Fire protection manual for suspended ceilings in accordance with EN 13501

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Introduction

Fire protection in building construction in Germany has the highest safety level worldwide. This is expressed by a multitude of legal regulations, ordinances and technical standards. Suspended ceilings make a significant contribution to this.

This manual provides an overview of the different suspended ceiling systems in the OWAlifetime collection that are suitable for fire protection applications.

The clear tables allow you to quickly find the right solution, depending on the type of load-bearing construction. The essential boundary conditions are presented briefly and concisely. Details are illustrated with the aid of sketches and explanations.

The construction site conditions often differ from the pure test configuration in the fire tests. In addition to our technical field service, our competence team of acoustic consultants, designers and engineers can offer you support here. We can draw on a large number of fire protection expert opinions that cover almost all installation situations.

Please contact your local OWA team for any questions: www.owa.de/en/company/locations/

All system brochures, OWA installation instructions and safety data sheets (SIDA) must be observed for the OWA suspended ceiling systems described in this brochure!

Important legal information

Mixing the components of the suspended ceiling with products from other manufacturers is not permitted! For suspended ceilings with fire resistance requirements, a CE KIT mark and the associated declaration of performance for the entire kit (ceiling tile + substructure) on the basis of EN 13964 Annex ZA Table 1.1 (see page 9) is always required. The use in particular of the declaration of performance for the ceiling tile only (DoP – OWA – 00002.1) is not sufficient for suspended ceilings with fire resistance requirements! (See also section reaction to fire, page 6, Table ZA 1.4 EN 13964)

The declaration of performance for the kit also includes the declaration of constancy of performance (see conformity assessment according to the normative requirements in chapter 6 EN 13964, incl. production control) for the fire resistance application!

In practice, the difference in the "suspended ceiling world" is often not taken into account, namely that e.g. monolithic suspended ceilings made of gypsum boards are not **regulated according to EN 13964** and are therefore verified as a type of construction with fire resistance requirements nationally, i.e. on the basis of a general building inspection test certificate (AbP) or e.g. via EN 4102-4 (as a "normative construction type"). This is due to the fact that at European level, gypsum products are only regulated by European product standards. For these types of construction, the general building inspection test certificate and the CE marking together with their declarations of performance as individual components would be sufficient. **Suspended ceilings in accordance with EN 13964 are a type of construction in the sense of building regulations that, in the case of fire resistance requirements, always require a declaration of performance for the entire kit (see page 9, Table ZA 1.1 EN 13964) and a corresponding test certificate!**

According to German building law, both the national F classifications and the European REI classifications are equally applicable!

We recommend that all users of suspended ceilings with fire resistance requirements download leaflet 01/2017 "Verwendbarkeitsnachweise und Kennzeichnungen im Trockenbau" (Certificates of suitability and marking in dry-wall construction) and leaflet 04 "Umgang mit Abweichungen von Verwendbarkeitsnachweisen im Trockenbau" (Dealing with deviations from certificates of suitability in dry-wall construction) in the download section of the RAL Gütegemeinschaft Trockenbau homepage (www.trockenbau-ral.de/service-downloads). The new legal provisions are explained in these leaflets.

Deviations from the test certificates

Not every installation situation in dry-wall construction can be verified by a test certificate. The work required for this, e.g. in the application area of resistance to fire, is too great, as the construction types/kits (KIT) usually involve large-scale tests, which, depending on the type of installation, involve considerable work and costs. In addition, this is not feasible in practice in terms of testing technology due to the diversity of variants and possible combinations of system designs. In other technical disciplines, too, extrapolations are carried out by experts (architects, engineers, master craftsmen) without any negative impact on the safety level.

OWA supports both the planner and the specialist contractor through its own consulting department, **OWAconsult**. Qualified experts offer solutions for many installation situations.

OWA has offered a wide range of applications for over 50 years due to the large number of national and European test certificates. The consulting department **OWAconsult** is also available to the planner and specialist contractor in case of "deviations" from the "test certificate world". The most diverse applications are continuously being expanded in terms of testing technology.

Reaction to fire

OWAcoustic tiles as construction material

In accordance with EN 13501-1 and DIN 4102 Part 1, construction materials are divided into the following classes according to their fire behaviour:

	Additional requirement			
Building authority designation	**No fumes**	**No burning droplets/particles**	**European classes in accordance with EN 13501-1**	**Construction material class in accordance with DIN 4102**
Non-flammable	✓	✓	A1	A1
	✓	✓	A2-s1,d0	A2
Flame resistant	✓	✓	B-s1,d0	B1
	✓	✓	C-s1,d0	B1
		✓	A2-s2,d0	B1
		✓	A2-s3,d0	B1
		✓	B, C-s2,d0	B1
		✓	B, C-s3,d0	B1
	✓		A2-s1,d1	B1
	✓		A2-s1,d2	B1
	✓		B, C-s1,d1	B1
	✓		B, C-s1,d2	B1
			A2-s3,d2	B1
			B-s3,d2	B1
Normally flammable	✓	✓	D-s1,d0	B2
		✓	D-s2,d0	B2
		✓	D-s3,d0	B2
	✓		D-s1,d2	B2
			D-s2,d2	B2
			D-s3,d2	B2
			E	B2
			E-d2	B2
Easily flammable			F	B3

The additional designations mean:

s1, s2, s3 = level of fume behaviour
s1 = no or minor fume development
s3 = extreme fume development
d0, d1, d2 = level of burning droplets/particles released
d0 = no burning droplet within 600 seconds

Copies of the corresponding test certificates will be provided on request.

OWAcoustic tiles are available with the construction material class **A2-s1,d0**.

Country	Test standard	Classification
Germany	DIN EN 13501-1	A2-s1,d0, B-s1,d0
EU member states	EN 13501-1	A2-s1,d0, B-s1,d0
Switzerland	Fire protection regulations BSV 2105	RF1 = no contribution to a fire
USA	ASTM E 84a/ASTM E 1264	class A

According to the state building regulations and implementation regulations, the “building authority designations” such as ”non-flammable” are decisive.

Since 1 January 2005, OWAcoustic tiles (mineral tiles) have borne the CE mark on the basis of EN 13964. As proof of usability in the sense of an individual construction product, the CE mark and the corresponding declaration of performance are to be used in accordance with EN 13964 Annex ZA Table ZA 1.4. The declaration of performance contains the information on the fire behaviour and the conformity with regard to constancy of performance.

Note: The declarations of performance (DoP-OWA 00002.1) for the OWAcoustic tiles cannot be used for suspended ceilings with fire resistance requirements in combination with third-party products! For this, separate declarations of performance for the entire kit (KIT) are required in accordance with EN 13964. Table ZA 1.1, see page 9.

Table ZA 1.4, EN 13964:

Relevant sections for suspended ceiling surface layers
Construction product: suspended ceiling surface layers
Intended use: inside buildings, for the construction of installed suspended ceilings

Main properties	Sections containing requirements in this standard	Levels and/or classes	Remarks
Reaction to fire	4.4.2.2	Classes A1 to F	In accordance with EN 13501-1
Release of asbestos (content), where applicable	4.5.1	–	Content and/or release
Release of formaldehyde, where applicable	4.5.2	–	Classes E1 and E2
Release and/or content of other hazardous substances, where applicable	4.5.3	–	Content and/or release
Susceptibility to growth of micro-organisms hazardous to health, such as moisture	4.5.4	–	Levels
Susceptibility to growth of micro-organisms hazardous to health due to thermal insulation	4.5.4	–	Levels
Fracture properties (safe breakage), such as impact resistance	4.3.6	–	Classes
Fracture properties (safe breakage), such as fracture characteristics	4.6.1	–	Classes
Flexural strength	4.6.2	–	Classes
Bonding strength/adhesion, such as resistance to fastening	4.3.4	–	Declaration of performance
Sound absorption	4.7.2	–	Declaration of performance
Heat transfer resistance (e.g. density), such as thermal conductivity	4.10	–	Declaration of performance
Durability	4.8	–	Classes

Resistance to fire

If an incipient fire is not extinguished in time and finds enough combustible materials to feed on, it will quickly spread throughout the room where it started. Then the only thing that can be done is to prevent the fire from spreading to neighbouring rooms or at least to delay it to a sufficient extent. This is done by the building components (ceilings, roofs, walls) that surround and enclose the room. The prerequisite for this is that these building components belong to at least the same fire resistance class.

Fire resistance classes

With few exceptions, components in the sense of DIN 4102 or EN 13501-2 are not the suspended ceiling alone, but the entire construction, consisting for example of a load-bearing ceiling + suspended ceiling or roof + suspended ceiling. These overall constructions should prevent the spread of the fire for as long as possible. The period during which they perform this task is the fire resistance duration. Depending on their fire resistance duration, all building components are divided into fire resistance classes according to the following table:

	Ffire resistance class		
Building authority designation	EN 13501-2	DIN 4102	Ffire resistance duration in minutes
Fire retardant	REI 30	F 30	≥ 30
Highly fire retardant	REI 60	F 60	≥ 60
Fire resistant	REI 90	F 90	≥ 90
Fire resistant	REI 120	F 120	≥ 120
Highly fire resistant	REI 180	F 180	≥ 180

Letters behind the fire resistance class in accordance with DIN 4102 provide information on the building material class of the materials used for the component.

