

Declaration of performance

DoP/FKR-EU/DE/004




1.	Unique identification code of the product type	Fire damper FKR-EU
2.	Intended use	Fire damper
3.	Manufacturers	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 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
5.	System of assessment and verification of constancy of performance	System 1
6.	Harmonised standard Notified body/ies	EN 15650:2010 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-74135/05 1322-CPR-61977/03


7 Declared performances

Supporting construction	Construction	Installation location	Installation type	Class of performance for
<p>Solid walls</p>	d ≥ 100 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 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 ≥ 40 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 assembly, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm, Distance to FK2-EU ≥ 70 mm, Distance to FK-EU ≥ 75 mm	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	d ≥ 100 mm, Multiple occupancy up to 4.8 m ² total fire damper area, 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

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	<p>d ≥ 100 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm</p>	in the wall	Fire batt	EI 60 (v _e i↔o) S
 <p>Metal stud walls</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 ≥ 94 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm</p>	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	<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 ≥ 80 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm</p>	in the wall	Mortar-based installation	EI 60 (v _e i↔o) S
	<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 ≥ 75 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm</p>	in the wall	Mortar-based installation	EI 30 (v _e i↔o) S
	<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 ≥ 94 mm, Combined assembly, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm, Distance to FK2-EU ≥ 70 mm, Distance to FK-EU ≥ 75 mm</p>	in the wall	Mortar-based installation	EI 90 (v _e i↔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 ≥ 94 mm, Multiple occupancy up to 4.8 m² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm</p>	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	<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 ≥ 94 mm, Installation kit TQ, Distance to load-bearing structural elements ≥ 60 mm</p>	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
	<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 ≥ 80 mm, Installation kit TQ, Distance to load-bearing structural elements ≥ 60 mm</p>	in the wall	Dry mortarless installation	EI 60 (v _e i↔o) S



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	<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, Installation kit TQ, Distance to load-bearing structural elements ≥ 60 mm</p>	in the wall	Dry mortarless installation	EI 30 (v _e i↔o) S
	<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 ≥ 40 mm</p>	in the wall	Fire batt	EI 60 (v _e i↔o) S
	<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 ≥ 40 mm</p>	in the wall	Fire batt	EI 30 (v _e i↔o) S
 <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 ≥ 40 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 ≥ 40 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 ≥ 40 mm</p>	in the wall	Mortar-based installation	EI 30 (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, Combined assembly, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm, Distance to FK2-EU ≥ 70 mm, Distance to FK-EU ≥ 75 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, $d \geq 130$ mm, Multiple occupancy up to 4.8 m² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm</p>	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S

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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	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 ≥ 40 mm	in the wall	Mortar-based installation	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, Combined assembly, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm, Distance to FK2-EU ≥ 70 mm, Distance to FK-EU ≥ 75 mm	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, $d \geq 140$ mm, Multiple occupancy up to 4.8 m ² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the wall	Mortar-based installation	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, $d \geq 130$ mm, Installation kit TQ, Distance to load-bearing structural elements ≥ 60 mm	in the wall	Dry mortarless installation	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, Installation kit TQ, Distance to load-bearing structural elements ≥ 60 mm	in the wall	Dry mortarless installation	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, Installation kit TQ, Distance to load-bearing structural elements ≥ 60 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, Fibre-reinforced gypsum boards or firestop boards of calcium silicate, $d \geq 140$ mm, Installation kit TQ, Distance to load-bearing structural elements ≥ 60 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 TQ, Distance to load-bearing structural elements ≥ 60 mm	in the wall	Dry mortarless installation	EI 30 ($v_e i \leftrightarrow o$) S

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	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 ≥ 40 mm	in the wall	Fire batt	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, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the wall	Fire batt	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, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the wall	Fire batt	EI 60 (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 ≥ 40 mm	in the wall	Fire batt	EI 30 (v _e i↔o) S
 <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, Distance between casings ≥ 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 TQ, Distance to load-bearing structural elements ≥ 60 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), $d \geq 95$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the wall	Fire batt	EI 60 (v _e i↔o) S
 <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	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, Distance to load-bearing structural elements ≥ 40 mm	in the wall	Mortar-based installation	EI 30 (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	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, $d \geq 75$ mm, $\geq 2 \times 12.5$ mm, Distance to load-bearing structural elements ≥ 40 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, $d \geq 75$ mm, $\geq 2 \times 12.5$ mm, Distance to load-bearing structural elements ≥ 40 mm	in the wall	Mortar-based installation	EI 30 (v _e i↔o) S

