



OWAcoustic® Tiles as a building material
Standards EN 13501-1 and DIN 4102 part 1, separate building materials into the following classes according to their fire behaviour

OWAcoustic® premium tiles are available in Building Class **A2-s1,d0**. They are identified by the following marks:

| Building regs type designation | Additional requests | | European class to EN 13501-1 | Building material class to DIN 4102 |
|--------------------------------|---------------------|---------------------|------------------------------|-------------------------------------|
| | no smoke | No burning droplets | | |
| non combustible | ✓ | ✓ | A1 | A1 |
| | ✓ | ✓ | A2-s1,d0 | A2 |
| fire resisting | ✓ | ✓ | B-s1,d0 | B1 |
| | ✓ | ✓ | C-s1,d0 | |
| | | ✓ | A2-s2,d0 | B1 |
| | | ✓ | A2-s3,d0 | |
| | | ✓ | B, C-s2,d0 B, C-s3,d0 | |
| | ✓ | A2-s1,d1 | B1 | |
| | ✓ | A2-s1,d2 | | |
| | ✓ | B, C-s1,d1 | | |
| | ✓ | B, C-s1,d2 | | |
| | | A2-s3,d2 | B1 | |
| | | B-s3,d2 | | |
| | | A2-s3,d2 | | |
| normal flammability | ✓ | ✓ | D-s1,d0 | B2 |
| | | ✓ | D-s2,d0 | |
| | | ✓ | D-s3,d0 | |
| | ✓ | D-s1,d2 | B2 | |
| | | D-s2,d2 | | |
| | | D-s3,d2 | | |
| | | E-d2 | B2 | |
| easily inflammable | | | F | B3 |

A2-s1,d0 to EN 13501-1

OWAcoustic® premium CE Z-56.421-919
OWAcoustic® smart CE Z-56.421-923

A2-s3,d0 to EN 13501-1

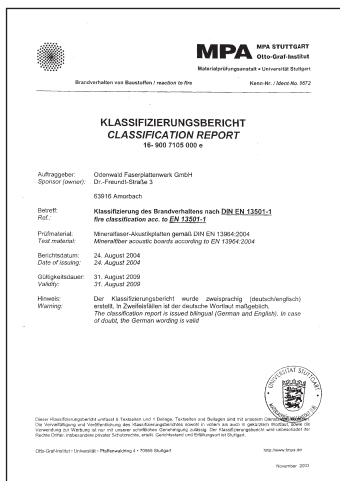
OWAlux® 64/8 CE
OWAcoustic® clean 64/18 CE

The additional reference numbers mean:

s1, s2, s3 [m²/sec²] describes smoke intensity
s1 = non or low smoke
s3 = heavy smoke
d0, d1, d2 = description of burning droplets
d0 = no burning, droplets within 600 seconds

| Country | Test standard | Classification | |
|------------------|---|---|-------------------------|
| EU-Member states | EN 13501-1 | A2-s1,d0 | |
| | | B-s1,d0 | |
| Germany | DIN EN 13501-1 | A2-s1,d0 B-s1,d0 | |
| Austria | ÖNORM EN 13501-1 | A2-s1,d0 B-s1,d0 | |
| Belgium | NBN 713020 | Klasse A 1 NBN 5 - 21 - 203 | |
| Denmark | DS 1056 | Klasse A | |
| France | Arrêté du 21 avril 83 | M 1 | |
| | | M 0 | |
| Italy | DM 03.09.2001 | Classe 0 | |
| Netherlands | NEN 6065: Vlamuitbreiding | Klasse 1 | |
| | | NEN 6065: Vlamoverslag | Klasse 2 |
| | | NEN 6066: Rookdichtheid | DL; h; max = 0,04 m - 1 |
| Spain | UIE 23 - 727 - 80 | M 1 | |
| Sweden | SBN 1980 | Klasse 1 | |
| Switzerland | Wegleitung für Feuerpolizeivorschriften, 1976 | VI q.3 quasi nichtbrennbar, Qualmgrad schwach | |
| USA | ASTM E 84-97 a | class 1 | |
| United Kingdom | BS 476 Part 7 | Surface spread of flame class 1 | |
| | | BS 476 Part 6/Building regulations 1991 DOC „B“ | class 0 |

Copies of the Test Certificates are available on request.