Principles

The fire resistance class of building components can be verified in two ways:

1. For conventional building components, for example masonry walls or solid ceilings, the F class can be taken from DIN 4102 Part 4. All the building components are listed there that do not require separate fire protection verification.
2. For all other building components, in particular for most supporting constructions with suspended ceilings, the fire resistance class must be verified by means of test certificates.

With the variety of load-bearing ceiling constructions found in practice, however, it is impossible to test each of these constructions with every type of suspended ceiling. For this reason, DIN 4102 defines certain supporting constructions that are particularly susceptible to fire as test ceilings.

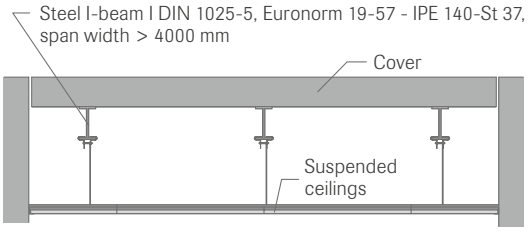


Fig. 1: Standard steel beam floor

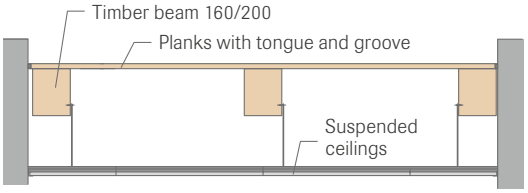


Fig. 2: Standard timber beam floor

Tests on the standard ceilings in Figs. 1 and 2 cannot be transferred to all practical applications. If the existing or planned supporting construction deviates too much from the standard construction, separate tests with this construction are necessary. This is the case, for example, with trapezoidal sheet roofs and lightweight roofs.

Fire tests

During the fire tests, continuous checks are performed to determine whether the following conditions (**REI**) are satisfied:

1. The building components must correctly and clearly prevent the passage of fire (**E**).
2. The building components must not bend impermissibly or collapse under their calculated maximum permissible load (**R**).
3. The surface temperature on the side facing away from the fire must not rise by more than 140 K in general and by not more than 180 K at any point (**I**).

A test is considered to have failed if one of these conditions is violated. The tested ceiling or roof construction is then classified in the fire resistance class achieved according to the fire resistance duration achieved in two tests.

Tested constructions

All commonly used ceiling and roof constructions are tested in combination with OWAcoustic ceilings according to EN 13501-2. The results can be seen in the following tables. They show that fire resistance classifications up to REI 180 are achieved.

We should point out that OWA fire protection test certificates and the functionality warranted by us are only valid when both the OWAcoustic mineral tiles and the OWAconstruct substructure have been purchased by us. We can only send you our test certificates if our materials are used and the corresponding proof is provided.

Fire load in the suspended ceiling area

Information on limiting fire loads in the ceiling cavity can be found in DIN 4102-4:2016 (chapter 10.10.1, paragraph 11). Fire loads (e.g. cable insulation) in the space between the suspended ceiling and the ceiling slab should be distributed as evenly as possible and their fire load should be ≤ 7 kWh/m². (In the case of fire loads in the ceiling cavity exceeding 7 kWh/m² ceiling area, EI 30 ceilings may be prescribed as self-contained fire protection. 7 kWh/m² fire load corresponds to approx. 8.75 metres of NYM cable, 3 x 1.5 mm cross section.)

Installations with flammable materials are often installed below the ceiling slab in escape and rescue routes. For this reason, we recommend that self-contained fire protection is employed there. These suspended ceilings ensure that in the event of a fire attack from below, the supply lines in the ceiling cavity remain functional for a certain period of time. In the event of a fire in the ceiling cavity (fire attack from above), these ceilings protect the **escape routes** below from fire and smoke for over **30 minutes**.

The European standards

The new European classification is one of the many organisational prerequisites for making the European economic area as a whole flexible and functional. This imposes new obligations on all companies that manufacture products in or for Europe: the European standards and regulations must be complied with and are binding.

Certificates of usability

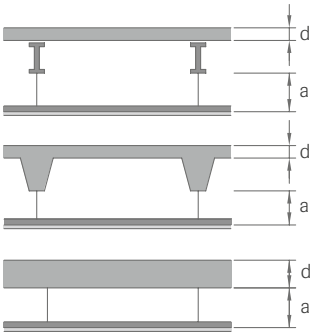
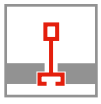
OWA is a system provider of suspended ceilings according to EN 13964 (e.g. mineral and metal tiles). **For fire resistance requirements, EN 13964 also regulates the entire kit (construction type)**. When installed, the kit becomes a **type of construction** for the purposes of building supervision, which is verified by the CE marking, declaration of performance (KIT) and European test report on the basis of EN 13964 Annex ZA Table 1.1.

OWA's strategy is clearly aligned with the European approach, as all of our suspended ceiling systems are regulated at European level via EN 13964. For this reason, all suspended ceiling systems for the most diverse types of construction have been tested exclusively at the European level on the basis of EN 13501-2 since 2002. European verification will increase in the future.

Relevant sections for suspended ceiling kits Table ZA 1.1 EN 13964:
Construction product: suspended ceiling kits
Intended use: inside buildings, for the construction of installed suspended ceilings

Main properties	Sections containing requirements in this standard	Levels and/or classes	Remarks
Reaction to fire	4.4.2.1 and 4.4.2.4	Classes A1 to F	In accordance with EN 13501-1
Resistance to fire	4.4.1	See EN 13501-2	In accordance with EN 13501-2
Release of asbestos (content), where applicable	4.5.1	–	Content and/or release
Release of formaldehyde, where applicable	4.5.2	–	Classes E1 and E2
Release and/or content of other hazardous substances, where applicable	4.5.3	–	Content and/or release
Susceptibility to growth of micro-organisms hazardous to health, such as moisture	4.5.4	–	Levels
Susceptibility to growth of micro-organisms hazardous to health due to thermal insulation	4.5.4	–	Levels
Fracture properties (safe breakage), such as impact resistance	4.3.6	–	Classes
Fracture properties (safe breakage), such as fracture characteristics	4.6.1	–	Classes
Flexural strength	4.6.2	–	Classes
Load-bearing capacity: – substructure – hangers and fixings – upper bracket of hangers and fixings for the edge profile – dimensions and limits	 4.3.2 4.3.3 4.3.4 4.2	 – – – –	 Classes Declaration of performance Declaration of performance Declaration of performance
Resistance to fixings	4.3.4		Declaration of performance
Electrical safety	4.6.4	–	Declaration of conformity
Direct airborne sound insulation	4.7.3	–	Declaration of performance
Sound absorption	4.7.2	–	Declaration of performance
Thermal properties, such as thermal conductivity	4.10	–	Declaration of performance

European fire resistance test in accordance with EN 13501-2

Supporting structure	Kit no. (KIT)	Minimum ceiling thickness (d)	Minimum suspension depth (a)	Construction of the suspended ceiling OWAconstruct premium systems
	**Steel beam floor** **KIT-16.1-01/2012 - S 3** **KIT-16.1-01/2012 - S 3a**	≥ 120 mm	≥ 200 mm	
	Steel beam floor **KIT-11.1-01/2008 - S 3** **KIT-11.1-01/2008 - S 3a**	≥ 90 mm	≥ 250 mm ≥ 150 mm ≥ 120 mm	 S 3  S 3a
	Steel beam floor **KIT-27.1-01/2011 - S 3** **KIT-27.1-01/2011 - S 3a**	≥ 100 mm	≥ 200 mm	
	Steel beam floor **KIT-28.1-01/2015 - S 3**	≥ 90 mm	≥ 250 mm	 S 3
	Steel beam floor **KIT-29.1-01/2018 - S 3**	≥ 90 mm	≥ 250 mm	 S 3
	Steel beam floor **KIT-24.1-01/2014 - S 3**	≥ 90 mm	≥ 250 mm	 S 3 with mineral wool
	Steel beam floor **KIT-17.1-01/2013 - S 15 cliq** **KIT-18.1-01/2011 - S 15a cliq**	≥ 100 mm	≥ 200 mm	 S 15 cliq  S 15a cliq
	Steel beam floor **KIT-19.1-01/2011 - S 18p/6a**	≥ 100 mm	≥ 200 mm	 S 18p / S 6a = binders
	Steel beam floor **KIT-30.1-01/2016 - OWAplan**	≥ 90 mm	≥ 250 mm	 CD profile
	Steel beam floor **KIT-25.1-01/2014 - S 15b**	≥ 90 mm	≥ 250 mm	 S 15b

Important note:

The kits listed in the following tables cannot be combined with all OWAcoustic tile patterns.

Tables 1, 2 and 3 on pages 14 and 15 must be observed in connection with load-bearing structures types I–IV and fire-resistance durations (REI 30–REI 180).

