

THEMEBROCHURE

FIRE RESISTANCE



A BURNING ISSUE

Fire. Every year, some 17,790 reports are received by the fire brigade - about 49 a day! Fortunately, our understanding of fire, smoke and heat, and inhibiting the spread of same, is improving all the time. This is partly thanks to strict requirements for buildings and safer building products.

At FALK, we understand that fire safety is a critical consideration in construction. That's why we've developed this brochure to provide a clear overview of the fire resistance performance of our insulated panels. This brochure serves as a guide to learn more about fire resistance classifications, ratings and the capabilities of FALK Insulated Panels.

FALK fire-resistant insulated panels are widely used in projects where fire safety is a priority. From industrial warehouses and agricultural storage facilities to commercial buildings and cold stores, our panels provide reliable fire performance while maintaining excellent insulation and durability. Whether you need solutions for compartmentalisation, external walls, or roofing, our fire-rated panels help meet the strictest safety regulations.

FALK is committed to continuous improvement and rigorous testing. Each year, our panels are tested dozens of times by independent, accredited organisations to ensure they meet the highest fire safety standards. These tests push our products to their limits, allowing us to refine their performance and provide our customers with panels they can trust.

In this brochure, you will find clear explanations of key fire safety terminology and standards. It also includes a comprehensive table listing our panels and their fire resistance classifications. To achieve the stated classifications, correct installation is crucial. The table refers to the installation guides on the following pages, outlining the necessary steps to ensure your project meets the required fire performance levels.

THE FALK FIRE SPECIALISTS ARE HERE TO HELP...

Do you have an complicated situation or just need some advice? Contact us at +31 318 670 670.





Before diving into the details of fire classifications, it's important to understand the two main ways fire performance is measured: **Reaction to fire** and **Fire resistance**. Reaction to fire focuses on how a material behaves when exposed to flames. Does it ignite, produce smoke, or spread burning droplets? Fire resistance, on the other hand, measures how long a panel can withstand fire while maintaining its function, such as preventing thermal conduction or flames from passing through.

In the following sections, we'll break down what classifications like B-s1, d0 and EI60 mean, giving you a clear view of how FALK panels perform in fire situations.

REACTION TO FIRE

Reaction to fire describes how a material contributes to the development and spread of a fire. It focuses on how easily a product ignites, how much smoke it produces, and whether it releases flaming droplets or particles. This is classified according to the EN 13501-1 standard and typically shown as a combination of letters and numbers. All FM Certified FALK panels are classified as B-s1, d0 meaning:

B: Very limited combustibility. The panels contribute very little to fire.

s1: Minimal smoke production during a fire.

d0: No flaming droplets or particles that could spread the fire.

As shown above, FALK panels have the highest possible performance for a material that is classified as 'combustible'.

FIRE RESISTANCE CLASSIFICATION

To find out how building elements perform during a fire, they are tested. These tests classify the building elements in four categories: R, E, I and W. Each letter represents a specific aspect of fire performance:

- ▶ *Load-bearing capacity (R)*: Indicates how long the structure can withstand collapse. As insulated panels are usually not load-bearing elements, this criterion does not apply here. However, the underlying construction must comply with the same fire resistance (R).
- ▶ *Integrity (E)*: This criterion means that during a fire in the wall, no openings should occur that would allow hot, unburnt gases or flames to travel through the wall.
- ▶ *Insulation (I)*: This criterion classifies the temperature rise in minutes on the non-heated side to a maximum of 180 °C locally or 140 °C on average.
- ▶ *Radiation (W)*: This criterion limits the heat radiation coming from the non-directly heated side during a fire to a maximum of 15 kW/m² at 1 metre distance from the structure.

Classifications

The classifications i → o and o → i indicate the direction in which fire load occurs, thus classifying a specific direction of fire resistance.

i → o Classification direction inside to outside

o → i Direction of classification outside to inside (performance values available upon request)

FM APPROVAL

FM Approvals is a globally recognized certification that ensures building materials meet rigorous fire safety standards. FALK panels are exposed to extensive testing to achieve FM Global approval, which guarantees they meet strict fire protection requirements for both commercial and industrial applications. This certification is highly valued by insurance companies and building authorities, as it demonstrates that our panels have been tested under realistic conditions to minimize fire risks and natural hazards.



When ordering these products at FALK, please specify in advance whether they should be manufactured with or without FM Certification, as we produce panels in accordance with FM Global guidelines as well as non-certified options.