Fire protection

MATERIALPRÜFANSTALT FÜR DAS BAUWESEN
INSTITUT FÜR BAUPHYSIK, MATERIALPRÜFUNG UND BAUWESEN

ibmb MPA
INSTITUT FÜR BAUWESEN

Prüfbericht
nach DIN EN 1365-2 : 2000-02 in Verbindung mit DIN EN 1363-1 : 1999-10

Dokumentennummer: (32323275)-CR vom 22.06.2006

Auftraggeber: Odenwald Faserplattenwerk GmbH
Postfach 1200
D-63912 Amorbach

Auftrag vom: 28.01.2005

Auftragszeichen: TrunkRS

Auftragsbeginn: 28.01.2005

Inhalt des Auftrags: Prüfung einer tragenden, raumabschließenden, wärmeisolierenden, statischtragenden Konstruktion mit einer Abdeckung aus 30 mm dicken Brandverwehrtäfelchen in Verbindung mit einer abgehängten Unterelementkonstruktion aus 15 mm dicken Brandverwehrtäfelchen „OWAcoustic® Premium“ zur Erreichung der Feuerwiderstandsklasse bei Brandbeanspruchung der Mittelstütze der Unterdecke.

Prüfungsvorbereitung: DIN EN 1365-2 : 2000-02 in Verbindung mit DIN EN 1363-1 : 1999-10

Probeneingang: 27.01.2005


Probensubstanz: Abgehängte Ober- und Unterdecke liegen der Prüfstelle nicht vor.

Probenscheinzeichnung: Keine

Prüftermin: 07.07.2005

Geltungsdauer bis: unbegrenzt

Dieser Prüfbericht umfasst 11 Seiten inkl. Deckblatt und 20 Anlagen.



Dieser Prüfbericht darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Fotokopien bedürfen der schriftlichen Genehmigung der MPA. Die MPA übernimmt keine Haftung für die Richtigkeit der Angaben. Die Angaben sind ohne Gewähr. Dieser Prüfbericht ist nur für den Fall der Prüfung gültig. Die MPA übernimmt keine Haftung für die Richtigkeit der Angaben. Dieser Prüfbericht ist nur für den Fall der Prüfung gültig. Die MPA übernimmt keine Haftung für die Richtigkeit der Angaben.

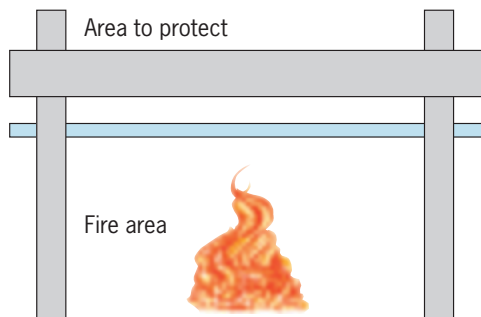
The fire resistance of soffits and roofs with suspended ceilings must be proved by fire testing to European Standards or national technical standards. Such tests were successfully completed with different OWAcoustic® Ceiling systems.

The OWA fire protection test certificates and the functionality assured in them are only valid when OWAcoustic® ceiling tiles are installed in genuine OWAconstruct® suspension systems. Printed test certificates are available.

OWAcoustic® Ceilings for building components

A Building Component in the sense of EN 13501-2 is not the suspended ceiling alone but the total construction of the combined soffit and suspended ceiling or roof and suspended ceiling. This total construction should prevent the passage of fire for as long as possible.

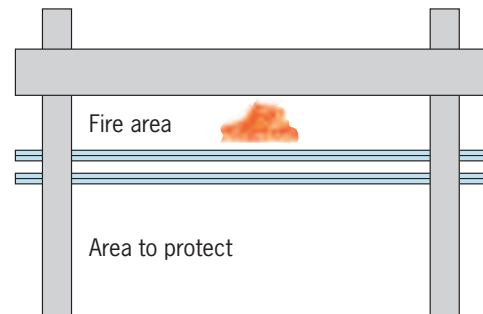
Requirement for load-bearing structures



Component parts are classified according to their class of fire resistance duration:

| Test designation type | Fire protection class | | Fire protection in min. |
|-----------------------|-----------------------|----------|-------------------------|
| | EN 13501-2 | DIN 4102 | |
| fire retarding | REI 30 | F 30 | 30 |
| highly retardent | REI 60 | F 60 | 60 |
| fire resisting | REI 90 | F 90 | 90 |
| fire resisting | REI 120 | F 120 | 120 |
| high fire resistance | REI 180 | F 180 | 180 |

Requirement for independent self contained fire protecting ceiling units:

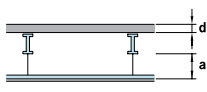
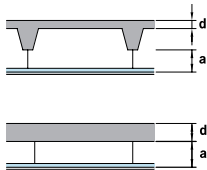











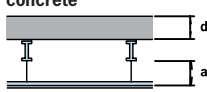



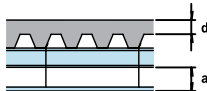




Management supply services in the cavity above the ceiling need to be protected. Our **self contained fire protection units** achieve fire resistance values of class EI 30 (a <-> b), F 30 to F 90. This means that escape routes beneath the fire are protected for up to 90 minutes. The same period of time that management supply services in the ceiling cavity are protected if the fire originates in the area below.

Fire protection

Requirements for the total load-bearing building component:
Soffit + suspended ceilings



| Supporting construction Soffits to DIN 4102 / EN 1364-2 / EN 1365-2 / EN 13501-2 | Suspended ceiling construction | Fire protection | | | | | | Product line |
|--|--|----------------------------------|-------------------|-------------------|----------------|----------------------|----------|--------------|
| | | Minimum ceiling thickness d [mm] | Min. depth a [mm] | F.-Class DIN 4102 | OWA test no. | REI-Class EN 13501-2 | Test no. | |
| Steel beams and steel reinforced concrete soffits Construction II Steel beam soffit with steel reinforced slabs with a tested ceiling construction  Construction III Steel-reinforced or concrete beam soffits with a tested ceiling construction  | S 1 Concealed system  | ≥ 50 | 185 | F 120 | 511 | - | - | |
| | S 9 Concealed system demountable tiles  | ≥ 50 | 185 | F 90 | 532 | - | - | |
| | S 7 OWAplan Plaster  | ≥ 90 | 250 | F 120 | 3243/496/07-CR | - | - | |
| | S 3 Exposed system  | ≥ 70 | 200 | F 90 | 503 | - | - | |
| | S 3a Exposed system with Contura tiles  | ≥ 70 | 190 | F 90 | 507 | - | - | |
| | S 3 Exposed system with mineral wool  | ≥ 70 | 190 | F 90 | 501a | - | - | |
| | S 3 Exposed system with mineral wool  | ≥ 70 | 230 | - | - | REI 90 | 1127/03 | |
| | S 15 Exposed system 15 mm wide  | ≥ 70 | 210 | F 90 | 502 | - | - | |
| | S 15a Exposed system with Contura tiles  | ≥ 70 | 210 | F 90 | 502 | - | - | |
| | S 18 Parallel-Bandraster with linear planks  | ≥ 50 | 200 | F 90 | 543 | - | - | |
| S 18 Cross-Bandraster with large format tiles  | ≥ 80 | 200 | F 120 | 521 | - | - | | |
| Porous concrete soffits (Gasbeton) Construction I Steel beam soffits with porous concrete  Steel concrete or pre-stressed concrete soffits with light concrete, or hollow pot interlays, in each case with a type of tested suspended ceiling. | S 1 Concealed system  | ≥ 125 | 500 | F 90 | 537 | - | - | |
| | S 3 Exposed system  | ≥ 125 | 500 | F 90 | 537 | - | - | |
| | S 3a Exposed system with Contura tiles  | ≥ 125 | 500 | F 90 | 537 | - | - | |
| Other constructions Soffits with ribbed concrete  | S 1 Concealed system  | ≥ 50 | 185 | F 120 | 523 | - | - | |
| | S 3 Exposed system  | ≥ 50 | 185 | F 120 | 523 | - | - | |

OWAcoustic® premium


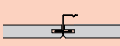
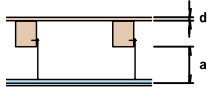
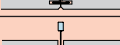
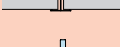
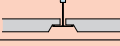
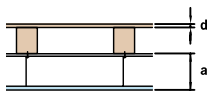

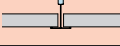
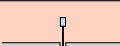
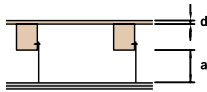
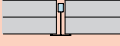
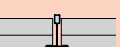
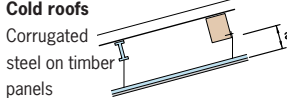
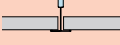
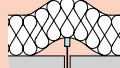
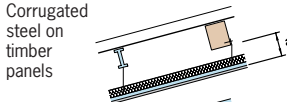
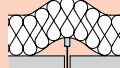
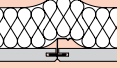
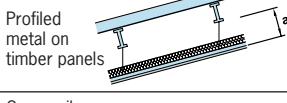
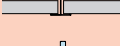
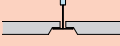
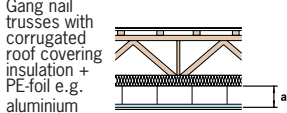

