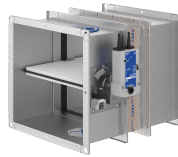



DoP/FK2-EU/DE/002

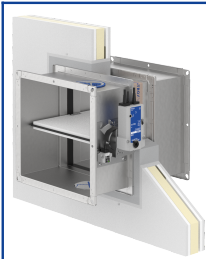


1. Unique identification code of the product type	Fire damper FK2-EU
2. Intended use	In conjunction with walls and ceilings for maintaining fire compartments in heating, ventilation and air conditioning installations
3. Manufacturers	<p>TROX GmbH Heinrich-Trox-Platz • 47504 Neukirchen-Vluyn • Germany Phone +49 (0) 2845 2020 • Fax +49 (0) 2845 202265 E-mail trox-de@troxgroup.com • Internet www.troxtechnik.com</p> <p>TROX HESCO Schweiz AG Walderstrasse 125 • 8630 Rüti ZH • Switzerland Phone +41 (0)55250 7111 • Fax +41 (0)55250 7310 E-Mail info@troxhesco.ch • Internet www.troxhesco.ch</p>
5. System of assessment and verification of constancy of performance	System 1
6. Harmonised standard Notified body/ies	<p>EN 15650:2010</p> <p>The notified body 1322 - IBS - carried out the initial inspection of the manufacturing plants and of the factory production control as well as the continuous surveillance, assessment and evaluation of factory production control according to System 1 of the Construction Products Regulation and issued the certificate of constancy of performance: 1322-CPR-74135/11 1322-CPR-61977/05</p>

7 Declared performances

Supporting construction	Construction	Installation location	Installation type	Class of performance for
 <p>Solid walls</p>	d ≥ 150 mm	in the wall	Mortar-based installation	EI 240 (v _e i↔o) S
	d ≥ 100 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Mortar-based installation	EI 120 (v _e i↔o) S
	d ≥ 100 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	d ≥ 80 mm, Gypsum wall boards, Distance to load-bearing structural elements ≥ 40 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	d ≥ 100 mm, Combined installation, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm, Distance to FKRS-EU ≥ 50 mm, Distance to FKR-EU ≥ 70 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S

d ≥ 100 mm, Multiple installation up to 4.8 m ² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
d ≥ 100 mm, 4-fold arrangement up to 4.8 m ² total fire damper area, common air duct, with mineral wool insulation, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings = 60 mm	in the wall	Mortar-based installation	EI 120 (v _e i↔o) S
d ≥ 100 mm, 4-fold arrangement up to 4.8 m ² total fire damper area, common air duct, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings = 60 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
d ≥ 100 mm, Distance to load-bearing structural elements approx. 50 mm, Distance between casings ≥ 60 mm	in the wall	Mortar-based installation (and partly with mineral wool)	EI 90 (v _e i↔o) S
d ≥ 100 mm, Flexible ceiling joint with GM installation kit (also with a reinforcing strip made of calcium silicate or mineral wool ≤ 20 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
d ≥ 100 mm, Installation kit E3	in the wall	Dry mortarless installation	EI 120 (v _e i↔o) S
d ≥ 100 mm, Distance to load-bearing structural elements ≥ 90 mm, Installation kit EW	in the wall	Dry mortarless installation	EI 120 (v _e i↔o) S
d ≥ 100 mm, Installation kit WA, Distance to load-bearing structural elements ≥ 150 mm, Distance between casings ≥ 300 mm	on the face of the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
d ≥ 100 mm, Installation kit WE, Wall connection, Distance to load-bearing structural elements ≥ 155 mm, Distance between casings ≥ 310 mm	remote from the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
d ≥ 100 mm, Installation kit WE, Wall penetration, Distance to load-bearing structural elements ≥ 110 mm, Distance between casings ≥ 300 mm	remote from the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
d ≥ 100 mm, Wall connection, Installation kit WE 120, Distance to load-bearing structural elements ≥ 180 mm, Distance between dampers ≥ 360 mm	remote from the wall	Dry mortarless installation	EI 120 (v _e i↔o) S
d ≥ 100 mm, Distance to load-bearing structural elements ≥ 40 mm	in the wall	Fire batt	EI 120 (v _e i↔o) S
d ≥ 100 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI 90 (v _e i↔o) S
d ≥ 100 mm, Multiple installation up to 2.4m ² fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI 90 (v _e i↔o) S
d ≥ 100 mm, 2-plate mineral wool bulkhead (Combined penetration seal), System Hilti (2 × 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance to pipe openings ≥ 50 mm, Distance to cable openings ≥ 100 mm, Distance to FKRS-EU fire damper ≥ 50 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI90S (FK2-EU) EI90 (Combined penetration seal and pipes and tubes)

