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CLASSIFICATION OF FIRE RESISTANCE

IN ACCORDANCE WITH EN 13501-2:2016

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Product name:	Fire curtain gate RGT EI60/EW120
Classification Report No.:	LBO-082-KZ/21E
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1. INTRODUCTION

This classification report defines the resistance to fire classification assigned to fire protection curtain gate, type RGT EI60/EW120 in accordance with the procedures given in EN 13501-2:2016.

2. DETAILS ON CLASSIFIED PRODUCT

2.1 General

The element, type RGT EI60/EW120 fire curtain gate, is defined as a movable fabric curtain.

2.2 Description

RGT EI60/EW120 fire curtain gate consists of the following basic components:

- multi-layer fabric (the specific list of materials of which particular layers of the fabric were made has been reserved by the manufacturer of the curtain; the information on these materials has been made available to the laboratory which carried out the fire resistance tests),
- side guides,
- rolling tube,
- rolling tube supports,
- electric drive.

The blanket of curtain gate consists of three layers: two identical type FM1D external layers, each 1.5 mm thick and type MH-6 internal (middle) layer of thickness of approx. 5.5 mm. Total thickness of the blanket is approx. 10 mm.
Each of external layer consists of three vertical fabric strips and is sewn using double kevlar Dg and Dh thread seams (each seam of different kevlar thread). On the inner side of blanket along entire width of fabric, the horizontal strips of the same material as the material used for external layer have been sewn using single kevlar Dg thread seam. The distance between the strips is approx. 40 - 80 mm while the width of the strips is 70 - 100 mm.
The inner layer of blanket is made of ceramic wool both sides covered with reinforced aluminium foil; the foil is fixed to the ceramic wool using horizontal stitches made with kevlar D thread, spaced approx. 1m.
The top edge of curtain blanket is fixed to the rolling tube using flat steel bar 20 2 mm. The flat bar is fastened to the rolling tube of the curtain with 4.5 x 25 mm sheet metal screws. The rolling tube is made of an 88.9 x 2.5 steel pipe (PN-EN 10219-2:2006).
Along the bottom edge of the fabric, its external layers are jointed together. The weight in form of 20 x 10 mm flat bar is fixed to each external layer of the blanket along the entire width of fabric minus 150 mm.
Two supports of the rolling tube are fixed to the lintel of the supporting structure, above the opening within the curtain was installed. Each of the supports is fixed using two ring anchors of 10 x 200 mm through steel washers of Ø12 mm.
The UCF series 200 bearing is fastened to the tube support on its left, using M12 screws (ISO 10642) and M12 nuts (PN-EN 4032:2004) while the electric tubular type VIC motor has been mounted inside the tube at the right side of curtain gate.
The rolling tube and its supports are mounted inside a dedicated casing. The casing is made of 1.0 mm galvanized steel sheet and consists of two parts. One of the parts covers three sides and the other covers two. The parts of the casing are mounted using Ø4 x 10 mm blind rivets. In the

bottom part of the tube casing the gap of width of approx. 15 - 20 mm is designed between the two parts of casing, for curtain's blanket pass through.
The vertical edges of the curtain's blanket are equipped with guides made of M6 cap screws and cap nuts which are guided within profiled side guides. The external dimensions of the side guides are 80 x 125 mm. The side guides consist of two parts made of galvanized steel sheet of 2.0 mm thick (inner part) and of 1.0 mm thick (external part) - guide cover. The external part of the guide was protected with 20 mm thick Promatect-H boards on outside. The side guides were fixed to the wall using 10 x 112 mm steel anchors spaced every 450 - 550 mm.
The classified curtain has been fire resistance tested within the wall of thickness of 240 mm made of cellular concrete blocks of density of 600 kg/m^3.

3. TEST REPORTS / EXTENDED APPLICATION REPORTS AND TEST RESULTS IN SUPPORT OF THE CLASSIFICATION

3.1 Test reports / extended application reports

Name of Laboratory	Name of sponsor	Ref. No. of Report / Date of issue	Test method
Fire Test Laboratory GRYFITLAB Spółka z o.o.		LBO-9 7 13.03.2017	PN-EN 1634-1:2014 PN-EN 1363-1:2012 PN-EN 1363-2:2001
Group Of Testing Laboratories GRYFITLAB Spółka z o.o.		LBO- Exap/19 29.08.2019	PN-EN 1634-1:2014 PN-EN 1363-1:2012 PN-EN 1363-2:2001 PN-EN 15269-11+AC:2019-05
Group Of Testing Laboratories GRYFITLAB Spółka z o.o.		LBO-1 18 14.01.2019	PN-EN 1634-1+A1:2018-03 PN-EN 1363-1:2012
Certbud Sp. z o.o.		382 18.06.2018	PN-EN 1363-1:20012 PN-EN 15269-11:2016

3.2 Results

Test method, test report number and issue date	Parameter	Results
PN-EN 1634-1:2014 LBO-9 7 13.03.2017	**Supporting construction** Rigid anchoring structure of cellular concrete blocks of thickness of 240 mm and density of 600 kg/m³.	
	Test duration **Integrity:** - cotton pad - gap gauges - sustained flaming	**134 minutes** **14 seconds** 68 minutes 134 minutes no failure 134 minutes no failure
	Thermal insulation: - mean temperature rise (140 K) - maximum temperature rise (180 K) - maximum temperature rise (180 K) (supplementary procedure) - maximum temperature rise (180 K) (door frame) - maximum temperature rise (360 K) (door frame)	68 minutes 74 minutes 134 minutes no failure 56 minutes 114 minutes
	Radiation: - 15 kW/m²	134 minutes no failure
PN-EN 1634-1:2014 LBO-1 18 14.01.2019	**Supporting construction** Wall of cellular concrete blocks of thickness of 240 mm and density of 600 kg/m³.	
	Test duration **Integrity:** - cotton pad - gap gauges - sustained flaming	**134** minutes **24 seconds** 134 minutes no failure 134 minutes no failure 134 minutes no failure

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 Classyfication

The element, fire protection curtain gate type RGT EI60/EW120 is classified according to the following combinations of performance parameters and classes as appropriate.