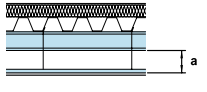
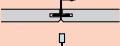
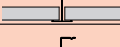
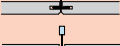
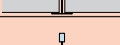

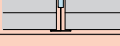
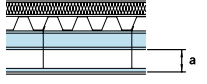

OWAcoustic® smart

Further systems-related data can be found in OWA brochure no. 500.



Fire protection

Requirements for the total load-bearing building component:
Soffit + suspended ceilings

| Supporting construction Soffits to DIN 4102 / EN 1364-2 / EN 1365-2 / EN 13501-2 | Suspended ceiling construction | Fire protection | | | | | | Product line |
|---|--|---|-------------------|-------------------|--------------|----------------------|----------|------------------------|
| | | Minimum ceiling thickness d [mm] | Min. depth a [mm] | F.-Class DIN 4102 | OWA test no. | REI-Class EN 13501-2 | Test no. | |
| Timber beam soffits Construction IV Timber beams | Systems | | | | | | | |
|  | S 1 Concealed system Direct fixing |  | ≥ 21 | ~ 60 | F 30 | 530 | - | - |
|  | S 1 Concealed system |  | ≥ 21 | 245 | F 60 | 533 | - | - |
| | S 3 Exposed system S 3a Exposed system with Contura tiles |   | ≥ 21 | 245 | F 60 | 533 | REI 30 | 2007-Efectis-R0574 (E) |
|  | S 1 Concealed system |  | ≥ 21 | 245 | F 90 | 513 | - | - |
| | S 3 Exposed system |  | ≥ 21 | 245 | F 90 | 513 | - | - |
| | S 3a Exposed system with Contura tiles |  | ≥ 21 | 245 | - | - | REI 90 | 900 9552000 |
|  | S 3 Exposed system S 3a Exposed system with Contura tiles |   | ≥ 21 | 300 | F 90 | 3030/ 0197 | - | - |
| | Cold roofs | | | | | | | |
|  | S 3 Exposed system |  | - | 240 | F 30 | 504* | - | - |
| | S 3 Exposed system with Mineral wool |  | - | 240 | F 30 | 504a* | - | - |
|  | S 3 Exposed system with Mineral wool |  | - | 400 | F 90 | 504b | - | - |
| | S 1 Concealed system with Mineral wool |  | - | 485 | F 30 | 504c* | - | - |
|  | S 3 Exposed system |  | - | 150 | F 30 | 3864/ 8007 | REI 30 | 3222/ 3473-CR |
| | S 3a Exposed system with Contura tiles |  | - | 150 | F 30 | 3864/ 8007 | REI 30 | 3222/ 3473-CR |
|  | S 1 Concealed system Direct fixing |  | - | ~ 60 | F 30 | 504e | - | - |
|  | S 1 Concealed system |  | - | 350 | F 30 | 541* | - | - |
| | S 3 Exposed system |  | - | 500 | F 60 | 528 | - | - |
| | S 1 Concealed system |  | - | 485 | F 30 | 536 | - | - |
| | S 3 Exposed system |  | - | 500 | - | - | REI 30 | 3691/ 3845 |
| | S 3 Exposed system |  | - | 600 | F 90 | 3067/ 0426 | - | - |
| | S 3 Exposed system |  | - | 600 | F 90 | 3067/ 0426 | - | - |
|  | S 1 Concealed system |  | - | 300 | F 90 | 535 | - | - |

*Registered over 90 minutes against fire penetration. See OWA-Brochure 500

F 30 SOLO

Self contained fire protection F 30 from above and below –
smoke impervious



Technical Data

Product line:

OWAcoustic® premium

Dimensions:

625 x 625 mm
see OWA price list

Thickness:

OWAcoustic® premium-tiles 40 mm
Minowa-strips ≥ 30 mm

Building material class:

OWAcoustic®-tiles:
A2-s1,d0 to EN 13501-1

Edges: Edge 3

Weight: approx. 14.0 kg/m²

Design: Constellation, Harmony, Cosmos
other patterns on request

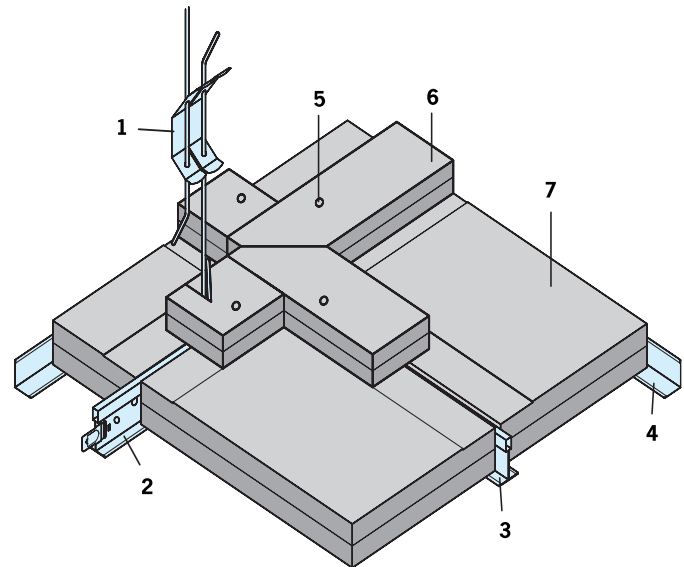
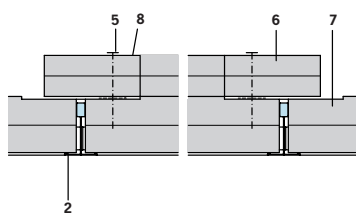
Metal system:

Height of profile 38 mm.
See system brochure S 3 or OWA Installation guide 801, all metal sections are galvanized and white painted.

Important:

Adjoining walls must have a fire resistance of at least class 30 minutes. The same is applicable to soffits with 30 minutes requirement from above.

Cross section:

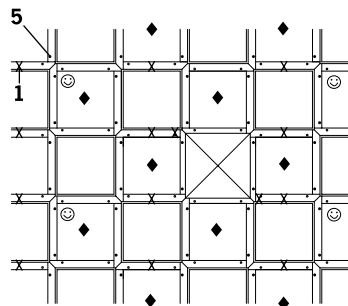


- | | |
|-------------------|-----------------------|
| 1 Hanger | 6 Minowa cover strips |
| 2 Main T-section | 7 F 30 SOLO tiles |
| 3 Cross T-section | 8 OWA adhesive |
| 4 Wall sections | 9 Metal facing |
| 5 Wire nail | |

Installation example:

The F 30 solo ceiling consists of OWAcoustic® premium 40 mm thickness tiles and 30 mm cover strips. Installation positions are marked on the tiles ♦.

F 30 SOLO elements marked ☉ are directly demountable.

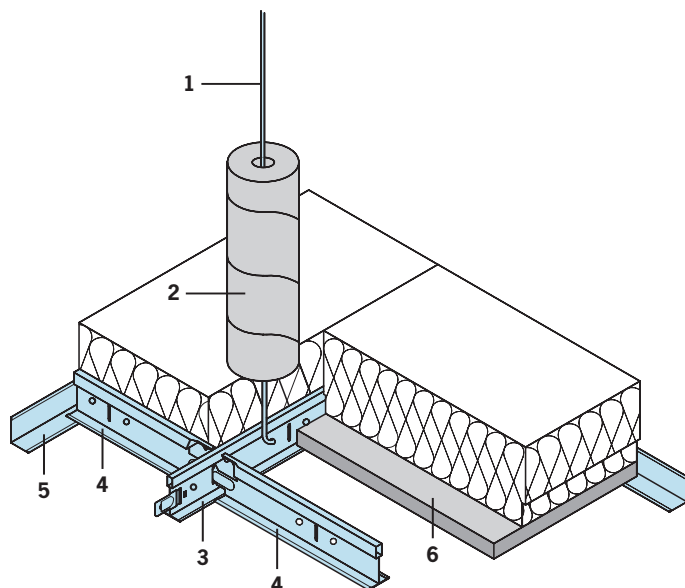


For further details see Brochure 911 – F 30 SOLO



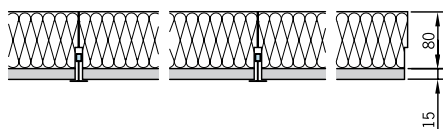
F 30 DUO

Self contained fire protection F 30 from above and below – smoke impervious

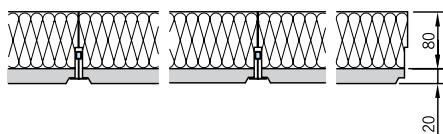


- 1 Hanger
- 2 Insulating tube
- 3 Main T-section
- 4 Cross T-section
- 5 Wall section
- 6 F 30 DUO tiles