Type I
Steel beam floor with aerated concrete slabs

Type II
Steel beam floor with reinforced concrete slabs

Type III
Type of reinforced and prestressed concrete constructions

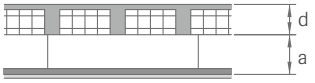
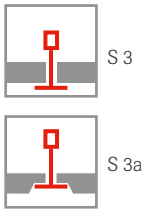
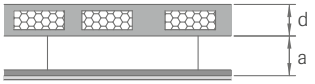
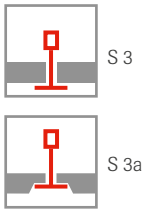
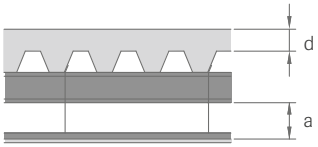
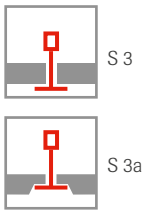
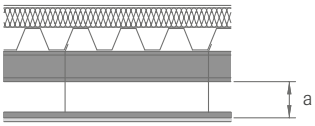
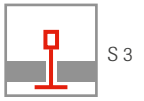
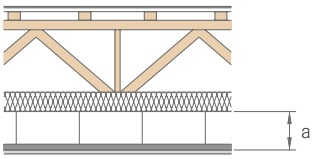
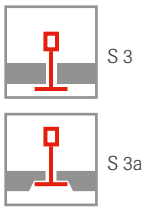
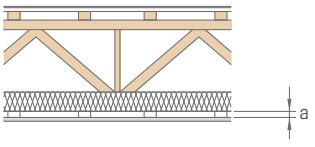
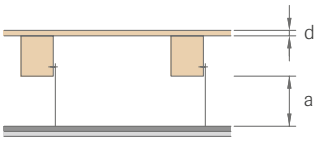
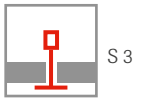
Type IV
Timber structures

Please note that only the currently available test certificates are available in the following tables. Expired documents and systems that are not listed are no longer available.

OWAcoustic tiles			Resistance to fire		Tested suspension (max. spacings)		
Module	Thickness	Product surfaces	Classification	Test report	Support or main profiles	Suspension points	Type of suspension / special features
625 x 625 mm 600 x 600 mm	15 mm nom.	Product surfaces from Table 1 (page 14)	**REI 120**	No. 297270/7130/CPD … and further certificates	1250 mm 1200 mm	1250 mm 1200 mm	Onsite tie wire 2.0 mm or no. 12/.../... double adjustable hangers or no. 17/45 Nonius hanger
			REI 90	PB III/08-191-1Ä			
			REI 60				
			REI 30				
1250 x 625 mm			**REI 60**	No. 282291/6095/CPD … and further certificates	625 mm	1250 mm	
625 x 625 mm 600 x 600 mm	15 mm nom. 20 mm nom.	Product surfaces from Table 3 (page 15) except Sinfonia Silencia, Humancare Pro, Brillianto A 14 mm	**REI 60**	PB 3.2/14-338-1, PB 3.2/15-411-1 … and further certificates	1250 mm 1200 mm	1250 mm 1200 mm	
625 x 625 mm 600 x 600 mm	14 mm nom. 20 mm nom.	Product surfaces from Table 3 (page 15)	**REI 45**	PB 3.2/17-345-1, PB 3.2/23-108-1… and further certificates	1250 mm 1200 mm	1250 mm 1200 mm	
625 x 625 mm 600 x 600 mm	15 mm nom.	Product surfaces from Table 2 (page 14)	**REI 120**	PB 3.2/13-320-1 … and further certificates	625 mm	750 mm	No. 79/100 Nonius hanger
625 x 625 mm 600 x 600 mm	15 mm nom.	Product surfaces from Table 1 (page 14)	**REI 90**	No. 285878/6379/CPD … and further certificates	625 mm 600 mm	1250 mm 1200 mm	Onsite tie wire 2.0 mm or no. 12/.../... double adjustable hangers or no. 17/45 Nonius hanger
≤ 2050 (tile length) x 312.5 mm	15 mm nom.	Cosmos/N Constellation Sinfonia Privacy*	**REI 90**	No. 285879/6380/CPD … and further certificates	≤ 2130 mm	750 mm	No. 79/100 Nonius hanger **Special features:** – Bandraster profile no. 80/100 – C profile no. 36/70 – only in combination with surface-mounted luminaires
2400 x 1200 mm	25 mm nom.	OWAplan^{90} including plaster	**REI 60**	PB 3.2/15-411-2 … and further certificates	1000 mm	1000 mm	OWAplan Installation Guidelines, Section 6 Publication 1031 e
625 x 625 mm 600 x 600 mm	15 mm nom.	Product surfaces from Table 2 (page 14)*	**REI 30**	PB 3.2/13-322-1 … and further certificates	1250 mm 1200 mm	1250 mm 1200 mm	Onsite tie wire 2.0mm or no. 12/.../... Double adjustable hangers or no. 17/45 Nonius hanger

* Delivery conditions according to the OWAlifetime price list must be observed.

European fire resistance test in accordance with EN 13501-2

Supporting structure	Kit no. (KIT)	Minimum ceiling thickness (d)	Minimum suspension depth (a)	Construction of the suspended ceiling OWAconstruct premium systems
	**Solid ceiling with intermediate element** **KIT-21.1-01/2013 - S 3** **KIT-21.1-01/2013 - S 3a**	≥ 200 mm	≥ 250 mm	
	**Hollow core concrete slab ceiling** **KIT-10.1-01/2007 - S 3** **KIT-10.1-01/2007 - S 3a**	≥ 250 mm	≥ 250 mm	
	**Trapezoidal sheet roof with concrete surface layer** **KIT-22.1-01/2009 - S 3** **KIT-22.1-01/2009 - S 3a**	≥ 70 mm	≥ 200 mm	
	**Steel roof construction with trapezoidal sheet steel + mineral wool** **KIT-23.1-01/2014 - S 3**	-	≥ 600 mm	
	**Timber roof construction** **KIT 31.1-01/2020 - S 3** **KIT 31.1-01/2020 - S 3a**	-	≥ 250 mm	
	**Timber roof construction** **KIT 14.1-01/2008**	-	≥ 38 mm	With KIT 14.1-01/2008: further OWA systems possible on request
	**Timber floor** **KIT-07.1-01/2008 - S 3**	Timber beams 18 mm fibreboard + 12.5 cm plasterboard fire protection panel, alternatively screed construction	≥ 245 mm	

OWAcoustic tiles			Resistance to fire		Tested suspension (max. spacings)		
Module	Thickness	Product surfaces	Classifi-cation	Test report	Support or main profiles	Suspen-sion points	Type of suspension / special features
625 x 625 mm 600 x 600 mm	15 mm nom.	Product surfaces from Table 2 (page 14)	**REI 120**	No. 311867/8160/ CPR … and further certificates	1250 mm 1200 mm	900 mm	Onsite tie wire 2.0 mm or no. 12/.../... double adjustable hangers or no. 17/45 Nonius hanger
625 x 625 mm 600 x 600 mm	15 mm nom.	Product surfaces from Table 1 (page 14)	**REI 180**	No. 234562/2488/ CPD … and further certificates	1250 mm 1200 mm	1250 mm 1200 mm	
625 x 625 mm 600 x 600 mm	15 mm nom.	Product surfaces from Table 2 (page 14)	**REI 120**	No. 281196/6048/ CPD … and further certificates	1250 mm 1200 mm	1250 mm 1200 mm	
625 x 625 mm 600 x 600 mm	15 mm nom.	Product surfaces from Table 2 (page 14)	**REI 30**	PB 3.2/14-140-1	625 mm 600 mm	1250 mm 1200 mm	No. 17/45 Nonius hanger **Special features:** Fixings accessories for trapezoidal sheet metal: no. 97/30 no. 97/32 see from page 18
625 x 625 mm 600 x 600 mm	15 mm nom.	Product surfaces from Table 1 (page 14)	**REI 30**	PB 3.2/18-432-1 PB 3.2/18-432-2 … and further certificates	1250 mm 1200 mm	1250 mm 1200 mm	No. 17/45 Nonius hanger **Special features:** detailed description of the construction see from page 20
2400 x 1200 mm	21 mm nom.	MINOWA BSK fire protection tile	**REI 30**	PB III/08-254	Distance between bearing battens: 400 mm	Screw spacing: 300 mm	MINOWA BSK fire protection tile d = 21 mm: 2400 x 1200 mm part no. 00082675 **Special features:** detailed description of the construction see from page 22
625 x 625 mm 600 x 600 mm	15 mm nom.	Product surfaces from Table 2 (page 14)	**REI 30**	2007 - Efectis RO 574 (E) … and further certificates	1250 mm 1200 mm	1250 mm 1200 mm	No. 17/45 Nonius hanger **Special features:** detailed description of the construction see from page 24

Fire resistance duration of individual OWAlifetime products

Table 1

Product surfaces	Thickness in mm	Reinforced concrete/steel beam floors: fire resistance classification REI in accordance with EN 13501-2 to *	Gang nail trusses: fire resistance classification REI in accordance with EN 13501-2
Cosmos	15	180	30
Finetta	15	180	30
Harmony	15	180	30
Janus (Cosmos, Constellation)	33	180	30
NEW Sandila	15	180	30
Plain	15	180	30
Sinfonia FR	15	180	30
Sinfonia Privacy	20	180	30
Sanitas 02 | Plain	15	180	30
Constellation	15/20	180	30

* Depending on system, tile dimensions and design

Table 2

Product surfaces	Thickness in mm	Reinforced concrete/steel beam floors: fire resistance classification REI in accordance with EN 13501-2 to *	Timber beam floor/lightweight roofs: fire resistance classification REI in accordance with EN 13501-2
Sinfonia FR	15	180	30
Sinfonia Privacy	20	180	30

* Depending on system, tile dimensions and design

Table 3

Product surfaces	Thickness in mm	Reinforced concrete/steel beam floors: fire resistance classification REI in accordance with EN 13501-2 to *1	Timber beam floor/gang nail trusses/ lightweight roofs: fire resistance classification REI in accordance with EN 13501-2
Bolero	15	60	–
Brillianto A	20	60	–
Brillianto A*3	14	45	–
OWAcolor*3	14	45	–
Ocean	20	60	–
OWAlux	15	60	–
OWAplan90 *2	20/25	60	–
Sinfonia	15	60	–
Sinfonia Humancare	15	60	–
Humancare Plus	20	60	–
Humancare Lab	20	60	–
Humancare Pro*3	20	45	–
Sinfonia Silencia*3	20	45	–

*1 Depending on system, tile dimensions and design
*2 Applies only to KIT-30.1-01/2016
*3 Applies only to KIT-29.1-01/2018

Verifications

If OWAcoustic ceilings have to meet fire protection requirements, we recommend that the design for the corresponding requirement is clarified before ordering or installing the ceilings.