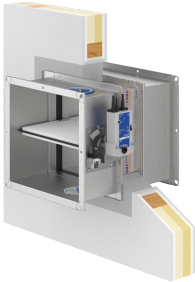


Metal stud walls

<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Mortar-based installation	EI 120 ($v_e i \leftrightarrow o$) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Mortar-based installation	EI 90 ($v_e i \leftrightarrow o$) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 80$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Mortar-based installation	EI 60 ($v_e i \leftrightarrow o$) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 75$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Mortar-based installation	EI 30 ($v_e i \leftrightarrow o$) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, Combined installation, $d \geq 94$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm, Distance to FKRS-EU ≥ 50 mm, Distance to FKR-EU ≥ 70 mm</p>	in the wall	Mortar-based installation	EI 90 ($v_e i \leftrightarrow o$) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, Multiple installation up to 4.8 m² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Mortar-based installation	EI 90 ($v_e i \leftrightarrow o$) S
<p>Metal support structure (also with steel support structure), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, 4-fold arrangement up to 4.8 m² total fire damper area, common air duct, with mineral wool insulation, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings = 60 mm</p>	in the wall	Mortar-based installation	EI 120 ($v_e i \leftrightarrow o$) S

<p>Metal support structure (also with steel support structure), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, 4-fold arrangement up to 4.8 m² total fire damper area, common air duct, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings = 60 mm</p>	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel inlay as compartment wall, safety partition wall or to provide radiation protection wall), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm</p>	in the wall	Dry mortarless installation	EI 120 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm</p>	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 80$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm</p>	in the wall	Dry mortarless installation	EI 60 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 75$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm</p>	in the wall	Dry mortarless installation	EI 30 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, Dry mortarless installation with mineral wool, Distance to load-bearing structural elements ≥ 65 mm</p>	in the wall	Dry mortarless installation	EI 60 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 80$ mm, Dry mortarless installation with GKF/GKB strips, Distance to load-bearing structural elements ≥ 65 mm</p>	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S


<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 100$ mm, Installation kit GL "flexible ceiling joint", Distance to load-bearing structural elements = 40 mm, Distance between casings ≥ 160 mm</p>	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, Installation kit WE, Wall penetration, Distance to load-bearing structural elements ≥ 270 mm, Distance between casings ≥ 350 mm</p>	remote from the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, Distance to load-bearing structural elements ≥ 40 mm</p>	in the wall	Fire batt	EI 120 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Fire batt	EI 90 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 80$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Fire batt	EI 60 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 75$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Fire batt	EI 30 (v _e i↔o) S
<p>Metal support structure (also steel support structure and with sheet steel layer as compartment wall, safety partition wall or to provide radiation protection), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, Multiple installation up to 2.4m² fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Fire batt	EI 90 (v _e i↔o) S

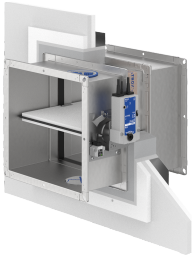
	<p>Metal support structure (also steel support structure and with sheet steel inlay as compartment wall, safety partition wall or to provide radiation protection wall), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 94$ mm, 2-plate mineral wool bulkhead (Combined penetration seal), System Hilti (2×50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance to pipe openings ≥ 50 mm, Distance to cable openings ≥ 100 mm, Distance to FKRS-EU fire damper ≥ 50 mm, Distance between casings ≥ 60 mm</p>	in the wall	Fire batt	EI90S (FK2-EU) EI90 (Combined penetration seal and pipes and tubes)
 <p>Timber stud walls</p>	<p>Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 130$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Mortar-based installation	EI 120 ($v_e i \leftrightarrow o$) S
	<p>Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 130$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Mortar-based installation	EI 90 ($v_e i \leftrightarrow o$) S
	<p>Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 110$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Mortar-based installation	EI 60 ($v_e i \leftrightarrow o$) S
	<p>Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 105$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Mortar-based installation	EI 30 ($v_e i \leftrightarrow o$) S
	<p>Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, combined assembly up to 1.2 m² total fire damper area, $d \geq 130$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm, Distance to FKRS-EU fire damper ≥ 50 mm, Distance to FKR-EU ≥ 70 mm</p>	in the wall	Mortar-based installation	EI 90 ($v_e i \leftrightarrow o$) S
	<p>Half-timbered construction, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 140$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Mortar-based installation	EI 120 ($v_e i \leftrightarrow o$) S
	<p>Half-timbered construction, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 140$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm</p>	in the wall	Mortar-based installation	EI 90 ($v_e i \leftrightarrow o$) S

