is (width x length x height) 3298 x 2922 x 228 mm.

Framework

The framework consists of aluminum profiles. The load bearing profiles are reinforced with steel profiles.

Insulation

The profiles are filled with calcium silicate boards.

Glass

The glass panes consist of glass blocks with maximum outer nominal dimension (width x length x thickness) 1030 x 2530 x 43 mm. The glass blocks consist of a fire resistance glass air gap and tempered glass pane. The glass panes are mounted horizontally with the fire resistance glass on the underside.

Joints

The element is built without any joints between the building elements.

The information regarding the test element and its detailed components given in the sponsor's drawings and specifications, e.g. dimensions, quantities and physical properties, are nominal values provided by the sponsor. In case of the sponsor's drawings not corresponding with the construction of the element RISE has crossed details or altered the drawings.

3 Test reports/extended application reports and test results in support of the classification

3.1 Test reports/extended application reports

Table: List of used accredited reports.

Name of laboratory	Name sponsor / owner of the report:	Report ref. no	Test method and date/field of extended application rules and dates
RISE - Research Institutes of Sweden	Lamilux Heinrich Strunz GmbH Zehstrasse 2 DE-95111 REHAU Germany	7P06992-1Rev 1 dated January 23, 2018	EN 1365-2:2014

3.2 Results

Table: Summary test results.

Accredited test method:	EN 1365-2:2014
Test report and date:	7P06992-1Rev1 dated January 23 2018
Parameter:	Results:
Applied load:	1,0 kN/m ²
Supporting construction:	Low density rigid construction made of aerated concrete beams with a nominal density of 550 kg/m ³
Loadbearing capacity:	
-Maximum deflection	45 minutes
-Maximum rate of deflection	42 minutes
Integrity:	
-Cotton pad:	45 minutes
-Gap gauges:	45 minutes
-Sustained flaming:	45 minutes
Thermal insulation:	36 minutes
Radiation 13 kW/m²:	45 minutes

4 Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with Clause 7 of EN 13501-2:2016.

4.2 Classification

The element, CI-System fire protection glass roof REI30 is classified according to the following combinations of performance parameters and classes as appropriate.

Table: Classification

R	E	I	W		t	t	-	M	S	C	IncSlow	sn	ef	r
R	E	I	-		3	0	-	-	-	-	-	-	-	-

Fire resistance classification: REI 30*

**The classification is valid for one direction only. Fire from below.*

4.3 Field of application

This classification is valid for the following end use applications:

4.3.1 Field of direct application in accordance with EN 1365-2:2014

Table: Field of direct application of test results

Construction parameter	Valid for range
Decrease in the linear dimensions of panes §A.5.1a	Allowed.
Height of the landscape pane and/or the width of the portrait pane §A.5.1b	No expansion allowed.
Decrease in the distance between mullions and/or transoms §A.5.1c	Allowed.
Decrease in distance between fixing centres (e.g. fixing of the framing system to the support construction, and fixing of glass panes in the glazing system) §A.5.1d	Allowed.
Screwed-on glazing beads, if 'clip-on' beads were incorporated in the test specimen §A.1.5.1e	Screwed-on glazing beads allowed.
Allowances for expansion §A.5.1f	Allowed.

Construction parameter	Valid for range
Shapes of flat glass panes §A.5.2	The internal angle at each corner of the glass panes incorporated in the test may vary by up to $\pm 15^\circ$ of the angles tested, provided the number of corners will not change. The framing members are adapted accordingly.
Span length §A.5.3	Decrease of span length is allowed but no extension of span is permitted.
Extension of width in direction perpendicular to the span §A.5.4	Allowed.
Inclination angle §A.5.5	Up to 80°
Supporting constructions §A.5.6	May be applied to high density supporting constructions (in accordance with EN 1363-1) with at least the same fire resistance classification and an overall thickness equal to or greater than that of the element used in the test.

5 Limitations

This classification document does not represent type approval or certification of the product.

