Declaration of performance

DoP/EK-EU/002

TROX® TECHNIK
The art of handling air

1 Product

Unique identification code of the product type

EK-EU

2 Intended use

Smoke control damper for multi compartments

3 Manufacturer

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5 System for assessment and verification of constancy of performance

System 1

6 Harmonised standard

EN 12101-8:2011

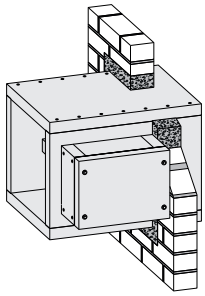
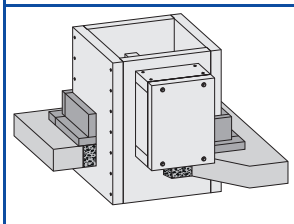
Notified body/ies

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-74135/03

7 Declared performances

Table 1

Essential characteristics: fire resistance for nominal sizes [mm]: 200 × 200 to 1500 × 800				
Supporting construction	**Construction details**	**Installation location**	**Installation type**	**Performance class**
 Solid wall	d ≥ 100 mm, ρ ≥ 500 kg/m³, Connection to smoke extract ducts according to EN 1366-8, Connection to smoke extract ducts according to EN 1366-9, Installation openings can be reduced in size with cement-bonded panel building materials	in the wall	Mortar-based installation	EI 90 (v_{ew}, i↔o) S 1500 C_{mod} MA multi HOT 400/30
 Solid ceiling slab	d ≥ 150 mm, ρ ≥ 600 kg/m³, Connection to smoke extract ducts according to EN 1366-8, Connection to smoke extract ducts according to EN 1366-9	in the ceiling	Mortar-based installation	EI 120 (h_{ow}, i↔o) S 1500 C_{mod} MA multi HOT 400/30

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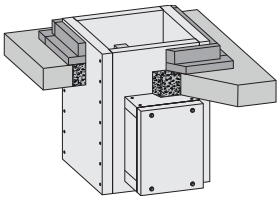
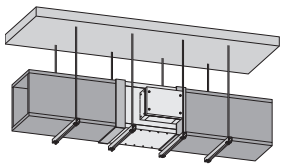
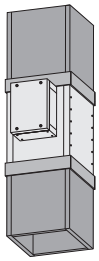
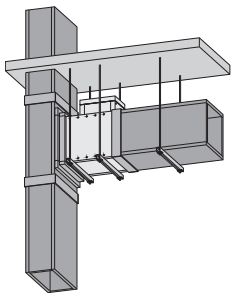
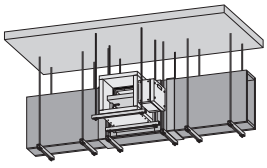
 Solid ceiling slab	d ≥ 150 mm, ρ ≥ 600 kg/m³, Connection to smoke extract ducts according to EN 1366-8, Connection to smoke extract ducts according to EN 1366-9	in the ceiling	Mortar-based installation	EI 120 (h_{ow}, i↔o) S 1500 C_{mod} MA multi HOT 400/30
 Fire-resistant smoke extract duct	ρ ≈ 500 kg/m³, Wall thickness ≥ 35 mm, Connection to smoke extract ducts according to EN 1366-8, Connection to smoke extract ducts according to EN 1366-9	in a horizontal duct	Dry mortarless installation	EI 90 (v_{ed}, i↔o) S 1500 C_{mod} MA multi HOT 400/30
 Fire-resistant smoke extract duct	ρ ≈ 500 kg/m³, Wall thickness ≥ 35 mm, Connection to smoke extract ducts according to EN 1366-8, Connection to smoke extract ducts according to EN 1366-9	in a vertical duct	Dry mortarless installation	EI 120 (v_{ed}, i↔o) S 1500 C_{mod} MA multi HOT 400/30
 Fire-resistant smoke extract duct	ρ ≈ 500 kg/m³, Wall thickness ≥ 35 mm, Connection to smoke extract ducts according to EN 1366-8, Connection to smoke extract ducts according to EN 1366-9	in a horizontal and on a vertical duct	Dry mortarless installation	EI 90 (v_{ed}, i↔o) S 1500 C_{mod} MA multi HOT 400/30
 Fire-resistant smoke extract duct	ρ ≈ 500 kg/m³, Wall thickness ≥ 35 mm, Connection to smoke extract ducts according to EN 1366-8, Connection to smoke extract ducts according to EN 1366-9	on a horizontal duct	Dry mortarless installation	EI 90 (v_{ed}, i↔o) S 1500 C_{mod} MA multi HOT 400/30