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	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, $d \geq 90$ mm, Combined assembly, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm, Distance to FK2-EU ≥ 70 mm, Distance to FK-EU ≥ 75 mm	in the wall	Mortar-based installation	EI 90 (v_e i \leftrightarrow 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, $d \geq 50$ mm, $\geq 2 \times 12.5$ mm with reinforcing board, Distance to load-bearing structural elements ≥ 40 mm	in the wall	Mortar-based installation	EI 90 (v_e i \leftrightarrow o) S
 <p>Solid ceiling slabs</p>	$d \geq 100$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the ceiling	Mortar-based installation	EI 120 (h_o i \leftrightarrow o) S
	$d \geq 100$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i \leftrightarrow o) S
	$d \geq 150$ mm, Combined assembly, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm, Distance to FK2-EU ≥ 70 mm, Distance to FK-EU ≥ 75 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i \leftrightarrow o) S
	$d \geq 150$ mm, Multiple occupancy up to 4.8 m ² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i \leftrightarrow o) S
	$d \geq 100$ mm, Concrete base ≤ 750 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the ceiling	Mortar-based installation	EI 120 (h_o i \leftrightarrow o) S
	$d \geq 100$ mm, Concrete base ≤ 750 mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i \leftrightarrow o) S
	$d \geq 100$ mm, Concrete base, Combined assembly, Distance to load-bearing structural elements ≥ 40 mm, Distance to FK2-EU ≥ 70 mm, Distance to FK-EU ≥ 75 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i \leftrightarrow o) S
	$d \geq 100$ mm, Concrete base ≤ 750 mm, Multiple occupancy up to 4.8 m ² total fire damper area, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i \leftrightarrow o) S
	$d \geq 150$ mm, Installation in hollow chamber, ribbed, composite and hollow stone ceilings, Distance to load-bearing structural elements ≥ 40 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i \leftrightarrow o) S
	Combined with wooden beam ceilings (glued laminated timber also), Partial concrete ceiling, $d \geq 150$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i \leftrightarrow o) S
	Combined with solid wood ceilings, Partial concrete ceiling, $d \geq 150$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the ceiling	Mortar-based installation	EI 90 (h_o i \leftrightarrow o) S
	Combined with suspended ceiling systems (Cadolto system), Partial concrete ceiling, $d \geq 150$ mm, Distance to load-bearing structural elements ≥ 40 mm, Distance between casings ≥ 40 mm	in the ceiling	Mortar-based installation	EI 120 (h_o i \leftrightarrow o) S

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 <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 TQ	in the ceiling	Dry mortarless installation	EI 90 (h _o i↔o) S
	d ≥ 112.5 mm, Installation kit TQ	in the ceiling	Dry mortarless installation	EI 90 (h _o i↔o) S
 <p>Wooden beam ceilings</p>	d ≥ 167.5 mm	in the ceiling	Mortar-based installation	EI 90 (h _o i↔o) S
	d ≥ 155 mm	in the ceiling	Mortar-based installation	EI 60 (h _o i↔o) S
	d ≥ 142.5 mm	in the ceiling	Mortar-based installation	EI 30 (h _o i↔o) S
	d ≥ 167.5 mm, Installation kit TQ	in the ceiling	Dry mortarless installation	EI 90 (h _o i↔o) S
	d ≥ 155 mm, Installation kit TQ	in the ceiling	Dry mortarless installation	EI 60 (h _o i↔o) S
	d ≥ 142.5 mm, Installation kit TQ	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

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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)-(2) TR, B(L)F230-T(N)-(ST)-(2) 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... 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	Class 4
Damper casing leakage	EN 1751:2014	Class C

Signed for and on behalf of TROX GmbH:

Neukirchen-Vluyn, Germany, 1 July 2021



Jan Heymann • Authorised Representative • CE-marked products