Section through Edge 3 – Square edge

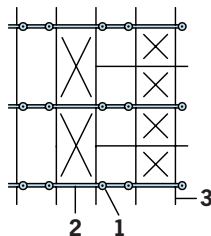


Section through Edge 6 – Square edge

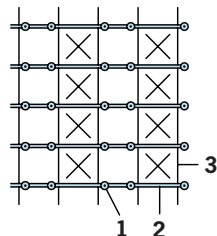


Installation example:

Fire attack from above with modules 600 x 600 and 600 x 1200 mm



Fire attack from above and below with 600 x 600 mm module



⊗ = demountable tiles

For further details see Brochure 911 – F 30 SOLO

Technical data

Product line:

OWAcoustic® premium

Dimensions:

600 x 600 mm ■
 625 x 625 mm ■
 600 x 1200 mm ■
 625 x 1250 mm ■

Thickness:

95 mm to 100 mm

Building material class:

OWAcoustic® tiles A2-s1,d0
 to EN 13501-1
 Mineral insulation A1

Edges:

Edge 3 – Square edged 15 or 20 mm thick OWAcoustic® tiles

Edge 6 – Contura, 20 mm thick OWAcoustic® tiles

Weight: approx. 12.5 kg/m²

Design: Constellation, Harmony, Cosmos
 Other patterns on request

Metal system:

Height of profile ≥ 38 mm.
 See System brochure S 3 or OWA Installation guide 801. All metal sections are galvanized and white painted.

Important:

Adjoining walls must have a fire resistance of at least 30 minutes. The same is applicable to the soffits 30 minutes requirement from above.

EI 30 (a <-> b), F 30 barriere A, B

Self contained fire protection 30 minutes from above and below –
smoke impervious



Technical Data

Produkt line:

OWAcoustic® premium

Dimensions:

| | Width | Length |
|------------|----------|---------|
| barriere A | 300 mm | 1250 mm |
| | 312.5 mm | 1500 mm |
| | 400 mm | |
| barriere B | 300 mm | 1800 mm |
| | 312.5 mm | 2000 mm |
| | | 2250 mm |

Thickness:

| | |
|------------|-------|
| barriere A | 40 mm |
| barriere B | 44 mm |

Building material class:

A2-s1,d0 to EN 13501-1

Edges:

| | |
|------------|--------------|
| barriere A | LK 10 / SK 3 |
| barriere B | LK 1b / SK 3 |

Weight:

| | |
|------------|--------------------------------|
| barriere A | approx. 14.0 kg/m ² |
| barriere B | approx. 17.0 kg/m ² |

Design: Constellation, Cosmos, Harmony
Other patterns on request

Important:

Adjoining walls must have a fire resistance of at least class 30 minutes. The same is applicable to soffits with 30 minutes requirement from above.

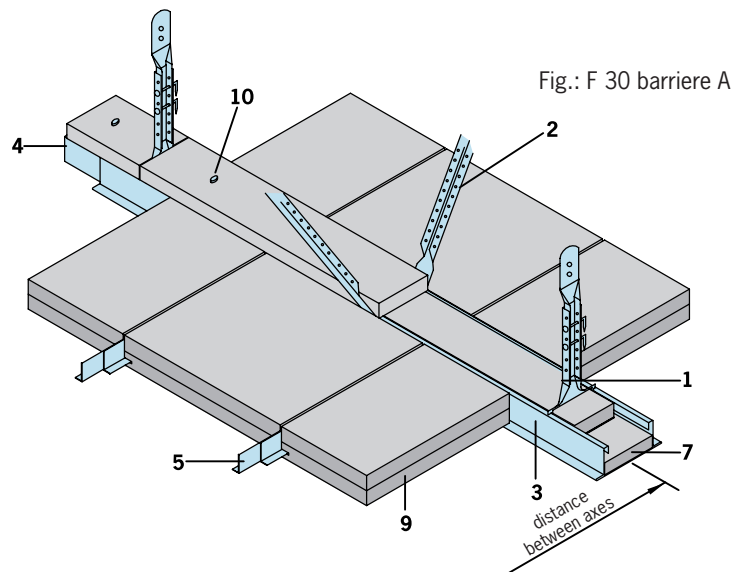
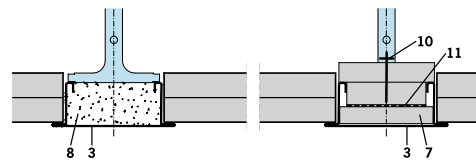