In the event of an order, please request the fire protection certificates for planning (test report, DOP, KIT) in advance via your dealer using the completed checklist (https://www.owa.de/en/media/general-brochures/). This is necessary in order to be able to provide you with the correct documents from the extensive range in the interests of your safety with regard to the documentation and the technically correct execution.

Fire protection documents from OWA are only valid if OWAcoustic tiles and original OWAconstruct construction parts (as tested) are used.

Please also note that due to the large number of variants, not every detail can be documented in terms of testing. The declarations of performance for some details are therefore supplemented in the form of expert opinions.

Expert opinions are not general certificates of usability in the German building supervisory procedure; they serve only as a basis for a technical assessment of suitability.

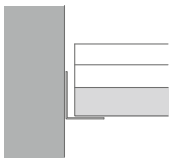
Test reports and expert opinions are used for submission to or coordination with the planners and building supervisory authorities. The suitability of the documents must generally be checked by the customer (planner, specialist planner, specialist contractor, etc.).

Ceiling fixings

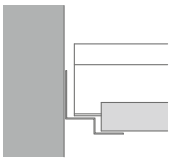
An appropriate fire rated ceiling fixing must be used for the respective substrate. (European Technical Approval ETA or general building inspectorate approval). You can find some approved fixings in our OWAlifetime collection price list 9001 e. For additional options, please consult a fixings manufacturer.

Wall trim

When installing, ensure that all adjacent supporting components, to which connections are made, have at least the same fire resistance. For fire rated ceilings, the wall trim fixing centres must be according to the specifications of the corresponding test report. As a rule, a reduced fixing centre ≤ 250 mm must be observed for solid walls and ≤ 210 mm for plasterboard walls, with every 3rd screw being positioned in the upright profile. Cut tiles should be installed as close as possible, covering at least 4/5 of the support surface. Only approved wall profiles should be used.



Standard wall profiles for all standard ceiling systems

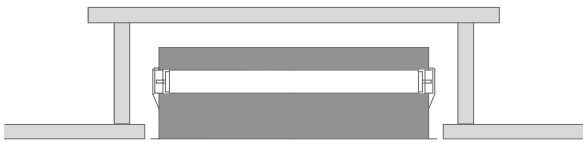


Wall profiles for ceiling systems S 3a, S 3a cliq and S 15a cliq

Lighting

When installing integrated lighting in OWAcoustic ceilings for fire protection, an OWAcoustic fire box must be installed to ensure resistance to fire. Pay attention that the performance characteristics of the fire box correspond to those of the installed OWAcoustic ceiling system. In any case, an additional hanger must be installed to bear the load. Further information can be found in the corresponding system description as well as in the overview of fire boxes from page 26 onwards.

Integrated lighting

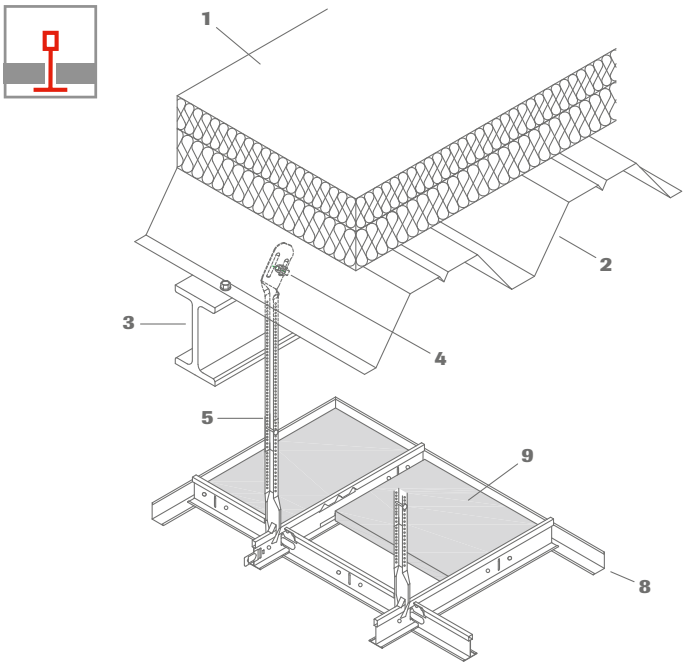


Thickness of the OWAcoustic tile: 15 mm
Thickness of the fire box: 15 mm, 21 mm (Downlight)

Surface-mounted components

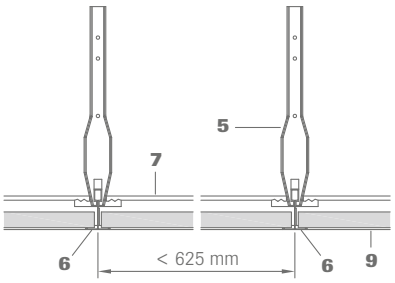
Surface-mounted components (e.g. smoke detectors, motion detectors etc.) can be fixed to the ceiling according to installation instructions 9801 e.

REI 30 Trapezoidal sheet roof - Warm roof - KIT 23.1-01/2014 - S 3

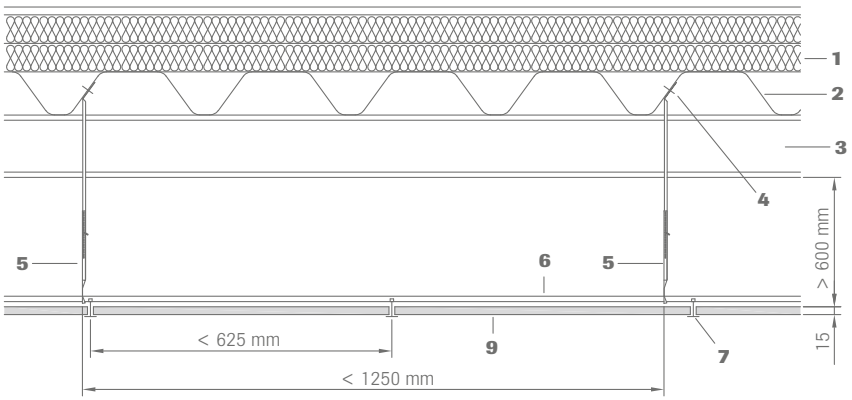


1 Mineral wool roof insulation panels, ≥ 140 mm thick
2 Trapezoidal sheet profile
3 Steel beam
4 Riveting nut no. 97/30, self-locking screw no. 97/32 and riveting nut setting tool no. 89/6 (The suitability depends on the material thickness of the trapezoidal sheet and must be checked in advance.)
5 Nonius hanger no. 17/45, spacing ≤ 1250 mm
6 Support profile, spacing 600 mm or 625 mm
7 Cross tee, short
8 Wall profile no. 50G
9 OWAcoustic tile [see Table 2, page 14]

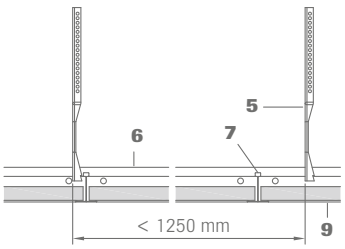
Cross section:



Cross section through the roof construction:



Longitudinal section:



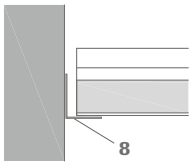
Technical data | Mineral tiles

System	S 3 and S 3 cliq - exposed, removable
Dimensions	600 x 600 mm, 625 x 625 mm
Designs	Product surfaces in accordance with Table 2, page 14 only
Tile thickness	15 mm nom. (OWAcoustic premium)
Edges	3
Minimum suspension depth	From lower edge of steel beam to upper edge of OWAcoustic ceiling ≥ 600 mm
Building material class/ reaction to fire	A2-s1,d0 according to EN 13501-1
Metal system	All metal parts galvanised or coated white, further details and colours can be found in the OWAlifetime collection price list

Wall trim:

Please refer to page 17 of the respective test report for guidelines on the installation of wall fixings for suspended ceilings with fire resistance properties. For further installation details, see system sheet S 3 e or installation instructions 9801 e.

Fixing centres in solid wall ≤ 250 mm
Fixing centres in plasterboard wall ≤ 210 mm



Integrated lighting:

OWA supplies suitable integrated lighting for this system. An overview of all luminaire types can be found in leaflet 9630 e.