R	E	I	W		t	t	t	-	M	S	C	IncSlow	sn	ef	r
	E	**I_1**	**W**			**4**	**5**								
	E	**I_2**	**W**			**6**	**0**								
	E		**W**		**1**	**2**	**0**								

Fire resistance classification:

EI_1 45, EI_2 60, EW 120

4.3 Field of application

This classification is valid for the fire protection curtain gate type RGT EI60/EW120 of the construction as described in item 2.2. It is possible to do changes to the extend compatible with PN-EN 1634-1+A1:2018 and PN-EN 15269-11:2018-06 standards.

4.3.1 Painting

It is allowed to use the alternative paints that do not affect the fire resistance.

4.3.2 Fixings

The number per unit length of fasteners used for the attachment of gate to the structure can be increased but no reduced, while the spacing between the fasteners can be reduced but no increased.

4.3.3 Permissible size variations

For changes to dimensions, the unlimited reduction of dimensions is allowed.
On the basis of the report on extended application of construction products and building elements considering their fire performance no. LBO- Exap/19, it is possible to use the fire protection curtain gates type RGT EI60/EW120 within dimensional ranges in accordance with the table:

Width b [m]	Height h [m]	Maximum weight of drive, axle etc. [kg]	Shaft dimensions d x t [mm]	Cassette b x h [mm]	Minimalna śr. czopu [mm]	Drive type*
3	3	15	88.9 x 2.5	250 x 250	20	W
6	4	25	159.0 x 6.0	350 x 350	30	W
8	4	25	244.5 x 7.1	500 x 500	35	W
10	6	50	323.9 x 8.8	550 x 550	45	Z
12	8	50	355.6 x 12.5	600 x 600	55	Z
16	10	100	660.0 x 12.5	1000 x 1000	70	Z

*W – internal, Z - external

4.3.4 Side of fire resistance

Both sides of the element classified in item 4.2 are fire resistant.

4.3.5 Supporting construction

The fire resistance of the curtain tested in rigid standard supporting structure of high or low density as per EN 1363-1, can be used for the curtain built into the wall in same way provided the thickness and density of the wall are same or higher than those the gate was tested with.

5. LIMITATIONS

The classification remains valid as long as:

- The method of testing is not changed,
- Changes in the construction and materials meet the limitations specified in item 4.3.

This classification document does not constitute any approval nor a product certificate.

SIGNED

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APPROVED

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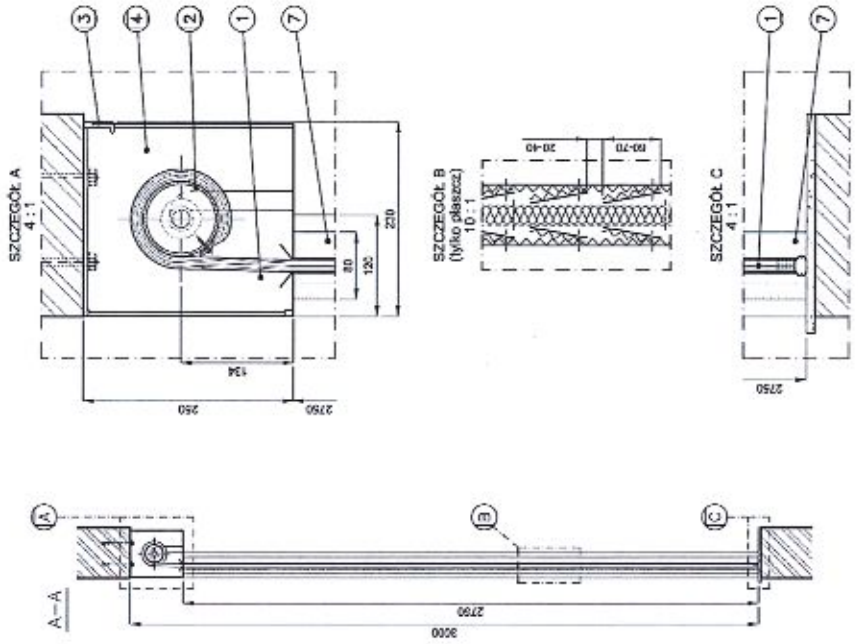
Annex 1

Technical documentation



L.P.	Nazwa	Ilość	Uwagi
8	Prowadnik	12	
7	Prowadnica (część wewnętrzna i zewnętrzna)	2	blacha stalowa 2,0mm i 1,0mm
6	Napęd rurowy	1	typ WG
5	Łożyska samonastawne w oprawie	1	seria UFC 200
4	Wspornik wału	1	blacha stalowa 4,0mm
3	Osłona wału	1	blacha stalowa 1,0mm
2	Wał nawojowy	1	rura stalowa 88,9 x 2,5
1	Płaszcz bramy	1