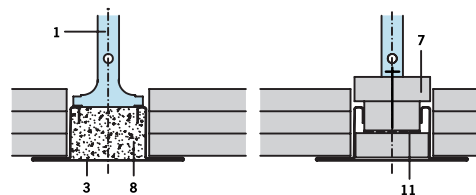
Fig.: F 30 barriere A

- | | |
|----------------------|--|
| 1 Hanger | 7 Minowa cover strips |
| 2 Support sections | 8 Infill (alt. strips as 7) |
| 3 Bandraster section | 9 Barriere unit |
| 4 Connector | 10 Wire nail to prevent lateral movement |
| 5 L-section (2 pcs.) | 11 OWA adhesive |
| 6 barriere section | |

Section through barriere A:



Section through barriere B:



Cross sections:

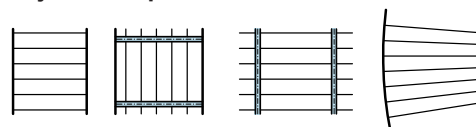
barriere A



barriere B



Layout examples:



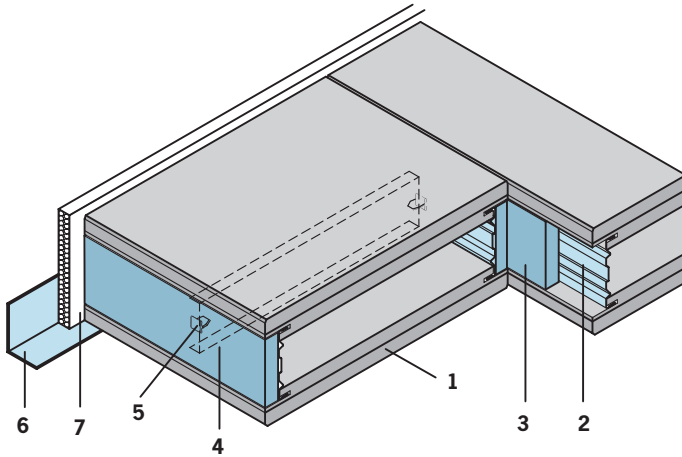
For further details see
brochure 915 – F 30 barriere

Fire protection kits for recessed light fittings are available on request.



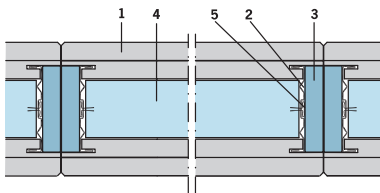
BSE 90

Self contained fire protection F 90 from above and below –
smoke impervious

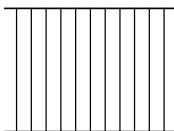


- | | |
|-----------------------|---|
| 1 OWAacoustic® tile | 5 Steel screw |
| 2 C-Section | 6 Wall section |
| 3 Gypsum fibre strips | 7 Mineral wool strips Density $\geq 40 \text{ kg/m}^3$ |
| 4 Traverse | |

Section



Layout example:



For further details see Brochure 918 – BSE 90

Technical Data

Product line:

OWAcoustic® premium

Dimensions:

Widths: 300, 312.5 mm

Length: 2000, 2500 mm

Thickness: 110 mm

Building material class:

OWAcoustic® tiles A1 to EN 13501-1

Gypsum fibre strips A2-s1,d0
to EN 13501-1

Mineral wool strips A1

Weight: approx. 35.0 kg/m^2

Design: Constellation, Harmony
Other perforations on request

Important:

Adjoining walls must have a fire resistance of at least class 90 minutes. The same is applicable to soffits with 90 minutes requirement from above.

BSE 90 consists of 2 x 30 mm thick OWAacoustic® boards. BSE 90 are self-supporting structural components.

