Institut für Brandschutztechnik
und Sicherheitsforschung

CLASSIFICATION REPORT

Classification of the reaction to fire performance of the structural members "BV-F90" and "BVE-F90" "BV-GD-F90" and "BVE-GD-F90" "BVH-maxi-F90" and "BVEH-maxi-F90" "BV-RA-F90" and "BVE-RA-F90" "BVH-maxi-RA-F90" and "BVEH-maxi-RA-F90" and "BVA-F90".

Report No.: 12081403-3, Rev2-en
Date: 3 June 2020
Supersedes Classification Report No. 12081403-3,Rev1 of 3 March 2020
Date of first edition: 23 April 2013
Engineer: Mr J. STOCKINGER/hofm

Holder of Classification Report:	**HAGO Bautechnik GmbH** Traklstrasse19, A-4600 Wels
Accreditation body:	IBS - Institut für Brandschutztechnik und Sicherheitsforschung GmbH Petzoldstrasse 45, A-4017 Linz
Notification No.:	1322 (not applicable since no product standard is available)
Classification object:	Access covers, see type designation above
Brief assessment:	In compliance with EN 13501-2, the structural members listed in Test Report no. 05080308-1 below are classified "REI 120" (a↔b) (access covers for single apertures) and "RE 120" (a↔b) (multi-part access covers) with respect to their fire resistance performance.
Classification is valid until:	23 April 2023

This Classification Report contains **11** text pages

This Classification Report shall not be utilized or reproduced wholly or in part without prior written authorisation of IBS Linz.

1. Introduction

This classification defines the fire resistance class assigned to the structural members "access covers" ("BV-F90", "BVE-F90", "BV-GD-F90", "BVE-GD-F90", "BVH-maxi-F90", "BVEH-maxi-F90" and "BVA-F90") as well as "multi-part access covers" ("BV-RA-F90", "BVE-RA-F90", "BVH-maxi-RA-F90" and "BVEH-maxi-RA-F90") in accordance with the procedures given in EN 13501-2.

2. Details of classified structural members

2.1. Function type

The structural members are defined as access covers or multi-part access covers with a horizontal opening. Their function is to resist fire in accordance with the typical product reactions as described in clause 5 of EN 13501-2.

2.2. Description

The structural members are described in Test Report No. 05080308-1 provided in support of this Classification and in accordance with Clause 3 of EN 13501-2.

Brief description:

The access cover for single openings consists of a frame and a cover that are screwed together. The cover can be installed into a concrete ceiling either right away or at a later time. In addition, it is also possible to provide space for a 15 mm thick stoneware surface.

The multi-part access cover consists of covers, cross-beams and a frame. The covers are screwed together with the frame and cross-beams. The installation of the frame can also proceed into a concrete ceiling straight away or later on, and it is possible to provide space for a 15 mm stoneware surface.

3. Test reports and results in support of this classification

The following test reports are presented in support of this classification:

Name/address of testing laboratory
IBS - Institut für Brandschutztechnik und Sicherheitsforschung GmbH
Petzoldstrasse 45, A-4017 Linz

Notification number/status of testing laboratory
Notification No.: 1322 (not applicable since no product standard is available)

Test Report No. 05080308-1 of 13 March 2006
Access covers, type: BVE-110-F90; Test Report No. 05080308-1; Test date: 28 November 2005

Test Report No. 05080308-2 of 13 March 2006
Access covers, type: BVA-110-F90; Test Report No. 05080308-2; Test date: 28 November 2005

Test Report No. 05080308-3 of 14 March 2006
Access covers, type: BVE-RA-F90; Test Report No. 05080308-3; Test date: 28 November 2005

Test Report No. 12081403-1 of 8 March 2013
Access covers for subsequent installation; Type: BVE-110-F90; Test Report No. 12081403-1; Test date: 5 November 2012

Test Report No. 12081403-2 of 2 April 2013
Access covers with stoneware covering on top surface; Type: BVE-110-F90; Test Report No. 12081403-2; Test date: 5 November 2012

Fire Safety Assessment No. 05040614 of 4 May 2005
Access covers - made of galvanised sheet steel and fire resistance assessed from the top

Fire Safety Assessment No. 10071603 of 22 July 2010
Access covers - application of galvanised sheet steel and fire resistance assessment from the top

Remark: The contents of the EN standards listed in the reports are identical with the OENORM EN standards, however, the national cover sheet might specify any national application. Tests and the corresponding test reports that are based on standards older than the ones listed above have been verified for their compatibility, and it could be established that there have been no significant changes in the performance criteria.

3.1. Load capacity conditions featured in Test Report 05080308-1

Temperature time curve	in acc. with EN 1363-1
Load direction	bottom-up
Number of test specimens	1 (one)
Test load	5 kN
Support conditions	in a concrete ceiling

3.2. Test results featured in Test Report No. 05080308-1:

The test duration was 123 minutes.