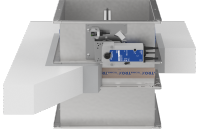


Half-timbered construction, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 110$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Mortar-based installation	EI 30 (v _e i↔o) S
Half-timbered construction, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, Combined installation, $d \geq 140$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm, Distance to FKRS-EU fire damper ≥ 50 mm, Distance to FKR-EU ≥ 70 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 130$ mm, Multiple installation up to 4.8 m ² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
Half-timbered construction, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 140$ mm, Multiple installation up to 4.8 m ² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 130$ mm, 4-fold arrangement up to 4.8 m ² total fire damper area, common air duct, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings = 60 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
Half-timbered construction, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 140$ mm, 4-fold arrangement up to 4.8 m ² total fire damper area, common air duct, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings = 60 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 130$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 120 (v _e i↔o) S
Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 130$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 110$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 60 (v _e i↔o) S

Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 105$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 30 ($v_e i \leftrightarrow o$) S
Half-timbered construction, gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum boards, $d \geq 140$ mm, With or without mineral wool, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 120 ($v_e i \leftrightarrow o$) S
Half-timbered construction, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 140$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 90 ($v_e i \leftrightarrow o$) S
Half-timbered construction, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 110$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 30 ($v_e i \leftrightarrow o$) S
Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 110$ mm, Dry mortarless installation with mineral wool, Distance to load-bearing structural elements ≥ 80 mm	in the wall	Dry mortarless installation	EI 60 ($v_e i \leftrightarrow o$) S
Half-timbered construction, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 140$ mm, Dry mortarless installation with mineral wool, Distance to load-bearing structural elements ≥ 80 mm	in the wall	Dry mortarless installation	EI 60 ($v_e i \leftrightarrow o$) S
Timber studs (also timber panel constructions and timber frames), gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum boards, $d \geq 130$ mm, With or without mineral wool, Distance to load-bearing structural elements ≥ 40 mm	in the wall	Fire batt	EI 120 ($v_e i \leftrightarrow o$) S
Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 130$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI 90 ($v_e i \leftrightarrow o$) S
Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 110$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI 60 ($v_e i \leftrightarrow o$) S
Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 105$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI 30 ($v_e i \leftrightarrow o$) S

	Half-timbered construction, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 140$ mm, Distance to load-bearing structural elements ≥ 40 mm	in the wall	Fire batt	EI 120 (v _e i↔o) S
	Half-timbered construction, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 140$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI 90 (v _e i↔o) S
	Half-timbered construction, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 110$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI 30 (v _e i↔o) S
	Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, $d \geq 130$ mm, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, Multiple installation up to 2.4m ² fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI 90 (v _e i↔o) S
	Half-timbered construction, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 140$ mm, Multiple installation up to 2.4m ² fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI 90 (v _e i↔o) S
	Timber studs (also timber panel constructions and timber frames), With or without mineral wool, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 130$ mm, 2-plate mineral wool bulkhead (Combined penetration seal), System Hilti (2 × 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance to pipe openings ≥ 50 mm, Distance to cable openings ≥ 100 mm, Distance to FKRS-EU fire damper ≥ 50 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI90S (FK2-EU) EI90 (Combined penetration seal and pipes and tubes)
	Half-timbered construction, Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 140$ mm, 2-plate mineral wool bulkhead (Combined penetration seal), System Hilti (2 × 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance to pipe openings ≥ 50 mm, Distance to cable openings ≥ 100 mm, Distance to FKRS-EU fire damper ≥ 50 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI90S (FK2-EU) EI90 (Combined penetration seal and pipes and tubes)
 <p>Solid wood walls</p>	Solid wood / cross laminated timber wall (also with additional fire-rated plasterboard planking), $d \geq 95$ mm, Distance to load-bearing structural elements ≥ 40 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	Solid wood / cross laminated timber wall (also with additional fire-rated plasterboard planking), $d \geq 95$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
	Solid wood / cross laminated timber wall (also with additional fire-rated plasterboard planking), $d \geq 100$ mm, Dry mortarless installation with mineral wool, Distance to load-bearing structural elements ≥ 80 mm	in the wall	Dry mortarless installation	EI 60 (v _e i↔o) S