Integrated lighting must always be suspended, either directly or the supporting construction additionally in the corner areas of the luminaires. They must be housed in a suitable OWA fire box (see pages 26/27).

Material needed per m² (indicative value):
Tile dimensions in mm

No.	Description	600 x 600	625 x 625
17/45	Hanger	1.3 pcs	1.3 pcs
45 or cliq-24-MR	Main tee	1.66 m	1.6 m
46 or cliq-24-CT short	Cross tee	1.66 m	1.6 m
50G	Wall profile	Depending on room size and shape	

Weights per m²:

	600 x 600	625 x 625
Construction approx.	1.25 kg/m²	1.20 kg/m²
Tile 15 mm	4.5 kg/m²	4.5 kg/m²

REI 30 gang nail truss - Cold roof - KIT 31.1-01/2020 - S 3, S 3a

Cross section through the roof construction

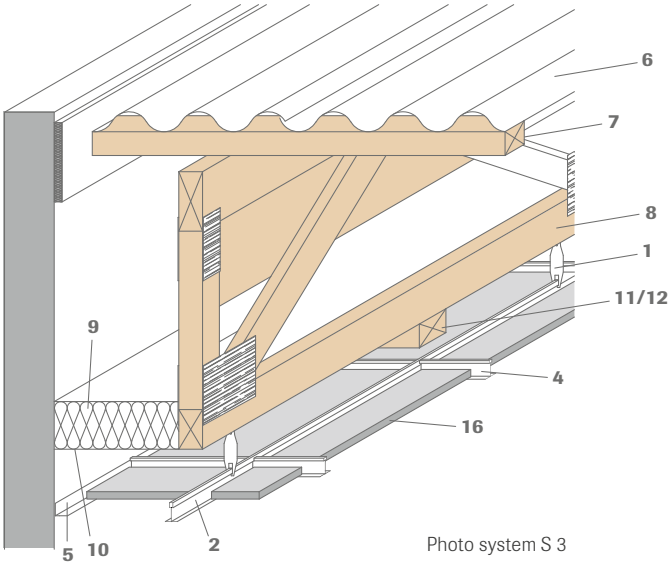
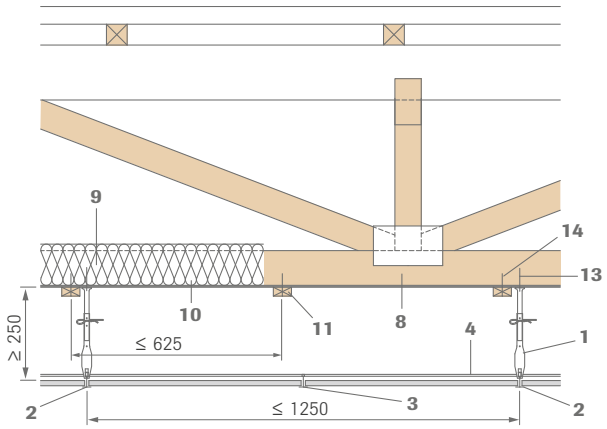


Photo system S 3

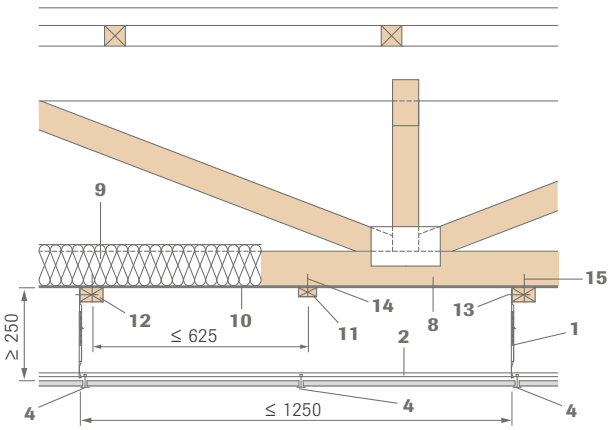
1 Nonius hanger no. 17/45
2 Support profile no. 45 or cliq-24-MR, spacing ≤ 1250 mm
3 Cross tee no. 46 or cliq-24-CT short
4 Cross tee no. 47 or cliq-24-CT long
5 Wall profile no. 50G or no. 50/15 for edge 6
6 Corrugated fibre cement panels | Tiles | Metal roofing, lapped boards, d ≥ 19.5 mm or chipboard d ≥ 19.0 mm
7 Purlin
8 Gang nail truss
9 Mineral wool insulating layer ≥ 140 mm thick between the trusses: Superglass KF2 035 | FLEXIROCK, Rockwool | Rockwool insulating wedges | Integra ZKF1-035 or -040, Isover | Metac UF, Isover
10 Polyethylene film, alternatively an Integra ZRF Rollisol, Isover aluminium-laminated mineral wool insulation layer can be used when using OWAcoustic premium tiles
11 Batten 24 x 48 mm
12 Batten ≥ 38 x 58 mm
13 Spax screw 5.0 x 50 mm or half-round head screw 5.0 x 50 mm, fastened laterally in the centre of the battens
14 *Grooved nail 4.0 x 60 mm or Spax screw 4.5 x 60 mm
15 *Grooved nail 3.1 x 60 mm or Spax screw 6.0 x 100 mm
16 OWAcoustic tile (see Table 1, page 14)

* According to classification certificate special nail 3/C (DIN 1052: 2008-08, section 12.8.1 Table 14)

1. Support profiles at right angles to the truss at a distance of 1250 mm
Attachment of hangers and positioning of battens: Hanger attachment to underside of trusses, hanger spacing ≤ 1250 mm, battens ≥ 24 x 48 mm to support the mineral wool insulation, batten spacing ≤ 625 mm



2. Support profiles at right angles to the truss at a distance of 1250 mm
Attachment of hangers and positioning of battens: Hanger attachment laterally to battens ≥ 38 x 58 mm, hanger and batten spacing ≤ 1250 mm, additional **central** battens ≥ 24 x 48 mm to support the mineral wool insulation



Technical data | Mineral tiles

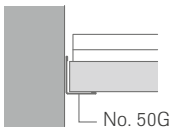
System	S 3, S 3 cliq, S 3a Contura and S 3a cliq Contura - exposed, removable
Dimensions	600 x 600 mm, 625 x 625 mm
Designs	Product surfaces in accordance with Table 1, page 14 only
Tile thickness	15 mm nom.
Edges	3 6
Suspension depth	From rear side of OWAcoustic tile to lower edge of gang nail truss ≥ 250 mm
Building material class/ reaction to fire	A2-s1,d0 according to EN 13501-1
Metal system	All metal parts galvanised or coated white, further details and colours can be found in the OWAlifetime collection price list

Wall trim:

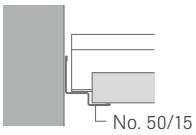
Please refer to page 17 of the respective test report for guidelines on the installation of wall fixings for suspended ceilings with fire resistance properties. For further installation details, see system sheet S 3 e, system sheet S 3a e or installation instructions 9801 e.

Fixing centres in solid wall ≤ 250 mm
Fixing centres in plasterboard wall ≤ 210 mm

System S 3 / S 3 cliq



System S 3a / S 3a cliq



Integrated lighting:

OWA supplies suitable integrated lighting for this system. An overview of all luminaire types can be found in leaflet 9630 e.

Integrated lighting must always be suspended, either directly or the supporting construction additionally in the corner areas of the luminaires. They must be housed in a suitable OWA fire box (see pages 26/27).

Material needed per m² (indicative value):
See also system sheet S 3, S 3 cliq, S 3a and S 3a cliq

No.	Description	600 x 600	625 x 625
17/45	Nonius hanger	0.7 pce	0.7 pce
45 or cliq-24-MR	Main tee	0.83 m	0.8 m
46 or cliq-24-CT short	Cross tee	0.83 m	0.8 m
47 or cliq-24-CT long	Cross tee	1.66 m	1.6 m
50G or 50/15G K6	Wall profile	Depending on room size and shape	
42/24 (nur bei K6)	Contura block	Depending on room size and shape	

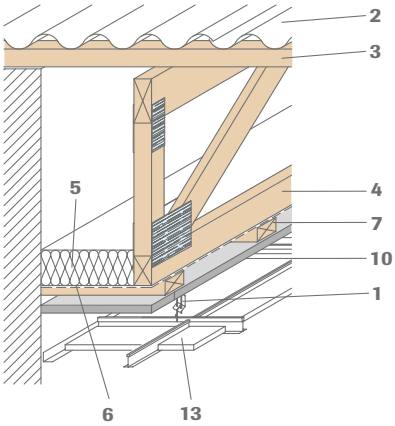
Attention: Fasteners are not included in the scope of delivery!