Load capacity	
Time of breakdown (min.)	Did not occur
Deformation criteria exceeded after (min.)	Did not occur

Fire integrity	
Time of cotton wool pad ignition (min.)	Did not occur
Time of gap gauge failure (min.)	Did not occur
Time of sustained flaming (min.)	Did not occur

Thermal insulation	
Time when the mean temperature rise exceeds 140 K on the unexposed side (min.).	No overrun
Time when the maximum temperature rise exceeds 180 K on the unexposed side (min.).	No overrun

3.3. Load capacity conditions featured in Test Report 05080308-2

Temperature time curve	in acc. with EN 1363-1
Load direction	bottom-up
Number of test specimens	1 (one)
Test load	5 kN
Support conditions	in a concrete ceiling

3.4. Test results featured in Test Report No. 05080308-2:

The test duration was 123 minutes.

Load capacity	
Time of breakdown (min.)	Did not occur
Deformation criteria exceeded after (min.)	Did not occur

Fire integrity	
Time of cotton wool pad ignition (min.)	Did not occur
Time of gap gauge failure (min.)	Did not occur
Time of sustained flaming (min.)	Did not occur

Thermal insulation	
Time when the mean temperature rise exceeds 140 K on the unexposed side (min.).	No overrun
Time when the maximum temperature rise exceeds 180 K on the unexposed side (min.).	No overrun

3.5. Load capacity conditions featured in Test Report 05080308-3

Temperature time curve	in acc. with EN 1363-1
Load direction	bottom-up
Number of test specimens	1 (one)
Test load	5 kN
Support conditions	in a concrete ceiling

3.6. Test results featured in Test Report No. 05080308-3:

The test duration was 123 minutes.

Load capacity	
Time of breakdown (min.)	Did not occur
Deformation criteria exceeded after (min.)	Did not occur

Fire integrity	
Time of cotton wool pad ignition (min.)	Did not occur
Time of gap gauge failure (min.)	Did not occur
Time of sustained flaming (min.)	Did not occur

Thermal insulation	
Time when the mean temperature rise exceeds 140 K on the unexposed side (min.).	118
Time when the maximum temperature rise exceeds 180 K on the unexposed side (min.).	96

3.7. Load capacity conditions featured in Test Report 12081403-1

Temperature time curve	in acc. with EN 1363-1
Load direction	bottom-up
Number of test specimens	1 (one)
Test load	5 kN
Support conditions	subsequently into a concrete ceiling

3.8. Test results featured in Test Report No. 12081403-1:

The test duration was 122 minutes and 20 seconds.

Load capacity	
Time of breakdown (min.)	Did not occur
Deformation criteria exceeded after (min.)	Did not occur

Fire integrity	
Time of cotton wool pad ignition (min.)	Did not occur
Time of gap gauge failure (min.)	Did not occur
Time of sustained flaming (min.)	Did not occur

Thermal insulation	
Time when the mean temperature rise exceeds 140 K on the unexposed side (min.).	No overrun
Time when the maximum temperature rise exceeds 180 K on the unexposed side (min.).	No overrun

3.9. Load capacity conditions featured in Test Report 12081403-2

Temperature time curve	in acc. with EN 1363-1
Load direction	bottom-up
Number of test specimens	1 (one)
Test load	5 kN
Support conditions	in a concrete ceiling

3.10. Test results featured in Test Report No. 12081403-2:

The test duration was 122 minutes and 20 seconds.

Load capacity	
Time of breakdown (min.)	Did not occur
Deformation criteria exceeded after (min.)	Did not occur

Fire integrity	
Time of cotton wool pad ignition (min.)	Did not occur
Time of gap gauge failure (min.)	Did not occur
Time of sustained flaming (min.)	Did not occur

Thermal insulation	
Time when the mean temperature rise exceeds 140 K on the unexposed side (min.).	No overrun
Time when the maximum temperature rise exceeds 180 K on the unexposed side (min.).	No overrun

4. Classification and direct field of application

4.1. Normative references

This Classification is covered by the normative reference EN 13501-2, Clause 7.3.3.

4.2. Classification

The structural members "access covers for single openings" ("BV-F90", "BVE-F90", "BV-GD-F90", "BVE-GD-F90", "BVH-maxi-F90", "BVEH-maxi-F90" and "BVA-F90") are classified on the basis of the performance criteria and classes specified below. No other classifications shall be permissible.

RE		RE 20 (a↔b)	RE 30 (a↔b)		RE 60 (a↔b)	RE 90 (a↔b)	RE 120 (a↔b)
REI	REI 15 (a↔b)	REI 20 (a↔b)	REI 30 (a↔b)	REI 45 (a↔b)	REI 60 (a↔b)	REI 90 (a↔b)	REI 120 (a↔b)

The designation (a↔b) defines the fire resistance from both sides.

The structural members "multi-part access covers" ("BV-RA-F90", "BVE-RA-F90", "BVH-maxi-RA-F90" and "BVEH-maxi-RA-F90") are classified based on the performance criteria and classes specified below. No other classifications shall be permissible.

