

TECHNICAL ASSESSMENT 2021-A-035A

based on an analysis of test results

SPONSOR

RF-TECHNOLOGIES NV
Lange Ambachtstraat 40
9840 OOSTERZELE

SUBJECT

Evaluation of the fire resistance according to the European Standard EN 13501-3:2005+A1:2009 of a circular fire damper of the SC-S type applied in a fire resistant suspended ceiling.



This document has been drawn up as part of an analysis of test results as described in the RD of 13/06/2007, modifying the RD of 07/07/1994.

1. TEST REPORTS

1.1. Reports

| Name of the laboratory | Number of the test report | Date of the test report | Owner of the test report | Test standard |
|------------------------|---------------------------|-------------------------|--------------------------|----------------------------------|
| WFRGent nv | 20593A | 08/01/2021 | Rf-Technologies nv | EN 1363-1:2020 EN 1366-2:2015 |
| | 20593B | 08/01/2021 | | |
| | 20593C | 08/01/2021 | | |
| | 20659A | 22/02/2021 | | |

1.2. Description of the tested elements

1.2.1. Fire resistance 30 minutes

Test report No. 20593A gives the description and the results of a fire resistance test carried out according to the European Standards EN 1363-1:2020 and EN 1366-2:2015 on a circular fire damper of the **SC-S** type (diameter: 200 mm) applied in an opening (diameter: 230 to 237 mm) in a fire resistant suspended ceiling of the **Siniat** brand (dimensions: approx. 1840 x 3000 mm). The suspended ceiling was composed of a metal framework of the Siniat UD/CD type (c/c distance primary supporting profiles: 1000 mm; c/c distance secondary supporting profiles: 400 mm; c/c distance suspension hangers: 850 mm), covered from below with two layers of gypsum boards of the Siniat Prégyflam Std BA13 type (thickness: 2 x 12.5 mm; measured density: approx. 885 kg/m³). The fire damper was finished with a ventilation valve on the exposed side. The fusible link of the fire damper was situated at the non-exposed side.

Test report No. 20593B gives the description and the results of a fire resistance test carried out according to the European Standards EN 1363-1:2020 and EN 1366-2:2015 on a circular fire damper of the **SC-S** type (diameter: 200 mm) applied in an opening (diameter: 230 to 237 mm) in a fire resistant suspended ceiling of the **Knauf** brand (dimensions: approx. 1840 x 3000 mm). The suspended ceiling was composed of a metal framework of the Knauf Richter System UD/CD type (c/c distance primary supporting profiles: 960 mm; c/c distance secondary supporting profiles: 400 mm; c/c distance suspension hangers: 900 mm), covered from below with two layers of gypsum boards of the Knauf Brandwerend DF 12.5 mm type (thickness: 2 x 12.5 mm; measured density: approx. 850 kg/m³). The fire damper was finished with a ventilation valve on the exposed side. The fusible link of the fire damper was situated at the non-exposed side.

Test report No. 20593C gives the description and the results of a fire resistance test carried out according to the European Standards EN 1363-1:2020 and EN 1366-2:2015 on a circular fire damper of the **SC-S** type (diameter: 200 mm) applied in an opening (diameter: 230 to 237 mm) in a fire resistant suspended ceiling of the **Saint-Gobain Gyproc** brand (dimensions: approx. 1840 x 3000 mm). The suspended ceiling was composed of a metal framework of the Gyproc PlaGyp D type (c/c distance primary supporting profiles: 800 mm; c/c distance secondary supporting profiles: 500 mm; c/c distance suspension hangers: 800 mm), covered from below with two layers of gypsum boards of the Gyproc Rf type (thickness: 2 x 12.5 mm; measured density: approx. 815 kg/m³). The fire damper was finished with a ventilation valve on the exposed side. The fusible link of the fire damper was situated at the non-exposed side.

1.2.2. Fire resistance 60 minutes

Test report No. 20659A gives the description and the results of a fire resistance test carried out according to the European Standards EN 1363-1:2020 and EN 1366-2:2015 on a circular fire damper of the **SC-S** type (diameter: 200 mm) applied in an opening (diameter: 230 to 237 mm) in a fire resistant suspended ceiling of the **Siniat** brand (dimensions: approx. 1840 x 3000 mm). The suspended ceiling was composed of a metal framework of the Siniat UD/CD type (c/c distance primary supporting profiles: 1000 mm; c/c distance secondary supporting profiles: 400 mm; c/c distance suspension hangers: 850 mm), covered from below with two layers of gypsum boards of the Siniat Prégyflam Std BA AK 15 type (thickness: 2 x 15 mm; measured density: approx. 935 kg/m³). The fire damper was finished with a ventilation valve on the exposed side. The fusible link of the fire damper was situated at the non-exposed side.

2. RESULTS

2.1. Fire resistance 30 minutes

The results obtained during the tests mentioned in § 1.2.1 are given in the table below:

| Test report No. | 20593A | 20593B | 20593C |
|--|----------------------|--------------|-------------|
| Type of ceiling boards | Siniat Prégyflam Std | Knauf DF | Gyproc Rf |
| Thickness of ceiling boards | 2 x 12.5 mm | 2 x 12.5 mm | 2 x 12.5 mm |
| C/c distance primary supporting profiles | 1000 mm | 960 mm | 800 mm |
| C/c distance secondary supporting profiles | 400 mm | 400 mm | 500 mm |
| C/c distance suspension hangers | 850 mm | 900 mm | 800 mm |
| Criteria | Time in minutes | | |
| Thermal insulation (I) | ≥ 40 | ≥ 40 | ≥ 40 |
| Integrity (E) | ≥ 40 | ≥ 40 | ≥ 40 |
| Smoke leakage (S) | ≥ 40 * | not measured | 24 |
| Test duration | 40 | 40 | 40 |
| * Measured values were below minimal detectable values | | | |

2.2. Fire resistance 60 minutes

The results obtained during the test mentioned in § 1.2.2 are given in the table below:

| Test report No. | 20659A |
|--|----------------------|
| Type of ceiling boards | Siniat Prégyflam Std |
| Thickness of ceiling boards | 2 x 15 mm |
| C/c distance primary supporting profiles | 1000 mm |
| C/c distance secondary supporting profiles | 400 mm |
| C/c distance suspension hangers | 850 mm |
| Criteria | Time in minutes |
| Thermal insulation (I) | 62 |
| Integrity (E) | ≥ 62 |
| Smoke leakage (S) | ≥ 62 |
| Test duration | 62 |

3. FIELD OF APPLICATION

The present technical assessment contains only an overview of the examined test reports.

The field of application based on these test reports is described in the technical assessments with the same reference number as the present technical assessment.

4. CONDITIONS FOR THE USE OF THE PRESENT CLASSIFICATION REPORT

This technical assessment cannot be combined with another technical assessment, except when mentioned explicitly.

The sponsor has the right to use the above-referenced test reports.

This document is the original version of this technical assessment and is issued in English.

This technical assessment may be used only literally and completely for publications. For publications of certain texts, in which this classification report is mentioned, the permission of ISIB must be obtained in advance.

The present technical assessment contains 5 pages.

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DRAWN UP BY

| | |
|---|---|
|  | Sophie Cobbaert (Signature) Technical consultant Ghent 2021.11.25 08:26:16 +01'00' |
|---|---|

REVIEWED BY

| | |
|--|---|
|  | Pieter Poppe (Signature) Head of the Department Consultancy Ghent 2021.11.25 08:54:51 +01'00' |
|--|---|

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