Weights per m²:

	600 x 600	625 x 625
Construction approx.	1.25 kg/m²	1.20 kg/m²
Tile 15 mm	4.5kg/m²	4.5kg/m²

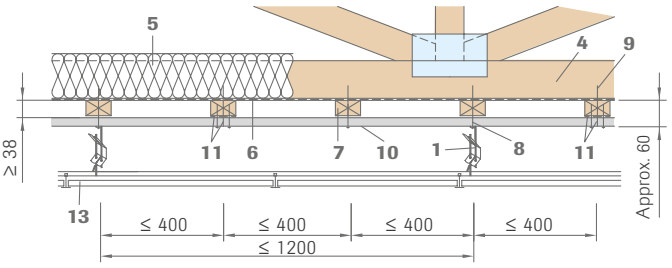
REI 30 gang nail truss - Cold roof - KIT 14.1-01/2008
Direct mounting with MINOWA® BSK fire protection tiles

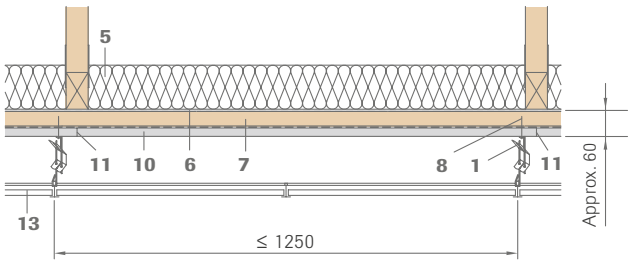
Cross section through the roof construction



1 Hanger
2 Corrugated fibre cement panel or tile
3 Purlin
4 Gang nail truss, a ≤ 1250 mm
5 Mineral wool insulating layer ≥ 200 mm thick between the trusses:
– FLEXIROCK, Rockwool
– Rockwool insulating wedges
– Metac UF, Isover
– Integra ZKF1- 035 or - 040, Isover
6 Polyethylene film, alternatively Integra ZRF Rollisol, Isover aluminium-laminated mineral wool insulation layer
7 Batten ≥ 38 x 58 mm
8 Half-round head screw 5.0 x 60 mm, screwed from below through the MINOWA BSK fire protection tile into batten (for hanger)
9 Spax screw 6.0 x 100 mm (for batten)
10 MINOWA BSK fire protection tile 2400 x 1200 mm - part no. 00082676, 21 mm, fastened to batten using countersunk-head screws 5.0 x 60 mm, every ≤ 300 mm
11 OWA adhesive no. 99/24
12 MINOWA BSK fire protection tile edge strips, 21 x 150 mm, attached using OWA adhesive paste no. 99/24
13 System S 3 or any other OWAcoustic ceiling system

Support profiles at right angles to the batten
Attachment of hangers and positioning of battens: Attachment of the hangers from below through the MINOWA® BSK fire protection tiles to battens ≥ 38 x 58 mm, hanger spacing ≤ 1200 mm and batten spacing ≤ 400 mm

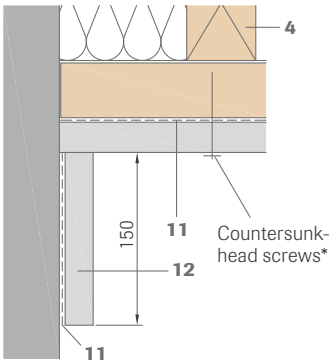




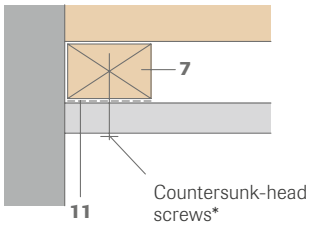
Technical data | Mineral tiles

System	Direct mounting
Dimensions	2400 x 1200 mm
Design	MINOWA® BSK fire protection tile
Tile thickness	Approx. 21 mm (OWAcoustic premium)
Edge	3
Suspension depth	From rear side of MINOWA® BSK tile to lower edge of gang nail truss ≥ 38 mm
Building material class/ reaction to fire	A2-s1,d0 according to EN 13501-1

Gang nail truss is parallel to the wall:
The MINOWA® BSK fire protection edge strips are only required when the truss runs parallel to the wall.

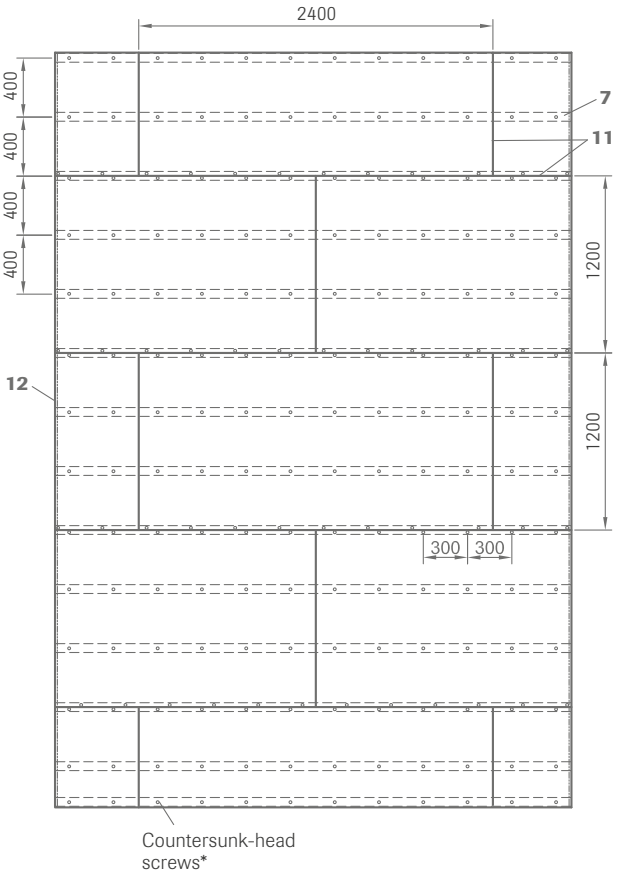


Gang nail truss is perpendicular to the wall



* Countersunk-head screws 5.0 x 60 mm, every ≤ 300 mm

Installation example – view from below:



Note on gluing with OWA adhesive no. 99/24:
Apply adhesive to all longitudinal and transverse tile joints, and to the whole surface of every 3rd batten in the joint area.

Material needed per m² (indicative value):

Description	Part no. 00082675 2400 x 1200 mm
MINOWA BSK fire protection tile	1.05 m²
Countersunk-head screws 5.0 x 60 mm	11.1 pcs
OWA adhesive paste no. 99/24	50 ml/m²

Attention: Fasteners are not included in the scope of delivery!

Weights per m²:

	2400 x 1200 mm
MINOWA BSK fire protection tile approx. 21 mm	6.3 kg/m²

REI 30 Timber beam floors - KIT 07.1-01/2008 - S 3

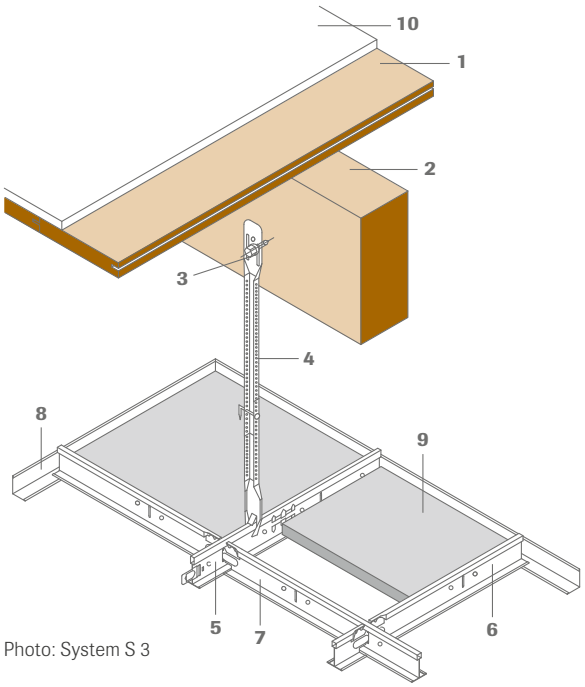
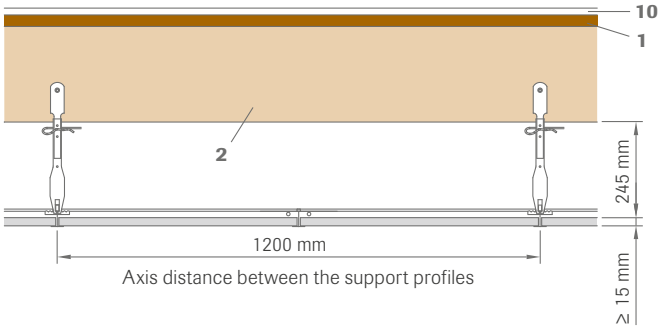


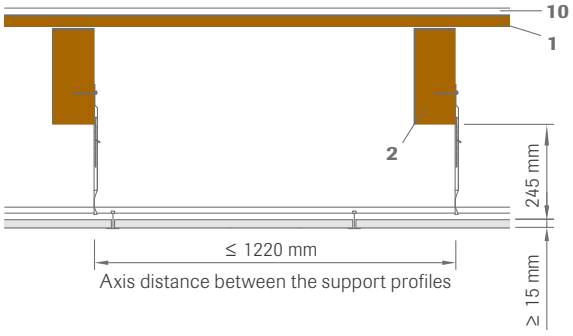
Photo: System S 3

1 Plank, 21 mm or chipboard (tongue and groove), 19 mm
2 Timber beam
3 Wood screw 5 x 50 mm
4 Nonius hanger no. 17/45, spacing ≤ 1220 mm
5 Support profile, spacing ≤ 1200 mm
6 Cross tee, short
7 Cross tee, long
8 Wall profile no. 50G
9 OWAcoustic premium tile, thickness 15 mm (product surfaces in accordance with Table 2, page 14 only
10 Fermacell, thickness: 12.5 mm / alternatively screed construction

Longitudinal section:



Cross section:



Technical data | Mineral tiles

System	S 3 and S 3 cliq - exposed, removable
Dimensions	600 x 600 mm, 625 x 625 mm
Design	Product surfaces in accordance with Table 2, page 14 only
Tile thickness	15 mm nom.
Edge	3
Suspension depth	From rear side of OWAcoustic tile to lower edge of timber beam ≥ 245 mm
Building material class/ reaction to fire	A2-s1,d0 according to EN 13501-1
Metal system	All metal parts galvanised or coated white, further details and colours can be found in the OWAlifetime collection price list

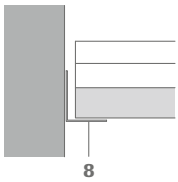
Important notes:

Hangers:
According to the test certificate, the hangers may also be fixed to the underside of the timber beams with wood screws 6 x 70 mm and washers dia. 18 mm. Only nonius hangers no. 17/45 may be used as hangers.

