FIRE RESISTANCE CLASSIFICATION REPORT No. 23897C

OWNER OF THE CLASSIFICATION REPORT

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INTRODUCTION

This classification report defines the classification assigned to air transfer grilles (type: GE 60 and GE 60-XL), in accordance with the procedures given in EN 13501-2:2023: Fire classification of products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services.

This classification report consists of 11 pages and 2 annexes and may only be used or reproduced in its entirety.

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1 DETAILS OF CLASSIFIED PRODUCT

1.1 General

The element, type: GE 60 and GE 60-XL, is defined as air transfer grilles with fire resistance characteristics.

1.2 Description

The elements, GE 60 and GE 60-XL, are partially described below and are fully described in the test reports stated in clause 2.1, in support of this classification. The drawings of the test element as it was tested, are enclosed in the annexes 1 till 2 of this classification report.

1.2.1 Composition of the test construction as tested (**GE 60**)

The test specimens are two air transfer grilles, mounted in an aerated concrete wall with a thickness of 100 mm. The dimensions of the wall construction are 3000 mm x 3000 mm. The air transfer grilles were positioned in the centre of the installation opening.

1.2.1.1 Supporting construction

The test specimen is installed in a standard supporting construction, which is described in and constructed according to the European standards EN 1364-5:2017 §7.2.2 and EN 1363-1:2020 §7.2.2.2.

[1] Aerated concrete wall	
Material	Aerated concrete
Thickness	100 mm
Installation opening dimensions	800 mm (h) x 400 mm (w)

1.2.1.2 Composition of the test specimen as tested

[2] Frame	
Material	Sodium silicate-based intumescent material in PVC envelope
Outer dimensions	795 mm x 395 mm
Section dimensions slat	50 mm x 6 mm

[3] Horizontal slat	
Material	Sodium silicate-based intumescent material in PVC envelope
Section dimensions slat	50 mm x 6 mm
[4] Steel rod	
Material	Steel
Diameter	4 mm
[5] Spacer	
Material	PA6
Diameter	8 mm
[6] Sealant	
Reference	Soudal Firecryl FR
Position	Between the air transfer grille and the aerated concrete wall [1]

1.2.2 Composition of the test construction as tested (**GE 60-XL**)

The test specimens are two air transfer grilles, mounted in an aerated concrete wall with a thickness of 100 mm. The dimensions of the wall construction are 3000 mm x 3000 mm. The air transfer grilles were positioned flush with the wall at both sides.

1.2.2.1 Supporting construction

The test specimen is installed in a standard supporting construction, which is described in and constructed according to the European standards EN 1364-5:2017 §7.2.2 and EN 1363-1:2020 §7.2.2.2.

[1] Aerated concrete wall	
Material	Aerated concrete
Thickness	100 mm
Installation opening dimensions	1260 mm (h) x 860 mm (w)

1.2.2.2 Composition of the test specimen as tested

[2] Frame	
Material	MDF
Outer dimensions	1195 mm x 795 mm
Outer section dimensions	100 mm x 22 mm
[3] Intumescent strip	
Material	Graphite
Section dimensions	20 mm x 2 mm (NV)
[4] Horizontal slat	
Material	Sodium silicate-based intumescent material in PVC envelope
Section dimensions slat	50 mm x 6 mm
[5] Steel rod	
Material	Steel
Diameter	4 mm
[6] Spacer	
Material	PA6
Diameter	8 mm
[7] Sealing	
Material	Mortar based on Portland composite cement

1.3 Drawings

The present drawings are not to scale.

Annex 1: Air transfer grille (GE 60) – dimensions.

Annex 2: Air transfer grille (GE 60-XL) – dimensions.

2 TEST REPORTS/EXAP REPORTS AND TEST RESULTS IN SUPPORT OF THE CLASSIFICATION

2.1 Test reports/EXAP reports

Name of the laboratory	Report ref. no.	Name of the owner	Date of the test	Method
WFRGENT nv	23897A	Rf-Technologies NV	27/02/2025	EN 1364-5:2017
WFRGENT nv	23897B	Rf-Technologies NV	27/02/2025	EN 1364-5:2017

2.2 Exposure conditions during the fire resistance test:

Temperature/time curve: standard as in EN 1363-1:2020.

Direction of exposure: The test specimen is a symmetrical construction.