	Solid wood / cross laminated timber wall (also with additional fire-rated plasterboard planking), $d \geq 95$ mm, Distance to load-bearing structural elements ≥ 40 mm	in the wall	Fire batt	EI 90 (v _e i↔o) S
	Solid wood / cross laminated timber wall (also with additional fire-rated plasterboard planking), $d \geq 95$ mm, 2-plate mineral wool bulkhead (Combined penetration seal), System Hilti (2 × 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance to pipe openings ≥ 50 mm, Distance to cable openings ≥ 100 mm, Distance to FKRS-EU fire damper ≥ 50 mm, Distance between casings ≥ 60 mm	in the wall	Fire batt	EI90S (FK2-EU) EI90 (Combined penetration seal and pipes and tubes)
 <p>Shaft walls</p>	Metal support structure (also steel support structure and facings), Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, Cladding on one side, $d \geq 90$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	Metal support structure, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, Cladding on one side (construction with adjusted cladding), $d \geq 80$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	Metal support structure (also with steel support structure and facings), Gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, Cladding on one side, $d \geq 75$ mm, $\geq 2 \times 12.5$ mm, with reinforcing board, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the wall	Mortar-based installation	EI 30 (v _e i↔o) S
	Metal support structure (also steel support structure and facings), Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, Cladding on one side, $d \geq 90$ mm, Combined installation, Distance to load-bearing structural elements ≥ 40 mm, Distance to FKRS-EU ≥ 50 mm, Distance to FKR-EU ≥ 70 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	Metal support structure (also steel support structure and facings), Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, Cladding on one side, $d \geq 90$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
	Metal support structure, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, Cladding on one side (construction with adjusted cladding), $d \geq 80$ mm, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
	Metal support structure (also steel support structure and facings), Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, Cladding on one side, $d \geq 75$ mm, $\geq 2 \times 12.5$ mm, with reinforcing board, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 30 (v _e i↔o) S

	Without metal support structure, Gypsum bonded or cement bonded panel materials, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, Cladding on one side, $d \geq 40$ mm, $\geq 2 \times 20$ mm, with reinforcing board, Installation kit ES, Distance to load-bearing structural elements ≥ 65 mm	in the wall	Dry mortarless installation	EI 90 (v_e i↔o) S
 <p>Solid ceiling slabs</p>	$d \geq 150$ mm	in the ceiling	Mortar-based installation	EI 180 (h_o i↔o) S
	$d \geq 100$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the ceiling	Mortar-based installation	EI 120 (h_o i↔o) S
	$d \geq 100$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i↔o) S
	$d \geq 150$ mm, combined assembly up to 1.2 m ² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm, Distance to FKRS-EU fire damper ≥ 50 mm, Distance to FKR-EU ≥ 70 mm	in the ceiling	Mortar-based installation	EI 90 (v_e i↔o) S
	$d \geq 125$ mm, Multiple installation up to 4.8 m ² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i↔o) S
	$d \geq 100$ mm, Concrete base ≤ 750 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the ceiling	Mortar-based installation	EI 120 (h_o i↔o) S
	$d \geq 100$ mm, Concrete base ≤ 750 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i↔o) S
	$d \geq 100$ mm, Concrete base, Combined installation, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm, Distance to FKRS-EU ≥ 50 mm, Distance to FKR-EU ≥ 70 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i↔o) S
	$d \geq 100$ mm, Concrete base ≤ 750 mm, Multiple installation up to 4.8 m ² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i↔o) S
	$d \geq 125$ mm, Installation in hollow chamber, ribbed, composite and hollow stone ceilings	in the ceiling	Mortar-based installation	EI 90 (h_o i↔o) S
	Combined with wooden beam ceilings (glued laminated timber also), partial concrete ceiling, $d \geq 125$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i↔o) S
	Combined with solid wood ceilings, partial concrete ceiling, $d \geq 125$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i↔o) S
	Combined with suspended ceiling systems (Cadolto system), partial concrete ceiling, $d \geq 125$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the ceiling	Mortar-based installation	EI 120 (h_o i↔o) S
$d \geq 125$ mm, on the face of the ceiling with installation kit WA, Distance to load-bearing structural elements ≥ 150 mm, Distance between casings ≥ 300 mm	on the ceiling	Dry mortarless installation	EI 90 (h_o i↔o) S	