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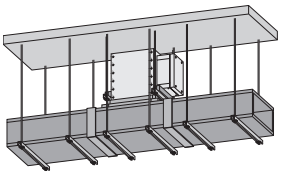 Fire-resistant smoke extract duct	ρ ≈ 500 kg/m³, Wall thickness ≥ 35 mm, Connection to smoke extract ducts according to EN 1366-8, Connection to smoke extract ducts according to EN 1366-9	on top of a horizontal duct	Dry mortarless installation	EI 120 (h_{od}, i↔o) S 1500 C_{mod} MA multi HOT 400/30

Note

Construction of the duct: Smoke control dampers for multi compartments may be used with ducts that have been tested to EN 1366-9 (Single compartment smoke extraction ducts) and to EN 1366-8 (Smoke extraction ducts) and that are constructed either from materials of the same density (ρ ≈ 500 kg/m³) as the tested material or from the same material with a greater density or thickness. Smoke extract ducts made from Promatect AD 40 or Promatect L 500 boards (ρ ≈ 500 kg/m³) may also be used.

Table 2

Essential characteristics	**Technical specification EN 12101-8: section**	**Performance level**	**(●) Requirements met/ note**
Nominal activation conditions/sensitivity	4.2.1.3		● / Suitability for heating and ventilation systems (observe correct use), smoke and heat extraction system with manual release (AA) proven
Response delay	4.2.1.4	MA	● / Opening/closure within 25 minutes at fire temperature has been proven. Duration < 60 s.
Operational reliability	4.4.2.2	C_{mod}	● / 20,000 cycles, duration per cycle < 120 s
Fire resistance classification to EN 13501-4			
• Integrity (E)	4.1.1 a)	E120/E90	● / Details: Table 1
• Insulation (I)	4.1.1 b)	EI120/90	● / Details: Table 1
• Leakage (S)	4.1.1 c)	S 1500	● / pressure level 3; differential pressure: 1500 to +500 Pa
• Mechanical stability (part of E)	4.1.1 d)	E120/E90	● / Details: Table 1
• Maintenance of cross section (part of E)	4.1.1 e)	E120/E90	● / Details: Table 1

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Essential characteristics	Technical specification section of EN 12101-8	Performance level	(●) Requirements met/ note
Durability of response delay Durability of response delay • In connection with actuators and interface control units – [BE24 / BE230] BE24 (BLE24) / BE230 (BLE230) – [B24A] BE24 (BLE24) + AS-EM/EK – [B24AM] BE24 (BLE24) + AS-EM/M – [B24AS] BE24 (BLE24) + AS-EM/SIL2 – [B24BKNE] BE24 (BLE24) + BKNE230-24 – [B24C] BE24 (BLE24) + BC24 – [B24D] BE24 (BLE24) + BRM-10-F-ST – [B230D] BE230 (BLE230) + BRM-10-F	4.4.2.1	MA	● / Opening/closure within 25 minutes at fire temperature has been proven. Duration < 60 s
Durability of operational reliability • In connection with actuators and interface control units – [BE24 / BE230] BE24 (BLE24) / BE230 (BLE230) – [B24A] BE24 (BLE24) + AS-EM/EK – [B24AM] BE24 (BLE24) + AS-EM/M – [B24AS] BE24 (BLE24) + AS-EM/SIL2 – [B24BKNE] BE24 (BLE24) + BKNE230-24 – [B24C] BE24 (BLE24) + BC24 – [B24D] BE24 (BLE24) + BRM-10-F-ST – [B230D] BE230 (BLE230) + BRM-10-F	4.4.2.2	C_{mod}	● / 20,000 cycles, duration per cycle < 120 s

The essential characteristics have been proven for vertical installation with both vertical and horizontal position of the shaft.

Table 3

Essential characteristics	Technical specification	Performance level	(●) Requirements met/ note
Damper with cover grille	EN 1366-10, 5.2.3		● / can also be used to terminate openings and ducts
If a product or part of a product has been coated with a substance (impregnating agent) or with commercially available emulsion paint, the substance or the material has to meet the requirements of Regulation (EU) 2016/364 of the European Parliament and of the Council with regard to thickness or mass per unit area. • Mass per unit area ≤ 1.0 kg/m² or • Thickness ≤ 1.0 mm • Impregnation (only on calcium silicate surfaces) – Promat GmbH - Impregnation 2000 – Promat GmbH - SR Impregnation – Promat GmbH - Tunnel Impregnation • Commercially available emulsion paint: (only on calcium silicate surfaces)	Regulation (EU) 016/364 of 1 July 2015 ,,on the classification of the reaction to fire performance of construction products pursuant to Regulation (EU) No 305/2011 of the European Parliament and of the Council“		●
Damper blade leakage	EN 1751	At least class 2	●
Damper casing leakage	EN 1751	Class C	●

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 identified above.

Signed for and on behalf of TROX GmbH:

Neukirchen-Vluyn, 1 January 2017

i.V. Heymann

Jan Heymann • Authorised Representative • CE-marked products