No extra load supplementary to the own weight of the air transfer grilles was applied during the test.

2.3 Test results (GE 60)

2.3.1 Upper air transfer grille

Parameters	Results
Thermal insulation – I	
ΔT_m = 140°C	104 minutes, no failure(1)
ΔT_M = 180°C	104 minutes, no failure(1)
Integrity – E	
Spontaneous and sustained flaming	104 minutes, no failure(1)
Failure with ∅ 6 mm gap gauge	104 minutes, no failure(1)
Failure with ∅ 25 mm gap gauge	104 minutes, no failure(1)
Ignition of cotton pad	104 minutes, no failure(1)
Radiation – W	
Radiation intensity = 15 kW/m²	104 minutes, no failure(1)

(1) The test was discontinued after 104 minutes at the test sponsor's request.

2.3.2 Lower air transfer grille

Parameters	Results
Thermal insulation – I	
ΔT_m = 140°C	104 minutes, no failure(1)
ΔT_M = 180°C	104 minutes, no failure(1)
Integrity – E	
Spontaneous and sustained flaming	104 minutes, no failure(1)
Failure with ∅ 6 mm gap gauge	104 minutes, no failure(1)
Failure with ∅ 25 mm gap gauge	104 minutes, no failure(1)
Ignition of cotton pad	104 minutes, no failure(1)
Radiation – W	
Radiation intensity = 15 kW/m²	104 minutes, no failure(1)

(1) The test was discontinued after 104 minutes at the test sponsor's request.

2.4 Test results (GE 60-XL)

2.4.1 Upper air transfer grille

Parameters	Results
Thermal insulation – I	
ΔT_m = 140°C	79 minutes, no failure(1)
ΔT_M = 180°C	77 minutes
Integrity – E	
Spontaneous and sustained flaming	79 minutes, no failure(1)
Failure with ∅ 6 mm gap gauge	79 minutes, no failure(1)
Failure with ∅ 25 mm gap gauge	79 minutes, no failure(1)
Ignition of cotton pad	79 minutes, no failure(2)
Radiation – W	
Radiation intensity = 15 kW/m²	79 minutes, no failure(1)

(1) The test was discontinued after 79 minutes at the test sponsor's request.
(2) No failure until the moment of failure of the thermal insulation (I).

2.4.2 Lower air transfer grille

Parameters	Results
Thermal insulation – I	
ΔT_m = 140°C	79 minutes, no failure(1)
ΔT_M = 180°C	79 minutes, no failure(1)
Integrity – E	
Spontaneous and sustained flaming	79 minutes, no failure(1)
Failure with ∅ 6 mm gap gauge	79 minutes, no failure(1)
Failure with ∅ 25 mm gap gauge	79 minutes, no failure(1)
Ignition of cotton pad	79 minutes, no failure(1)
Radiation – W	
Radiation intensity = 15 kW/m²	79 minutes, no failure(1)

(1) The test was discontinued after 79 minutes at the test sponsor's request.

3 CLASSIFICATION AND FIELD OF APPLICATION

3.1 Reference of classification

This classification has been carried out in accordance with clause 7 of EN 13501-2:2023.

3.2 Classification

The element, type: GE 60 and GE 60-XL, is classified according to the following combinations of performance parameters and classes as appropriate. No other classifications are permitted.

The classifications are valid for both sides of the air transfer grilles.

3.2.1 GE 60

EI 90, EI 60, EI 45, EI 30, EI 20, EI 15

EW 90, EW 60, EW 45, EW 30, EW 20, EW 15

E 90, E 60, E 45, E 30, E 20, E 15

3.2.2 GE 60-XL

EI 60, EI 45, EI 30, EI 20, EI 15

EW 60, EW 45, EW 30, EW 20, EW 15

E 60, E 45, E 30, E 20, E 15

3.3 Field of direct application

This classification is valid for the following end use applications according to EN 1364-5:2017.

