

DoP/FKRS-EU/DE/004



Product

Unique identification code of the product type

Fire damper

FKRS-EU

Intended use

In conjunction with walls and ceilings for maintaining fire compartments in heating, ventilation and air conditioning installations

Manufacturer

TROX GmbH

Heinrich-Trox-Platz • 47504 Neukirchen-Vluyn • Germany

Phone +49 (0)2845 2020 • Fax +49 (0)2845 202265

E-mail trox@trox.de • Internet www.trox.de

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

System of assessment and verification of constancy of performance

System 1

Harmonised standard

EN 15650:2010

Notified body/ies

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-74135/02

1322-CPR-61977/02


7 Declared performances

Supporting construction	Construction	Installation location	Installation type	Performance class up to
	d ≥ 100 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the wall	Mortar-based installation	EI 120 (ve i↔o) S
	d ≥ 100 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm	in the wall	Mortar-based installation	EI 90 (ve i↔o) S
	d ≥ 100 mm, combined assembly, Distance to load-bearing structural elements ≥ 40 mm, Distance to fire dampers FK-EU/FK2-EU ≥ 50 mm, Distance between casings ≥ 40 mm	in the wall	Mortar-based installation	EI 90 (ve i↔o) S
	d ≥ 100 mm, Multiple assignment up to a maximum of 1.2m ² area of the installation opening, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm	in the wall	Mortar-based installation	EI 90 (ve i↔o) S

Declaration of performance

d ≥ 100 mm, Distance to load-bearing structural elements 40 - 50 mm, Distance between casings ≥ 40 mm	in the wall	Mortar-based installation (and partly with mineral wool)	EI 120 (v _e i↔o) S
d ≥ 100 mm, below flexible ceiling joints, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
d ≥ 100 mm, Installation block ER, Distance from installation block to load-bearing structural elements ≥ 75 mm, Distance between installation blocks ≥ 200 mm	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
d ≥ 100 mm, Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	EI 120 (v _e i↔o) S
d ≥ 100 mm, Installation kit WA/WA2, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	on the face of the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
d ≥ 100 mm, Installation kit WE/WE2, Wall mounting, Cladding on 2, 3 or 4 sides, Distance to load-bearing structural elements ≥ 50 mm, Distance between casings ≥ 260 mm	remote from the wall	Dry mortarless installation	EI 120 (v _e i↔o) S
d ≥ 100 mm, Installation kit WE/WE2, Wall penetration, Cladding on 2, 3 or 4 sides, Distance to load-bearing structural elements ≥ 50 mm, Distance between casings ≥ 260 mm	remote from the wall	Dry mortarless installation	EI 120 (v _e i↔o) S
d ≥ 100 mm, remote from the wall, Mineral wool insulation, Distance to load-bearing structural elements, Distance between casings ≥ 400 mm	remote from the wall	Dry mortarless installation	EI 60 (v _e i↔o) S
d ≥ 100 mm, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the wall	Fire batt	EI 120 (v _e i↔o) S
d ≥ 100 mm, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 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 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance to pipe openings ≥ 50 mm, Distance to cable openings ≥ 100 mm, Distance to fire dampers FK-EU ≥ 50 mm, Distance between casings ≥ 40 mm	in the wall	Fire batt	EI 90 (v _e i↔o) S
d ≥ 100 mm, Fire protection stone bulkhead system Hilti CFS-BL, Distance between fire damper and penetration seal edge ≥ 50 mm, Distance to cable penetrations and empty pipes ≥ 200 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S