Wall trim:

Please refer to page 17 of the respective test report for guidelines on the installation of wall fixings for suspended ceilings with fire resistance properties. For further installation details, see system sheet S 3 e or installation instructions 9801 e.

Fixing centres in solid wall ≤ 250 mm
Fixing centres in plasterboard wall ≤ 210 mm



Integrated lighting:

OWA supplies suitable integrated lighting for this system. An overview of all luminaire types can be found in leaflet 9630 e.

Integrated lighting must always be suspended, either directly or the supporting construction additionally in the corner areas of the luminaires. They must be housed in a suitable OWA fire box (see pages 26/27).

Material needed per m² (indicative value):
See also system sheet S 3 and S 3 cliq

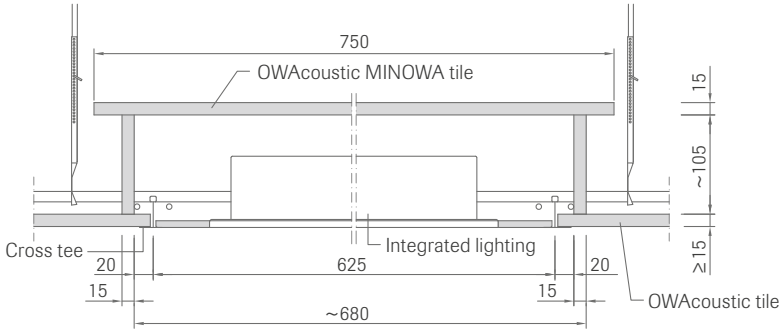
No.	Description	600 x 600	625 x 625
17/45	Nonius hanger	0.7 pce	0.7 pce
45 or cliq-24-MR	Main tee	0.83 m	0.8 m
46 or cliq-24-CT short	Cross tee	0.83 m	0.8 m
47 or cliq-24-CT long	Cross tee	1.66 m	1.6 m
50G	Wall profile	Depending on room size and shape	

Weights per m²:

	600 x 600	625 x 625
Construction approx.	1.25 kg/m²	1.20 kg/m²
Tile 15 mm	4.5kg/m²	4.5kg/m²

OWAcoustic fire box up to REI 180 | OWAcoustic tiles ≥ 15 mm nom.

Section:



Building material class/reaction to fire: A2-s1,d0 according to EN 13501-1

Packaging unit: 4 fire boxes per carton

Fire box part no. 00009873
for 600 x 600 mm and 625 x 625 mm modules:

Item	Description	Dimensions	Units
1	Cover	750 x 750 mm	1
2	Side strips	680 x 105 mm	4
3	Nails	4.2 x 50 mm	8
4	Adhesive	310 ml	1

Adhesive is not included in the fire box set and must be ordered separately.

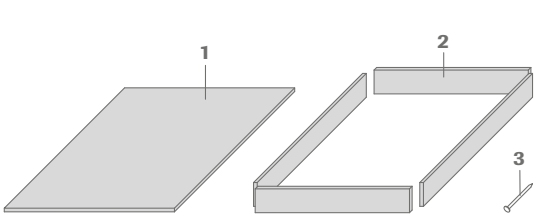
Fire box part no. 00009925
for 1200 x 300 mm und 1250 x 312.5 mm modules:

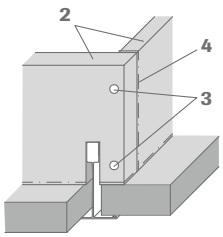
Item	Description	Dimensions	Units
1	Cover	1420 x 500 mm	1
2	Side strips	370 x 105 mm	2
2	Side strips	1320 x 105 mm	2
3	Nails	4.2 x 50 mm	8
4	Adhesive	310 ml	1

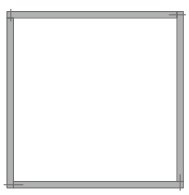
Adhesive is not included in the fire box set and must be ordered separately.

Installation:
The fire boxes are delivered in individual parts and must be assembled on site. At the corner points, the side parts are glued alternately and connected with 2 nails each. They are precisely notched in the area of the profile. Then the frame made of side parts is glued to the OWAcoustic ceiling. Finally, the cover is glued on.

All fittings that differ in size must be fitted with a fire box according to the drawing below. These are made of 16 mm thick MINOWA® BSK fire protection tiles, part no. 00082673, dimensions approx. 2500 x 1250 mm, as described above





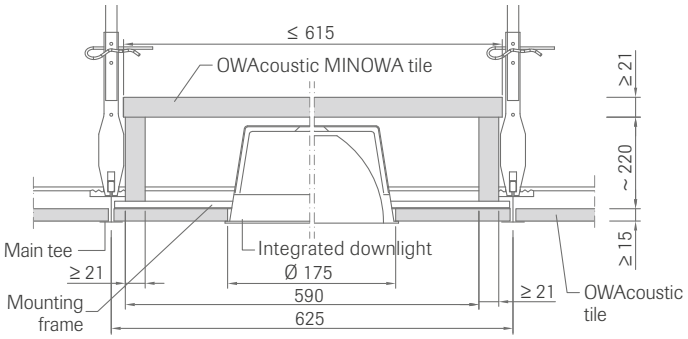


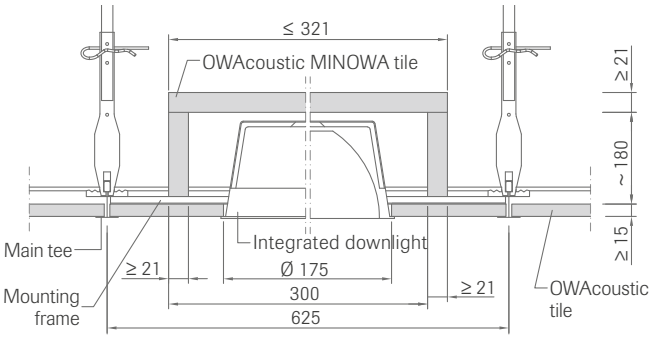
Adhesive no. 99/24
Not included in scope of supply.

When integrating lights and all other additional loads, a separate load transfer must be carried out according to installation instructions 9801 e under 5.5.

OWAcoustic fire box for integrated downlights up to REI 120 | OWAcoustic tiles ≥ 15 mm nom.

Sections:





Building material class/reaction to fire:
A2-s1,d0 according to EN 13501-1

Packaging unit: 4 fire boxes per carton

Fire box part no. 00062859
for large downlight:

Item	Description	Dimensions	Units
1	Cover	615 x 615 x 21 mm	1
2	Side strips	590 x 220 x 21 mm	4
3	Nails	4.2 x 50 mm	8
4	Adhesive	310 ml	1

Adhesive is not included in the fire box set and must be ordered separately.

Building material class/reaction to fire:
A2-s1,d0 according to EN 13501-1

Packaging unit: 8 fire boxes per carton

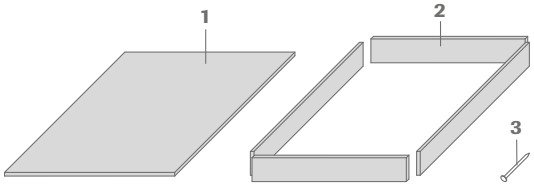
Fire box part no. 00061237
for small downlight:

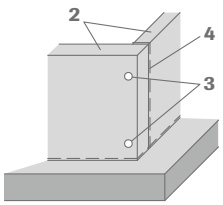
Item	Description	Dimensions	Units
1	Cover	321 x 321 x 21 mm	1
2	Side strips	300 x 180 x 21 mm	4
3	Nails	4.2 x 50 mm	8
4	Adhesive	310 ml	200 ml

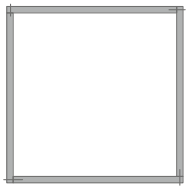
Adhesive is not included in the fire box set and must be ordered separately.

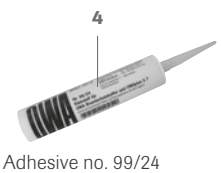
Installation:
The fire boxes are delivered in individual parts and must be assembled on site. At the corner points, the side parts are glued alternately and connected with 2 nails each. They are precisely notched in the area of the mounting frame. Then the frame made of side parts is glued to the OWAcoustic ceiling and the mounting frame. Finally, the cover is glued on.