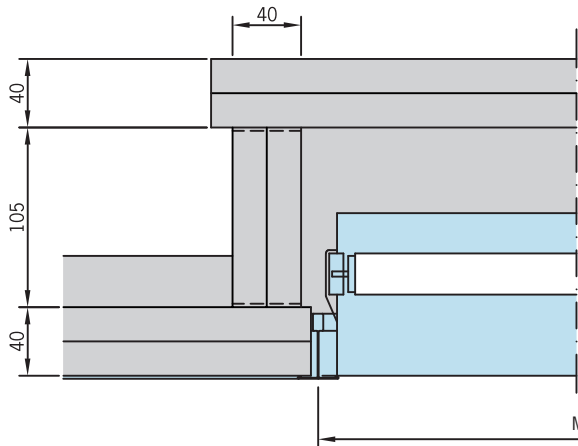
OWAcoustic® fire protection kits

For ceiling lighting and other built-in elements

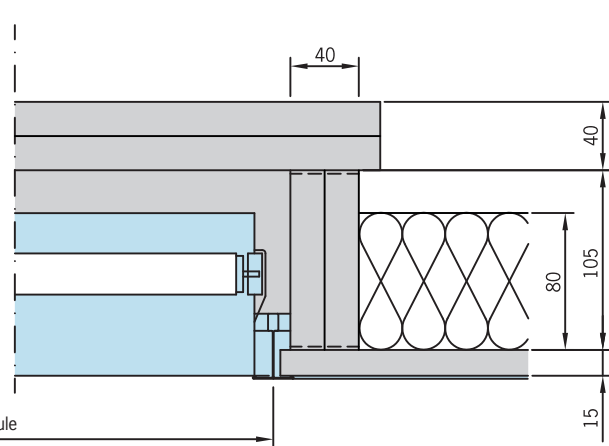


**OWAcoustic® fire protection kit, self-containing up to F 30, EI 30 (a <-> b)
OWAcoustic® premium panels ≥ 40 mm:**

Section F 30 SOLO:



Section F 30 DUO:



Installation:

The fire box kits are supplied as prefabricated components and constructed on site. To assemble, the four sides are recessed to suit the OWAcoustic® ceiling, then glued and pinned together with nails to form a frame. The frame is glued to the installed ceiling tiles and the top is then glued to the frame.

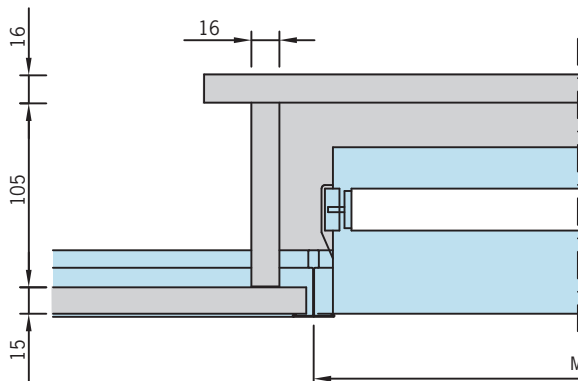
**OWAcoustic® fire protection kits up to F 90
in connection with OWAcoustic® premium panels ≥ 40 mm:**

Installation:

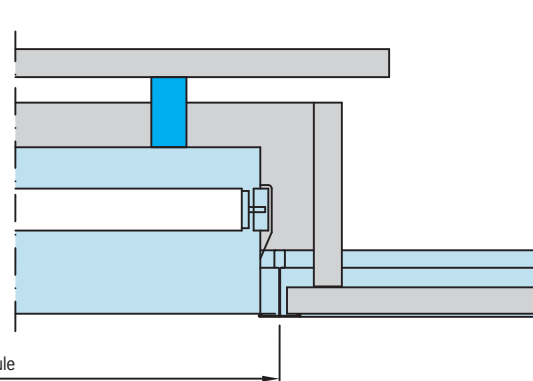
The fire box kits are supplied as prefabricated components and constructed on site. To assemble, the four sides are recessed to suit the OWAcoustic® ceiling and then pinned together with nails to form a frame. The frame is placed on to the installed ceiling and the top laid on to the frame to complete the box. These components are not glued together.

**OWAcoustic® fire protection kit up to REI 90, F 90
in combination with OWAcoustic® panels ≥ 15 mm:**

Section, unventilated:



Section, ventilated:



Depending on requirements, it is possible to fit Styrodur insulation strips measuring 60 x 40 x 20 mm (to be provided by the client)

Installation:

The fire box kits are supplied as prefabricated components and constructed on site. To assemble, the four sides are recessed to suit the OWAcoustic® ceiling and then pinned together with nails to form a frame. The frame is placed on to the installed ceiling and the top laid on to the frame to complete the box. These components are not glued together. If ventilation is required styrodur strips can be placed on to the body of the light fitting to hold the top cover above the frame and the top laid on the strips.