Declaration of performance

	<p>Metal support structure (also with 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, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm</p>	<p>in the wall</p>	<p>Mortar-based installation</p>	<p>EI 120 ($v_e i \leftrightarrow o$) S</p>
	<p>Metal support structure (also with 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, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm</p>	<p>in the wall</p>	<p>Mortar-based installation</p>	<p>EI 90 ($v_e i \leftrightarrow o$) S</p>
	<p>Metal support structure (also with 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, combined assembly, Distance to load-bearing structural elements ≥ 40 mm, Distance to fire dampers FK-EU/FK2-EU ≥ 50 mm, Distance between casings ≥ 40 mm</p>	<p>in the wall</p>	<p>Mortar-based installation</p>	<p>EI 90 ($v_e i \leftrightarrow o$) S</p>
	<p>Metal support structure (also with 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, $d \geq 80$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm</p>	<p>in the wall</p>	<p>Mortar-based installation</p>	<p>EI 60 ($v_e i \leftrightarrow o$) S</p>
	<p>Metal support structure (also with 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, $d \geq 75$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm</p>	<p>in the wall</p>	<p>Mortar-based installation</p>	<p>EI 30 ($v_e i \leftrightarrow o$) S</p>
	<p>Metal support structure (also with 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 or fibre-reinforced gypsum boards, $d \geq 94$ mm, Installation block EQ, Distance from installation block to load-bearing structural elements ≥ 75 mm, Distance between installation blocks ≥ 200 mm</p>	<p>in the wall</p>	<p>Dry mortarless installation</p>	<p>EI 120 ($v_e i \leftrightarrow o$) S</p>
	<p>Metal support structure (also with 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, without installation kit,</p>	<p>in the wall</p>	<p>Dry mortarless installation</p>	<p>EI 60 ($v_e i \leftrightarrow o$) S</p>

Declaration of performance


Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm			
Metal support structure (also with 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 TQ/ TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	EI 120 (ve i↔o) S
Metal support structure (also with 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 TQ/ TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	EI 90 (ve i↔o) S
Metal support structure (also with 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, $d \geq 80$ mm, Installation kit TQ/ TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	EI 60 (ve i↔o) S
Metal support structure (also with 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, $d \geq 75$ mm, Installation kit TQ/ TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	EI 30 (ve i↔o) S
Metal support structure (also with 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 WE/ WE2, Cladding on 2, 3 or 4 sides, Distance to load-bearing structural elements ≥ 50 mm, Distance between casings ≥ 300 mm	remote from the wall	Dry mortarless installation	EI 90 (ve i↔o) S
Metal support structure (also with 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, remote from the wall, Mineral wool insulation, Distance to load-bearing structural elements, Distance between casings ≥ 400 mm	remote from the wall	Dry mortarless installation	EI 60 (ve i↔o) S
Metal support structure (also with steel support structure) and with sheet steel inlay as compartment wall, safety partition wall or to provide radiation protection wall, with or	in the wall	Dry mortarless installation	EI 90 (ve i↔o) S



Declaration of performance

without mineral wool, gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, d = 94 - 100 mm, Installation kit GL/GL2, direct wall installation, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm			
Metal support structure (also with 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, „flexible ceiling joint“, d ≥ 100 mm, Installation kit GL/GL2, Distance to load-bearing structural elements ≥ 50 mm, Distance between casings ≥ 100 mm	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
Metal support structure (also with 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 ≥ 94 mm, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the wall	Fire batt	EI 120 (v _e i↔o) S
Metal support structure (also with 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 ≥ 94 mm, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm	in the wall	Fire batt	EI 90 (v _e i↔o) S
Metal support structure (also with 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 ≥ 80 mm, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm	in the wall	Fire batt	EI 60 (v _e i↔o) S
Metal support structure (also with 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 ≥ 75 mm, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm	in the wall	Fire batt	EI 30 (v _e i↔o) S
Metal support structure (also with 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 ≥ 100 mm, 2-plate mineral wool bulkhead (Combined penetration seal), System Hilti (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance to pipe openings ≥ 50 mm, Distance to cable	in the wall	Fire batt	EI 90 (v _e i↔o) S