All fittings that differ in size must be fitted with a fire box according to the drawing below. These are made of 21 mm thick MINOWA® BSK fire protection tiles, part no. 00082675, dimensions approx. 2400 x 1200 mm, as described above.









Adhesive no. 99/24
Not included in scope of supply.

When integrating lights and all other additional loads, a separate load transfer must be carried out according to installation instructions 9801 e under 5.5.

Installation of tested cable glands using the OWAconstruct fire resistance kit no. 99/28

Hole diameter for cable routing in the OWAcoustic tile
d ≤ 40 mm

Cable bundles with a total diameter of ≤ 35 mm, whereby the individual cable diameter is limited to ≤ 19 mm.

The remaining hole cross section must be completely sealed with OWAconstruct fire protection kit no. 99/28, as shown in the figure.

Cable routing and penetration of the classified ceiling with individual electrical cables and cable bundles up to 40 mm can be carried out in accordance with PZ no. 3962_9026-CR. The principles of DIN 4102-4 and MLAR will also apply.

All deviating penetrations must be sealed separately and the suitability verified accordingly. If required, further expert design details can be requested from OWAconsult.

Conduit routing and penetrations in accordance with DIN 4102-4

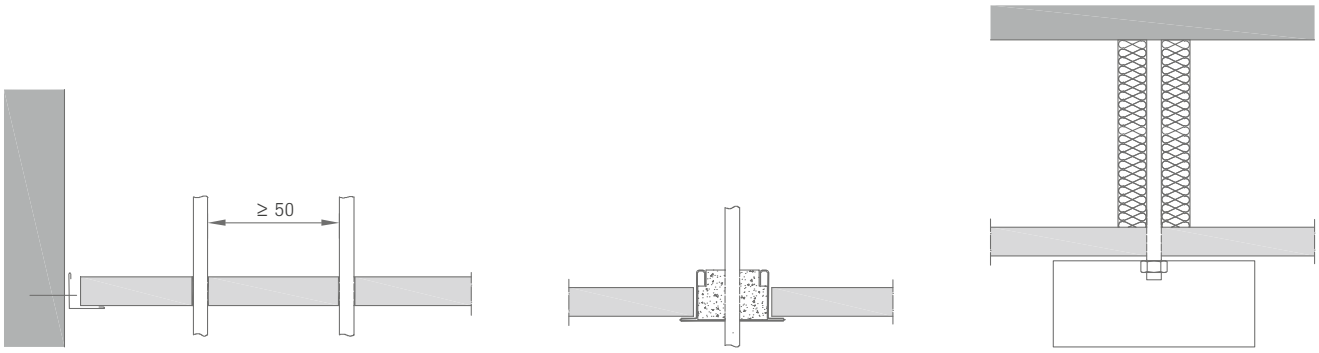
Installed fire loads in the ceiling cavity, such as cable insulation ≤ 7 kWh/m² (in accordance with DIN 4102-4) are regarded as low fire loads and considered negligible. If this heating value is exceeded, the cables must be sealed accordingly or protected by self-contained fire protection. For more information on fire loads in the ceiling cavity, see page 9.

The cables routed in the ceiling cavity are to be fastened to the ceiling slab using non-flammable fixing approved by the building authorities in such a way that an additional load is excluded during the required classification period of the suspended ceiling.

If the classified ceiling is penetrated with individual electrical cables, pipes for sprinklers, hangers (e.g. for lamps), the specifications of DIN 4102-4 (10.10) must be observed. The penetration cross sections must therefore be made insignificantly larger and the remaining annular gap must be sealed with fire protection kit no. 99/28 in full component thickness.

Single penetrations in accordance with DIN 4102-4 through classified ceilings or parts thereof

- individual electrical cables
- pipes for sprinklers
- Hanger ≤ 20 x 20 mm



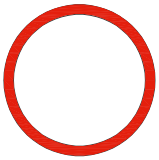
The gap between the conduit and the surrounding building component must be completely sealed with fire protection kit no. 99/28 or gypsum mortar. See also “Working with fire protection kit”, page 28.

Penetrating hangers ≤ 20 x 20 mm must be encased with mineral wool (≥ 40 kg/m³, ≥ 1000° C) for the full height of the space.

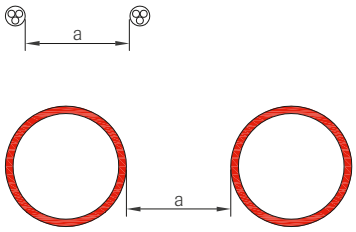
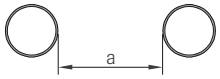
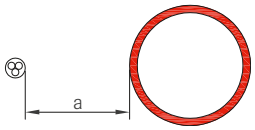
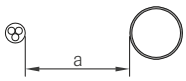
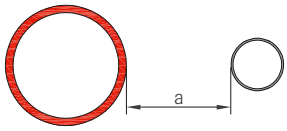
Further information on the possibilities of penetrations through space-enclosing fire-resistant ceilings can be found in the “Simplifications for individual ducts” in the MLAR under 4.3, see page 30/31.

In any case, the suitability of the selected penetration sealing measures must be checked by the planner, specialist planner, specialist contractor, etc. before execution and adapted in line with the required protection goals!

Differentiation between conduit types in accordance with MLAR 4.3

Type A		**Electrical cables:** – all types of cable with the exception of waveguide cables
Type B		**Non-flammable conduits d ≤ 160 mm:** – flammable and non-flammable media, e.g. water – does not apply to aluminium and glass conduits – max. 2 mm flammable coating permitted
Type C		**Inflammable conduits d ≤ 32 mm:** – non-flammable media, e.g. water – aluminium and glass conduits, conduits for cables

Minimum distance from pipes without insulation in accordance with MLAR 4.3.1

	a = 1 x d
	a = 5 x d
	a = 1 x d (Type A or C)
	a = 1 x d (Type A) or 5 x d (Type C)
	a = 1 x d (Type B) or 5 x d (Type C)

The largest distance determined must always be observed!

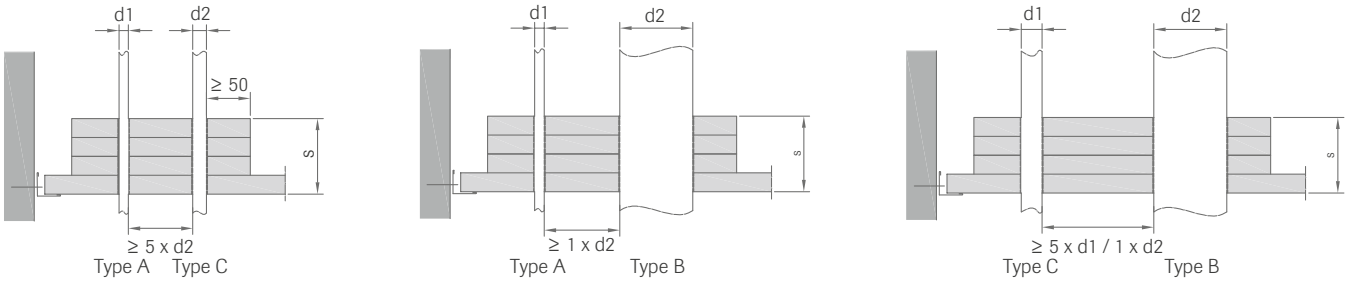
A precondition for this is observance of the required minimum component thicknesses **s** in the area of the gland:

F 30 ≥ 60 mm F 60 ≥ 70 mm F 90 ≥ 80 mm

If there aren't any specifications for the minimum spacing between partitions, installation ducts or other components, a minimum space of ≥ 50 mm must be maintained.

Examples of penetrations in accordance with MLAR

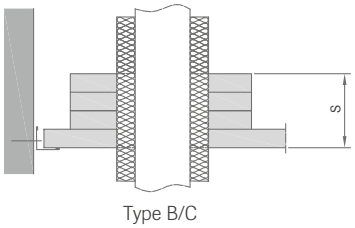
Examples of penetrations of several conduits without insulation in accordance with MLAR 4.3.1:



The gap between the conduit and the surrounding building component must be completely sealed with fire protection kit no. 99/28 or gypsum mortar. See also ”Working with fire protection kit”, page 28.

The individual layers of the doubling to achieve the minimum component thickness s must be bonded using fire protection adhesive no. 99/24.

Example of an insulated single pipeline penetration according to MLAR 4.3.3:



Insulation is required in the bushing zone, as well as 500 mm above and below the component. It must be made of an inflammable material ≥ 1000° C melting point.

In order to safely transfer the additional loads from the material reinforcement, the construction must be reinforced according to the specifications of installation instructions 9801 e under 5.5.

Important Note:

In practice, ”facilitations“ according to MLAR 4.3 are to simplify the documentation and verification. They do not need any rating plates and are not proved by fire tests. It is therefore essential to consult the planner, specialist planner, specialist company, etc. and to check whether the MLAR has been introduced in the building codes of the federal state concerned.

Technical consultation

This brochure provides a comprehensive overview of the possibilities of fire protection with OWAcoustic ceilings.

Our OWAconsult team provides planning support from the very beginning - from tenders to acoustic calculations, with installation plans and determination of material requirements. From advice on special tasks to support in the development of design concepts.

Please contact your local OWA team for any questions: www.owa.de/en/company/locations/

Certified Management Systems

Product warranties

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