PERFORMANCE TABLE EXPLANATION

The table on the next page lists our wall panels in various core thicknesses. Classifications can be applied to thicker core versions of the same panel. In the 'Installation Guides' column, you'll find either no additional installation requirements (-) or extra installation steps beyond standard procedures. For example, as shown on the next two pages, KV 1 indicates that panels have to be stitched c.t.c. 250mm. The table also provides details on whether the panel was tested in a horizontal or vertical direction, the maximum span between fixings, and the corresponding fire resistance classifications.

Have a complex situation or just can't quite figure it out? Give us a call at **+31 318 670 670** or send an email to marketing@falk.com

PERFORMANCE TABLE FACADE

Panel type	Minimal thickness* [mm]	Installation guides**	Installation	Span*** [mm]	Fire classification i→o
FALK 1060 WB	80	WB 1	Vertical	3,000	E60, EW60
		WB 1	Vertical	7,500	E30, EW30
	100	-	Vertical	4,000	E30, EI30, EW30
		-	Vertical	6,000	E15, EI15, EW20
		-	Horizontal	4,000	E30, EI30, EW30
	160	WB 2	Vertical	4,000	E60, EI60, EW60
		WB 2	Vertical	7,500	E30, EI30, EW30
		WB 2	Horizontal	4,000	E30, EI30, EW30
		WB 2	Horizontal	7,500	E20, EI20, EW20
FALK 1060 WB Carrier	100	-	Vertical	4,000	E90, EI30, EW90
FALK 1000 WB+	100	WB+ 1	Vertical	4,000	E30, EI30, EW30
	120	-	Vertical	4,000	E30, EI30, EW30
FALK 1140 KV	80	KV 1	Vertical	4,000	E60, EW60
		KV 1	Vertical	6,000	E30, EW30
	100	KV 2	Vertical	4,000	E30, EI30, EW30
		-	Vertical	4,000	E30, EI30, EW30
		KV 2	Vertical	4,000	E120, EI30, EW120
	120	KV 2	Vertical	6,000	E90, EI30, EW90
		KV 2	Vertical	7,500	E60, EI15, EW60
	200	KV 3	Vertical	4,000	E60, EI60, EW60
		KV 3	Vertical	7,500	E30, EI30, EW30
FALK 1100 TR3+	60	TR3+ 1	Vertical	4,000	E60, EI15, EW60
		TR3+ 1	Vertical	6,000	E60, EW60
	80	TR3+ 2	Vertical	3,000	E90, EI30, EW90
		TR3+ 2	Vertical	7,500	E60, EI15, EW60
FALK 1000 TR	60	TR 1	Vertical	4,000	E60, EI15, EW60
		TR 1	Vertical	6,000	E60, EW60
	80	TR 2	Vertical	3,000	E90, EI30, EW90
		TR 2	Vertical	7,500	E60, EI15, EW60
FALK 1000 GL	60	GL 1	Vertical	4,000	E60, EI15, EW60
		GL 1	Vertical	6,000	E60, EW60
	80	GL 2	Vertical	3,000	E90, EI30, EW90
		GL 2	Vertical	7,500	E60, EI15, EW60

The performance table is based on EN 13501-2 and NEN EN 15254-5.

* The fire performance of a panel always also applies to thicker core thicknesses.

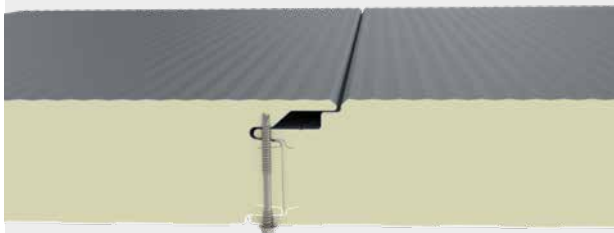
** The required installation instructions can be found on the following pages. If there is a dash (-), there are no additional installation requirements.

*** These spans are based on fire performance. In addition, the panel must be tested for strength and rigidity specifically for each project, taking into account natural and additional loads.

INSTALLATION GUIDES

In order to achieve the fire resistance as listed in the performance table, it is important that the FALK panels are installed correctly. In some cases that means that extra installation requirements are necessary. On these pages you will find the installation guides with a unique code. These codes match the codes in the column 'installation guides' in the performance table. By following the correct guide, you can ensure the fire performance requirements are properly met. If you have any questions, don't hesitate to reach out to FALK!