Declaration of performance

	<p>openings ≥ 100 mm, Distance to fire dampers FK-EU ≥ 50 mm, Distance between casings ≥ 40 mm</p>			
	<p>Metal support structure (also with 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, $d = 100 - 200$ mm, Fire protection stone bulkhead system Hilti CFS-BL, Trim panels, Distance between fire damper and penetration seal edge ≥ 50 mm, Distance to cable openings ≥ 200 mm, Distance between casings ≥ 200 mm</p>	in the wall	Dry mortarless installation	EI 90 (v _e i↔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 ≥ 40 mm</p>	in the wall	Mortar-based installation	EI 120 (v _e i↔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 ≥ 10 mm</p>	in the wall	Mortar-based installation	EI 90 (v _e i↔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 ≥ 10 mm</p>	in the wall	Mortar-based installation	EI 60 (v _e i↔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 ≥ 10 mm</p>	in the wall	Mortar-based installation	EI 30 (v _e i↔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 ≥ 40 mm</p>	in the wall	Mortar-based installation	EI 120 (v _e i↔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 ≥ 10 mm</p>	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	<p>Half-timbered construction, gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 110$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm</p>	in the wall	Mortar-based installation	EI 30 (v _e i↔o) S



Declaration of performance


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 TQ/TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 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, $d \geq 110$ mm, Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 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 TQ/TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless 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, $d \geq 140$ mm, Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	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, Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless 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, $d \geq 110$ mm, Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	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, fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 130$ mm, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the wall	Fire batt	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, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 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, $d \geq 110$ mm, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-	in the wall	Fire batt	EI 60 (v _e i↔o) S





Declaration of performance

bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm			
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, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm	in the wall	Fire batt	EI 30 (ve 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, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the wall	Fire batt	EI 120 (ve 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, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm	in the wall	Fire batt	EI 90 (ve 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, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm	in the wall	Fire batt	EI 30 (ve 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, remote from the wall, Mineral wool insulation, Distance to load-bearing structural elements, Distance between casings ≥ 400 mm	remote from the wall	Dry mortarless installation	EI 60 (ve 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, remote from the wall, Mineral wool insulation, Distance to load-bearing structural elements, Distance between casings ≥ 400 mm	remote from the wall	Dry mortarless installation	EI 60 (ve 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, 2-plate mineral wool bulkhead (Combined penetration seal), System Hilti (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance to pipe openings ≥ 50 mm, Distance to cable openings ≥ 100 mm, Distance to fire dampers FK-EU ≥ 50 mm, Distance between casings ≥ 40 mm	in the wall	Fire batt	EI 90 (ve 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, 2-plate mineral wool bulkhead (Combined penetration seal), System Hilti (2 x 50 mm), Distance to load-bearing structural	in the wall	Fire batt	EI 90 (ve i \leftrightarrow o) S



Declaration of performance

	elements ≥ 40 mm, Distance to pipe openings ≥ 50 mm, Distance to cable openings ≥ 100 mm, Distance to fire dampers FK-EU ≥ 50 mm, Distance between casings ≥ 40 mm			
	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, Fire protection stone bulkhead system Hilti CFS-BL, Trim panels, Distance between fire damper and penetration seal edge ≥ 50 mm, Distance to cable openings ≥ 200 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	EI 90 (ve 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, Fire protection stone bulkhead system Hilti CFS-BL, Trim panels, Distance between fire damper and penetration seal edge ≥ 50 mm, Distance to cable openings ≥ 200 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	EI 90 (ve i↔o) S
	Solid wood wall / CLT wall, $d \geq 95$ mm (also with additional fire-rated plasterboard cladding), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm	in the wall	Mortar-based installation	EI 90 (ve i↔o) S
	Solid wood wall / CLT wall, $d \geq 95$ mm (also with additional fire-rated plasterboard cladding), Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	EI 90 (ve i↔o) S
	Solid wood wall / CLT wall, $d \geq 95$ mm (also with additional fire-rated plasterboard cladding), remote from the wall, Mineral wool insulation, Distance to load-bearing structural elements, Distance between casings ≥ 400 mm	remote from the wall	Dry mortarless installation	EI 60 (ve i↔o) S
	Solid wood wall / CLT wall, $d \geq 95$ mm (also with additional fire-rated plasterboard cladding), 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 200 mm	in the wall	Fire batt	EI 90 (ve i↔o) S
	Solid wood wall / CLT wall, $d \geq 95$ mm (also with additional fire-rated plasterboard cladding), 2-plate mineral wool bulkhead (Combined penetration seal), System Hilti (2 x 50 mm), Distance to load-bearing structural elements ≥ 40 mm, Distance to pipe openings ≥ 50 mm, Distance to cable openings ≥ 100 mm, Distance to fire dampers FK-EU ≥ 50 mm, Distance between casings ≥ 40 mm	in the wall	Fire batt	EI 90 (ve i↔o) S
	Solid wood wall / CLT wall, $d \geq 95$ mm (also with additional fire-rated plasterboard cladding), Fire protection stone bulkhead system Hilti CFS-BL, Trim panels, Distance between fire damper and penetration seal edge ≥ 50 mm, Distance to cable openings ≥ 200 mm, Distance between casings ≥ 200 mm	in the wall	Dry mortarless installation	EI 90 (ve i↔o) S