The results of the fire test are directly applicable to similar constructions where one or more of the changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability:

a) General:
   - The results of the fire test are directly applicable to constructions of the same design and materials where one or more of the changes listed below are made:
     - decrease in linear dimensions of the grille:
       - GE 60: ≤ 795 mm (w) x ≤ 395 mm (h);
       - GE 60-XL: ≤ 1195 mm (w) x ≤ 795 mm (h).
     - decrease of the pitch of the fixings;
     - the application of decorative covers is permitted.

b) Orientation:
   - Only the tested vertical orientation of the grille is allowed.

c) Position:
   - The air transfer grille, type GE 60-XL may be located at all locations inside a wall of the same construction;
   - The air transfer grille, type GE 60, can be placed with its upper part 0.24 m from the notional floor level to a height of 0.91 m with its lower part;
   - The air transfer grille, type GE 60-XL, can be placed with its upper part 0.36 m from the notional floor level to a height of 0.68 m with its lower part;
   - The distance from the edge of the grille and the perimeter of the construction shall not be decreased more then to 200 mm;
   - The distance between the air transfer grille and any other opening (e.g. door) in a building element shall be minimum 200 mm.

d) Supporting construction:
   - The result is applicable to rigid supporting constructions with at least the same fire resistance as tested:
     - thickness: ≥ 100 mm;
     - density: ≥ 550 kg/m³.

4 LIMITATIONS

This classification report does not represent type approval nor certification of the product.

SIGNED

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APPROVED

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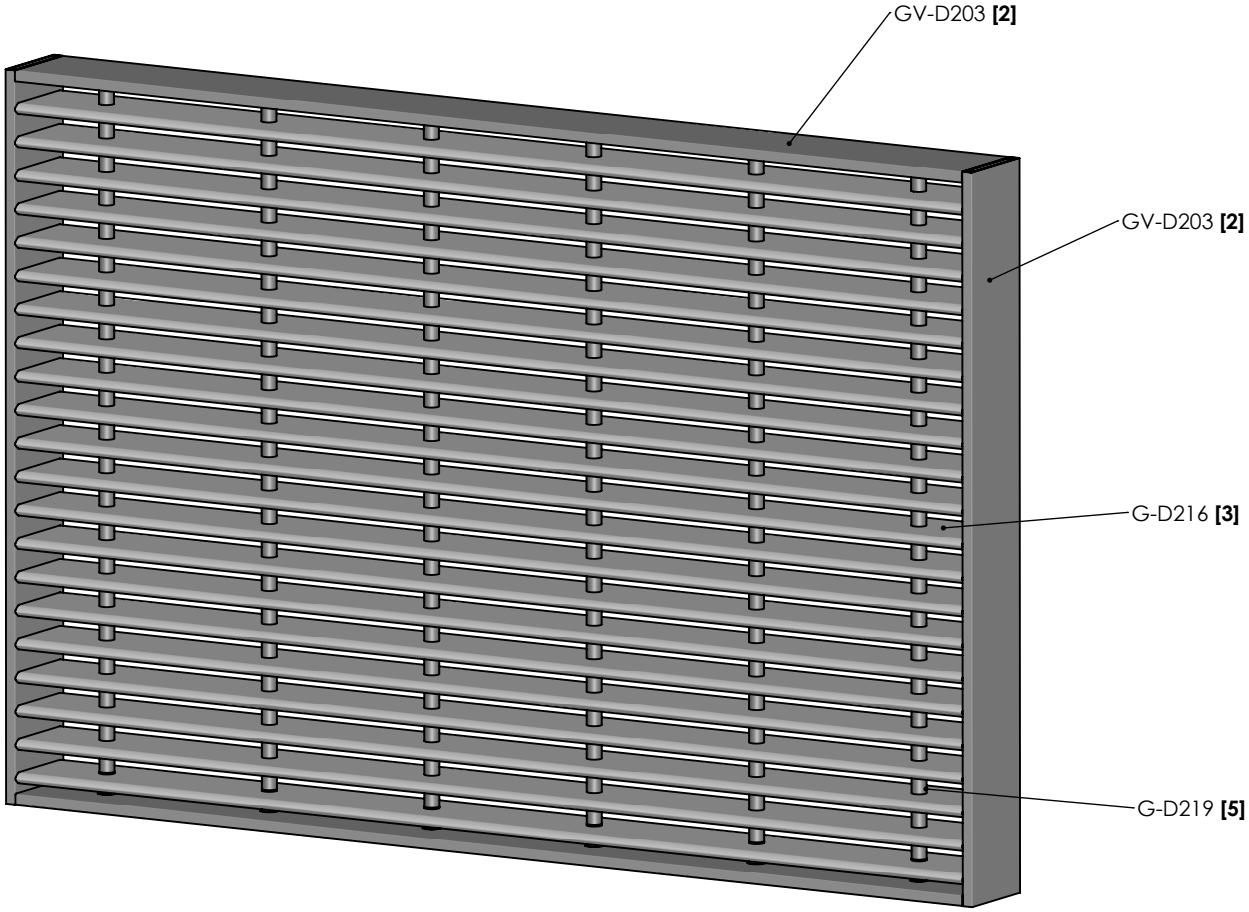
Signed for and on behalf of Warringtonfire Gent.