WB 1



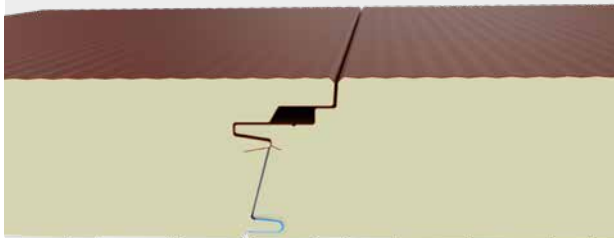
Screw joint on the inside.
C.t.c. 300 mm, stitcher 5.5 x L
(L = core thickness - 10 mm)

WB 2



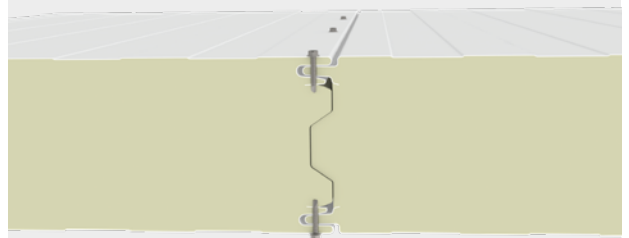
Screw joint on the inside.
C.t.c. 250 mm, stitcher 4.2 x 19 mm

WB+ 1



FALK sealant in joint on the inside.

KV 1



Screw joint on both sides.
C.t.c. 250 mm, stitcher 4.2 x 19 mm

KV 2



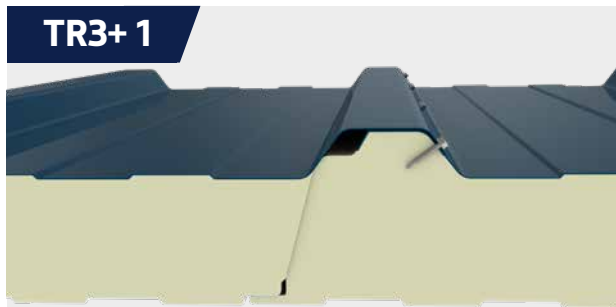
Foaming up graphite sealant in joint on both sides. Screw both sides joint.
C.t.c. 250 mm, stitcher 4.2 x 19 mm

KV 3



Fire-resistant silicone sealant in joint both sides.

TR3+ 1



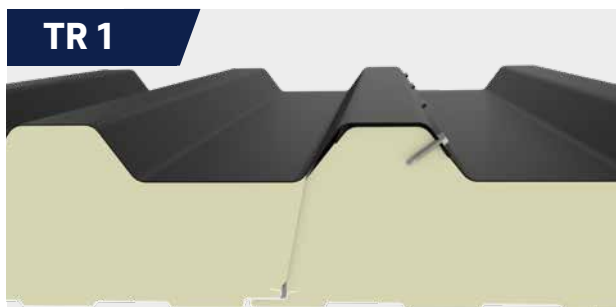
Stitch overlap on the outside.
C.t.c. 300 mm, stitcher 4.8 x 25 mm

TR3+ 2



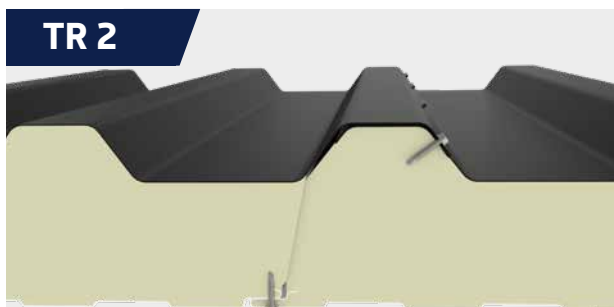
Stitch overlap and joint.
C.t.c. 300 mm, stitcher 4.8 x 25 mm

TR 1



Stitch overlap on the outside.
C.t.c. 300 mm, stitcher 4.8 x 25 mm

TR 2



Stitch overlap and joint.
C.t.c. 300 mm, stitcher 4.8 x 25 mm

GL 1



Stitch overlap on the outside.
C.t.c. 300 mm, stitcher 4.8 x 25 mm

GL 2



Stitch overlap and joint.
300 mm, stitcher 4.8 x 25 mm

FALK.com

For all product information and to request
colour samples or product samples go to **FALK.com**





ABOUT FALK

FALK supplies insulated cladding for roof, wall and façade. These insulated panels are a durable and versatile cladding for roofs and facades that define the identity of a building. With FALK, you determine that identity yourself. Especially now that you can choose a circular insulated panel with CradleCore® insulation core. And of course you choose the colour, insulation value and type of coating for the roof or facade.

With multiple production lines, FALK is able to quickly and adequately deliver the right products to the right place. In recent years, millions of square metres of FALK panels have already been installed on utility buildings, homes, stables, showrooms and all other building types.

FALK, building ambitions together



FALK.com

FALK Ireland

+353 866 012 498
info@falk.com
www.falk.com

Much attention has been paid to the documentation and technical information. However, no rights can be derived from it. For the most up-to-date product information, please consult our website. **Version: 2025-07**