Declaration of performance

	<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 ≥ 10 mm</p>	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	<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, with reinforcing board to ≥ 90 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 10 mm</p>	in the wall	Mortar-based installation	EI 30 (v _e i↔o) S
	<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, combined assembly, Distance to load-bearing structural elements ≥ 40 mm, Distance to fire dampers FK-EU/FK2-EU ≥ 50 mm, Distance between casings ≥ 40 mm</p>	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	<p>Metal support structure, gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, cladding on one side, $d \geq 90$ mm, Installation block EQ, Distance from installation block to load-bearing structural elements ≥ 75 mm, Distance between installation blocks ≥ 200 mm</p>	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
	<p>Metal support structure, gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, cladding on one side, $d \geq 90$ mm, Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 55 mm, Distance between casings ≥ 200 mm</p>	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
	<p>Metal support structure, gypsum bonded or cement bonded panel materials, fibre-reinforced gypsum boards or firestop boards of calcium silicate, cladding on one side, $d \geq 90$ mm, Installation kit WA/WA2, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm</p>	on the face of the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
	<p>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, $d \geq 50$ mm, Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 100 mm, Distance between casings ≥ 200 mm</p>	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
	<p>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, Installation kit WA/WA2, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm</p>	on the face of the wall	Dry mortarless installation	EI 90 (v _e i↔o) S

Declaration of performance

	<p>d = 100 - 200 mm (sheet thickness 2 x ≥ 0.5 mm sheet steel, mineral wool ≥ 150 kg/m³), Trim panels, Fire protection stone bulkhead system Hilti CFS-BL, Distance between fire damper and penetration seal edge ≥ 50 mm, Distance to cable openings ≥ 200 mm, Distance between casings ≥ 200 mm</p>	<p>in the wall</p>	<p>Dry mortarless installation</p>	<p>EI 90 (v_e i↔o) S</p>
	<p>d ≥ 100 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 45 mm</p>	<p>in the ceiling</p>	<p>Mortar-based installation</p>	<p>EI 120 (h_o i↔o) S</p>
	<p>d ≥ 100 mm, Concrete base ≤ 750 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 45 mm</p>	<p>in the ceiling</p>	<p>Mortar-based installation</p>	<p>EI 120 (h_o i↔o) S</p>
	<p>d ≥ 100 mm, Concrete base ≤ 750 mm, Multiple mounting, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 45 mm</p>	<p>in the ceiling</p>	<p>Mortar-based installation</p>	<p>EI 90 (h_o i↔o) S</p>
	<p>d ≥ 100 mm, Concrete base ≤ 750 mm, combined assembly, Distance to load-bearing structural elements ≥ 40 mm, Distance to fire dampers FK-EU/FK2-EU ≥ 50 mm, Distance between casings ≥ 45 mm</p>	<p>in the ceiling</p>	<p>Mortar-based installation</p>	<p>EI 90 (h_o i↔o) S</p>
	<p>d ≥ 150 mm, Hollow stone ceilings, Hollow chamber ceilings, Ribbed Ceilings, Composite ceilings and comparable ceiling constructions, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 45 mm</p>	<p>in the ceiling</p>	<p>Mortar-based installation</p>	<p>EI 90 (h_o i↔o) S</p>
	<p>combined with wooden beam ceilings (glued laminated timber also), partial concrete ceiling, d ≥ 150 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 45 mm</p>	<p>in the ceiling</p>	<p>Mortar-based installation</p>	<p>EI 90 (h_o i↔o) S</p>
	<p>combined with solid wood ceilings, partial concrete ceiling, d ≥ 150 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 45 mm</p>	<p>in the ceiling</p>	<p>Mortar-based installation</p>	<p>EI 90 (h_o i↔o) S</p>
	<p>combined with suspended ceiling systems (Cadolto system), partial concrete ceiling, d ≥ 150 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 45 mm</p>	<p>in the ceiling</p>	<p>Mortar-based installation</p>	<p>EI 120 (h_o i↔o) S</p>
	<p>d ≥ 100 mm, Installation block ER, Distance from installation block to load-bearing structural elements ≥ 75 mm, Distance between installation blocks ≥ 200 mm</p>	<p>in the ceiling</p>	<p>Dry mortarless installation</p>	<p>EI 90 (h_o i↔o) S</p>
	<p>d ≥ 125 mm, below the ceiling, with horizontal duct, Perimeter gap filled with mortar or mineral wool, clad on 4 sides, Installation kit WE/WE2, Distance to load-bearing structural elements ≥ 130 mm, Distance between casings ≥ 260 mm</p>	<p>remote from the ceiling</p>	<p>Dry mortarless installation</p>	<p>EI 90 (h_o i↔o) S</p>
	<p>d ≥ 125 mm, above the ceiling, with horizontal duct, Perimeter gap filled with mortar or mineral wool, clad on 4 sides, Installation kit WE/WE2, Distance to load-bearing structural elements ≥ 130 mm, Distance between casings ≥ 260 mm</p>	<p>remote from the ceiling</p>	<p>Dry mortarless installation</p>	<p>EI 90 (h_o i↔o) S</p>