This document is the original version of the classification report and is written in English.

In case of doubt, the most recent version prevails, originally issued in English.

The authenticity of the electronic signatures is assured by Belgium Root CA.

GE 60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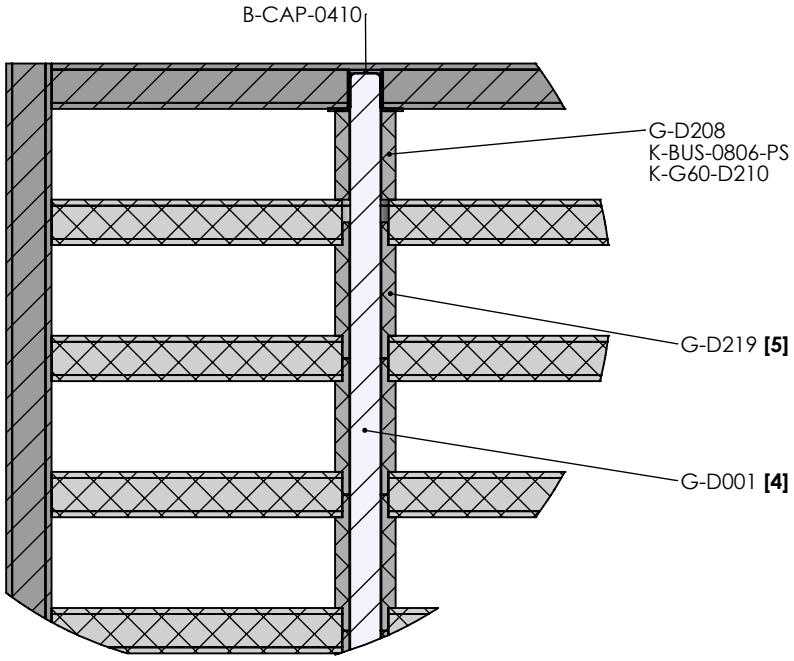
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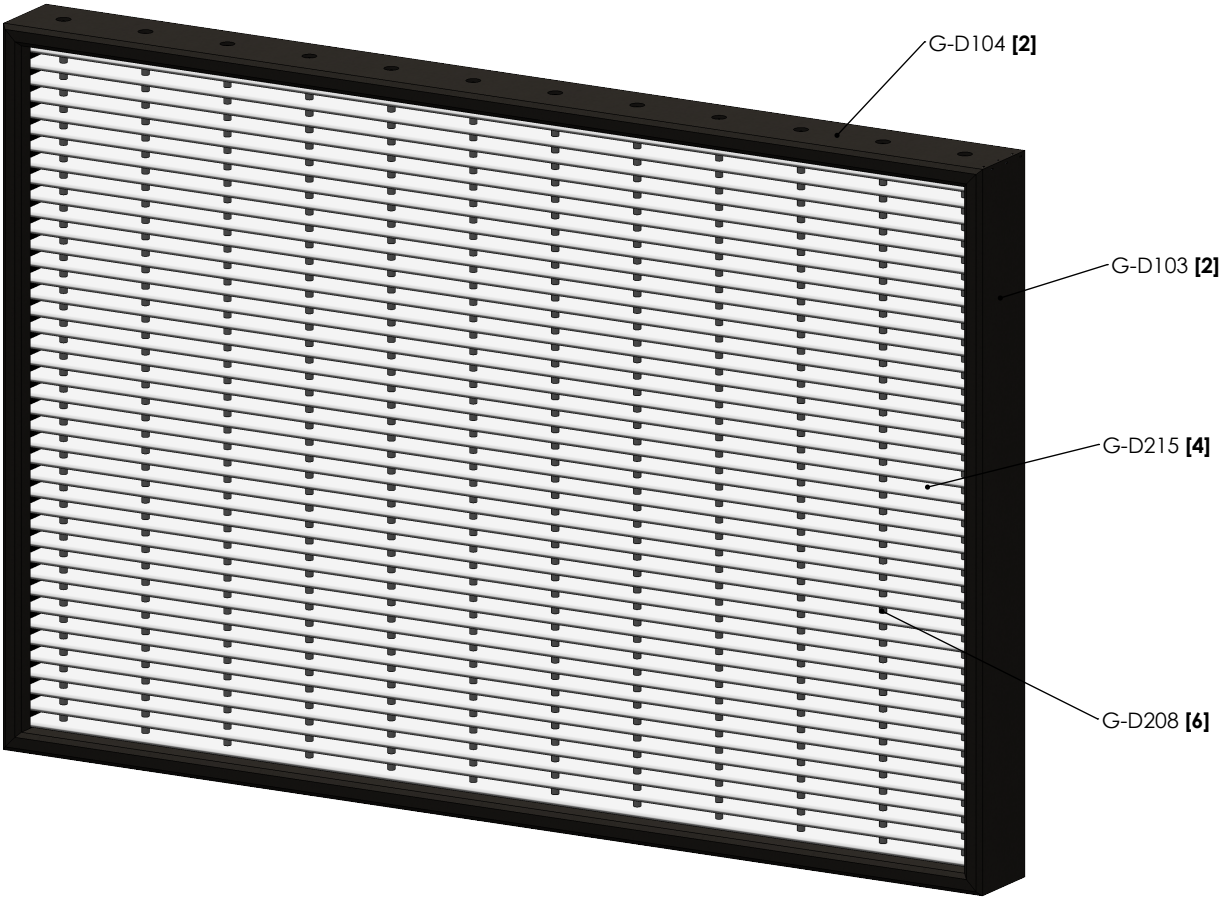
GE 60-XL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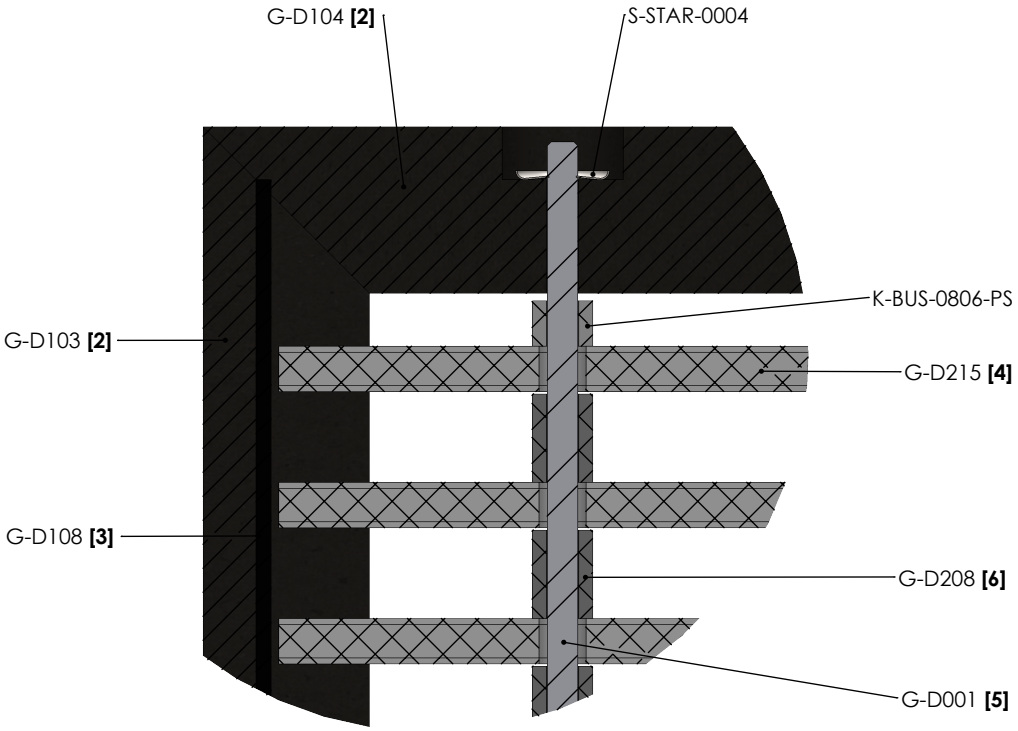
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