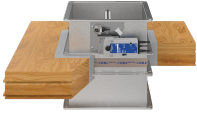
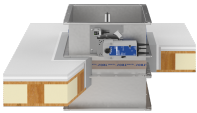
	d ≥ 125 mm, below the ceiling, with horizontal duct, Installation kit WE, Distance to load-bearing structural elements ≥ 155 mm, Distance between casings ≥ 310 mm	remote from the ceiling	Dry mortarless installation	EI 90 (h _o i↔o) S
	d ≥ 125 mm, above the ceiling, with horizontal duct, Installation kit WE, Distance to load-bearing structural elements ≥ 155 mm, Distance between casings ≥ 310 mm	remote from the ceiling	Dry mortarless installation	EI 90 (h _o i↔o) S
	d ≥ 150 mm, Distance to load-bearing structural elements ≥ 40 mm	in the ceiling	Fire batt	EI 120 (h _o i↔o) S
	d ≥ 100 mm, Distance to load-bearing structural elements ≥ 40 mm	in the ceiling	Fire batt	EI 90 (h _o i↔o) S
	d ≥ 150 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings = 60 mm	in the ceiling	Fire batt	EI 90 (h _o i↔o) S
	d ≥ 150 mm, Multiple installation up to 2.4m ² fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 60 mm	in the ceiling	Fire batt	EI 90 (h _o i↔o) S
 <p>Solid wood ceilings</p>	d ≥ 140 mm	in the ceiling	Mortar-based installation	EI 90 (h _o i↔o) S
	d ≥ 112.5 mm, Additional cladding	in the ceiling	Mortar-based installation	EI 90 (h _o i↔o) S
	d ≥ 140 mm, Installation kit ES	in the ceiling	Dry mortarless installation	EI 90 (h _o i↔o) S
	d ≥ 112.5 mm, Additional cladding, Installation kit ES	in the ceiling	Dry mortarless installation	EI 90 (h _o i↔o) S
 <p>Wooden beam ceilings</p>	d ≥ 167.5 mm, Distance to load-bearing structural elements ≥ 40 mm	in the ceiling	Mortar-based installation	EI 90 (h _o i↔o) S
	d ≥ 155 mm, Distance to load-bearing structural elements ≥ 40 mm	in the ceiling	Mortar-based installation	EI 60 (h _o i↔o) S
	d ≥ 142.5 mm, Distance to load-bearing structural elements ≥ 40 mm	in the ceiling	Mortar-based installation	EI 30 (h _o i↔o) S
	d ≥ 167.5 mm, Installation kit ES	in the ceiling	Dry mortarless installation	EI 90 (h _o i↔o) S
	d ≥ 155 mm, Installation kit ES	in the ceiling	Dry mortarless installation	EI 60 (h _o i↔o) S
	d ≥ 142.5 mm, Installation kit ES	in the ceiling	Dry mortarless installation	EI 30 (h _o i↔o) S
	Historical wooden beam ceilings, Construction according to local conditions with 30 minutes fire resistance	in the ceiling	Mortar-based installation	EI 30 (h _o i↔o) S

Table 2

Essential characteristics	Technical specification	Performance
Nominal activation conditions/sensitivity Sensing element load-bearing capacity Sensing element response temperature 72 °C, 95 °C	ISO 10294-4:2001	Pass
Response delay/response time Closure time	EN 1366-2:2015	Pass
Operational reliability Open and closing cycle, 50 cycles	EN 15650:2010 EN 1366-2:2015	Pass
Durability of response delay Sensing element response to temperature and load-bearing capacity	ISO 10294-4:2001	Pass
Durability of operational reliability Testing of the open and closing cycle, 10,000 cycles B(L)F 24-T(N)-(ST) TR, B(L)F230-T(N)-(ST) TR BFL 24-T-(ST) TR, BFL 230-T-(ST) TR BFN 24-T-(ST) TR, BFN 230-T-(ST) TR BF 24TL-T(N)-(ST) TR ExMax-15-BF-TR RedMax-15-BF-TR GGA126.1E/T../GGA326.1E/T... GRA126.1E/T../GRA326.1E/T... GNA126.1E/T../GNA326.1E/T... SFR 1.90 T (SLC) SFR 2.90 T	EN 15650:2010	Pass
Protection against corrosion	EN 15650:2010	Pass
Damper blade leakage	EN 1751:2014	At least class 2
Damper casing leakage	EN 1751:2014	L = 305 mm, Class C L = 500 mm, Class C, (B+H) ≤ 700, Class B

The classification of the fire damper must not be higher than the classification of the wall or ceiling slab it is installed in. In this case the class of performance of the wall or ceiling slab applies also to the fire damper.

Signed for and on behalf of TROX GmbH:

Neukirchen-Vluyn, 1 April 2022



Jan Heymann • Authorised Representative • CE-marked products