Declaration of performance

	d ≥ 100 mm, 2-plate mineral wool bulkhead (2 x 50 mm), Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the ceiling	Fire batt	EI 120 (h _o i↔o) S
	d ≥ 140 mm, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the ceiling	Mortar-based installation	EI 90 (h _o i↔o) S
	d ≥ 112.5 mm, additional cladding, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the ceiling	Mortar-based installation	EI 90 (h _o i↔o) S
	d ≥ 140 mm, Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the ceiling	Dry mortarless installation	EI 90 (h _o i↔o) S
	d ≥ 112.5 mm, Installation kit TQ/TQ2, additional cladding, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the ceiling	Dry mortarless installation	EI 90 (h _o i↔o) S
	d ≥ 167.5 mm, wooden beam or gluelam, additional cladding, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the ceiling	Mortar-based installation	EI 90 (h _o i↔o) S
	d ≥ 155 mm, wooden beam or gluelam, additional cladding, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the ceiling	Mortar-based installation	EI 60 (h _o i↔o) S
	d ≥ 142.5 mm, wooden beam or gluelam, additional cladding, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the ceiling	Mortar-based installation	EI 30 (h _o i↔o) S
	d ≥ 167.5 mm, wooden beam or gluelam, additional cladding, Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the ceiling	Dry mortarless installation	EI 90 (h _o i↔o) S
	d ≥ 155 mm, wooden beam or gluelam, additional cladding, Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the ceiling	Dry mortarless installation	EI 60 (h _o i↔o) S
	d ≥ 142.5 mm, wooden beam or gluelam, additional cladding, Installation kit TQ/TQ2, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	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, Distance to load-bearing structural elements ≥ 75 mm, Distance between casings ≥ 200 mm	in the ceiling	Mortar-based installation	EI 30 (h _o i↔o) S

Declaration of performance

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-(ST)-TR BF24TL-T-(ST)-TR BFL 24-T-(ST) TR, BFL 230-T-(ST) TR BFN 24-T-(ST) TR, BFN 230-T-(ST) TR ExMax-15-BF-TR, RedMax-15-BF-TR GGA126.1E/T../GGA326.1E/T... GNA126.1E/T../GNA326.1E/T... GRA126.1E/T../GRA326.1E/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	Class 3
Damper casing leakage	EN 1751:2014	Class C

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.

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with regulation (EU) no. 305/2011, under the sole responsibility of the manufacturer identify

Signed for and on behalf of TROX GmbH:

Neukirchen-Vluyn, 01.07.2020



Jan Heymann • CE-Beauftragter Authorised Representative • CE-marked products