RE		RE 20 (a↔b)	RE 30 (a↔b)		RE 60 (a↔b)	RE 90 (a↔b)	RE 120 (a↔b)
REI	REI 15 (a↔b)	REI 20 (a↔b)	REI 30 (a↔b)	REI 45 (a↔b)	REI 60 (a↔b)	REI 90 (a↔b)	

The designation (a↔b) defines the fire resistance from both sides.

4.3 Direct field of application

The structural member "access cover for single openings" ("BV-F90", "BVE-F90", "BV-GD-F90", "BVE-GD-F90", "BVH-maxi-F90", "BVEH-maxi-F90" and "BVA-F90") is subject to the direct field of application in accordance with EN 13501-2 (field of application in accordance with test reports and other applications):

- The maximum moments and shear forces when calculated on the same basis as the test load shall not be greater than those tested. Exceeding of the tested cross sections is not allowed. The statics need to be verified.

- The fixing of additional combustible material in the gaps shall not be permissible.

- Reduction in distance between mounting points.

- Changes in the aspect ratio of the cover are allowed provided that the largest cover and surface area are not enlarged (maximum admissible area of each access cover relating to the inner dimension: 1.0 m²).

- The increase in size of single covers is not admissible. The maximum admissible size of the clear dimensions of an access cover shall be 4000 mm. The maximum admissible inside length of a side amounts to 1500 mm.

- The admissible size of an access cover shall be 4540 mm.

- An unlimited decrease in size is admissible.

- The use of stainless sheet steel and galvanised sheet steel of the same thickness shall be allowed.

- The different types of access covers may be subject to subsequent embedding into a mortar bed of a concrete ceiling.

- However, the listed types of covers must be filled with concrete completely. Alternatively, the cover may be used for infill with 15 mm top stoneware surfacing (adhesive and slabs). In doing so the thickness of the concrete in the cover shall be reduced by the thickness of the surfacing.

The structural member "multi-part access cover" ("BV-RA-F90", "BVE-RA-F90", "BVH-maxi-RA-F90" and "BVEH-maxi-RA-F90") shall be subject to the direct field of application as specified in EN 13501-2 (field of application in accordance with the test reports and other applications):

- The maximum moments and shear forces when calculated on the same basis as the test load shall not be greater than those tested. Exceeding the tested cross sections shall not be allowed. The statics needs verification.

- The number of covers and the length of the multi-part access covers all together may be increased as desired provided that the cover still has a top layer with four sides and that measures are taken to compensate for the length expansion.

- Deviations may be found in the multi-part access covers since they are adapted to corners.

- The fixing of additional combustible material in the gaps shall not be permissible. It is inadmissible to omit the fire protection panels.

- Changes in the aspect ratio of the single covers shall be admissible provided that the size of the largest cover and the surface area are not enlarged (maximum admissible area of a single cover relating to the inner dimension: 1.202 m²).

- The increase in size of single covers is not admissible. The maximum admissible outer circumference of a frame is 4470 mm.

- An unlimited decrease in size is admissible.

- Reduction in distance between fastening points is possible.

- Reduction in distance between the removable reinforcements is possible. An increase in distance of up to maximum 1000 mm is admissible.

- The use of stainless sheet steel and galvanised sheet steel of the same thickness shall be allowed.

- The different types of access covers may be subject to subsequent embedding into a mortar bed of a concrete ceiling.

- However, the listed types of covers must be filled with concrete completely. Alternatively, the cover may be used for infill with 15 mm top stoneware surfacing (adhesive and slabs). In doing so the thickness of the concrete in the cover shall be reduced by the thickness of the surfacing.

5. Validity period

This Classification shall be valid until 23 April 2023. Under the provision that the product and product application ranges are not subjected to changes, the validity can be prolonged by another two years after prior written application.

This Classification shall lose it validity before the end of the period in case that substantial changes are made in the testing and assessment criteria. Furthermore, the validity shall also expire if the customer undertakes any improper technical modifications to the building element that are not covered by the direct field of application.

6. Legal notice

This report does not constitute any type approval or certification of the tested product.

IBS-INSTITUT FÜR BRANDSCHUTZTECHNIK UND SICHERHEITSFORSCHUNG GESELLSCHAFT M.B.H.
Akkreditierte Prüf-, Inspektions- und Zertifizierungsstelle

Unterzeichner	Ing. Josef Stockinger
Datum/Zeit-UTC	2020-06-04T05:29:28+02:00
Prüfinformation	Informationen zur Prüfung der elektronischen Signatur finden Sie unter: https://www.signaturpruefung.gv.at

Mr Josef STOCKINGER
Official in Charge

Unterzeichner	DI Ulrich Stöckl
Datum/Zeit-UTC	2020-06-04T08:07:42+02:00
Prüfinformation	Informationen zur Prüfung der elektronischen Signatur finden Sie unter: https://www.signaturpruefung.gv.at

Mr Ulrich STÖCKL
Monitoring

Information about multiple electronically signed documents can be found hier!

Index table / Amendments to document

Date	Modified by (initials)	Modification measures
3 June 2020	SJ	Extension admissible of the access cover