RISE Research Institutes of Sweden AB Safety - Fire Research, Fire Resistance

Performed by

Examined by

Pär Johansson

Patrik Johansson

Appendix

Table: Appendices

Appendix	Description	Page
1	Drawings and specifications from the sponsor	1

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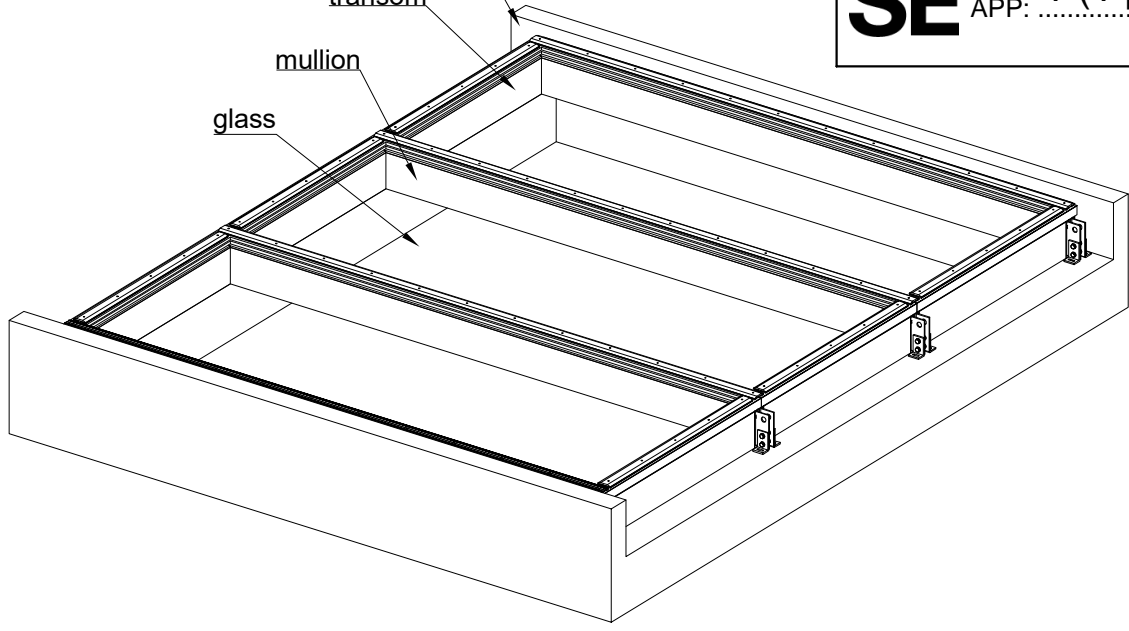
4

A

construction to be built

RI SE REF: 7P06992-1
 APP: 1 (1 page)

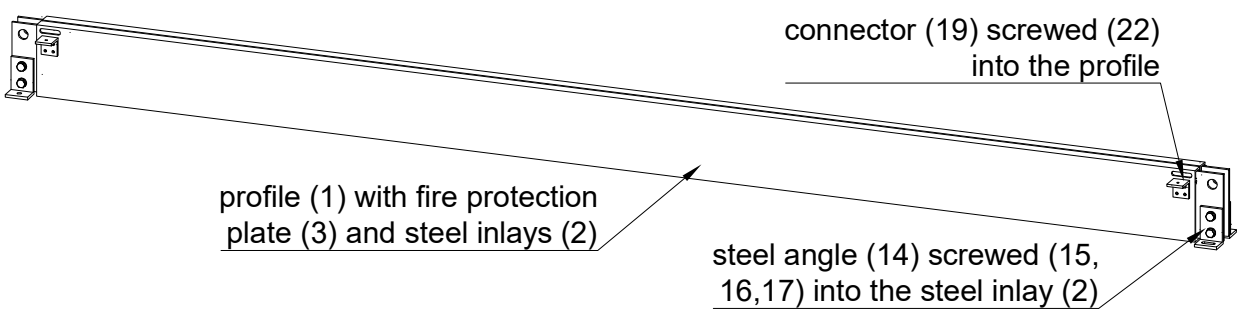
oven
 transom
 mullion
 glass



B

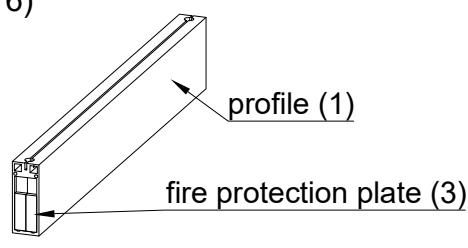
C

mullion (1:16)



D

transom (1:16)



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 Lamilux Heinrich Strunz GmbH, Zehstr. 2, 95111 Rehau

Schweißnähte: Ausführung der sichtbaren Schweißnähte nach DIN EN ISO 10042 Grenzen für Unregelmäßigkeiten Tabelle 1 Bewertungsgruppe C Ausführungsklasse EXC2	Prüfmaße: <input type="checkbox"/> Funktion ist von der Einhaltung dieser Maße abhängig	Toleranzen: ISO 2768-m DIN EN ISO 13920 AE	construction of a glass element for fire resistant test after EN 1365-2 delivered parts
	Datum 07.11.2017	Name luchscheider	
 Heinrich Strunz GmbH Zehstraße 2 95111 Rehau/Bayern Tel.: (09283) 595-0 Fax: (09283) 595-290	Maßstab 1:30	Werkstoff	
	EDV Nr. G:\Public\Technik\Entwicklung TALE\GAR\Projekt 20-161 Brandschutzverglasung E30-EI30\Prüfung		