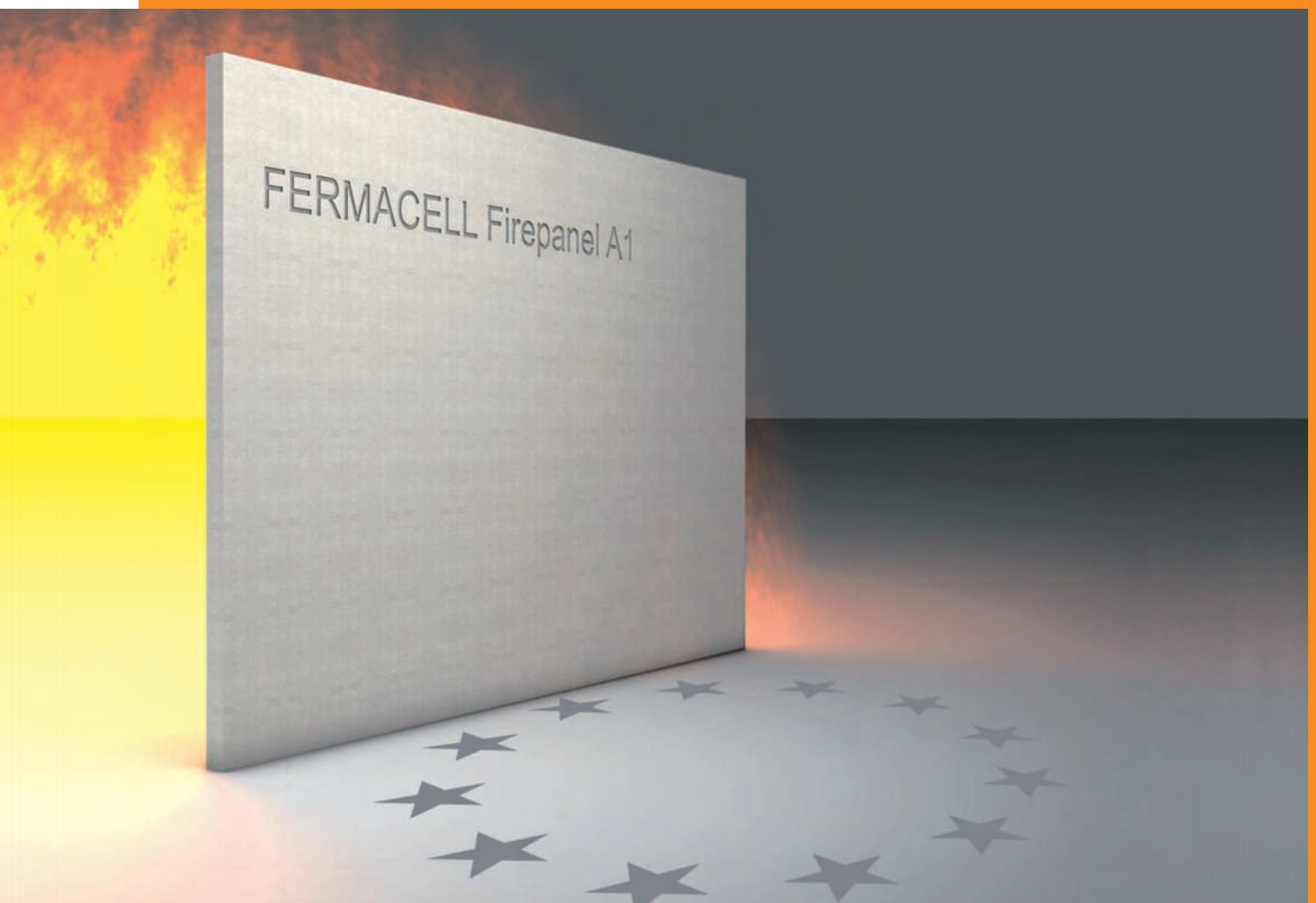


fermacell[®]



FERMACELL Firepanel A1

**The new dimension
in fire protection**

Firepanel A1 – the new fire protection panel from FERMACELL

FERMACELL Firepanel A1

FERMACELL Firepanel A1 is a new dimension in fire protection for dry construction. The innovative development of the original FERMACELL Gypsum Fibreboard complies with construction materials class A1 (non-combustible).

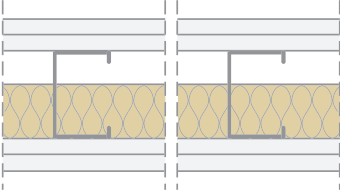
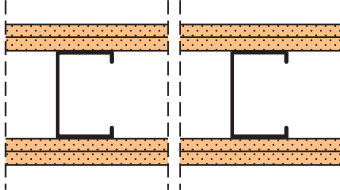
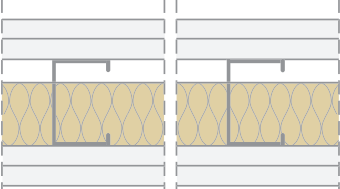
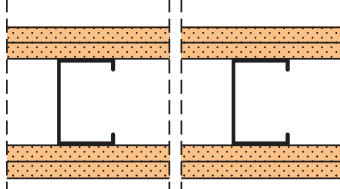
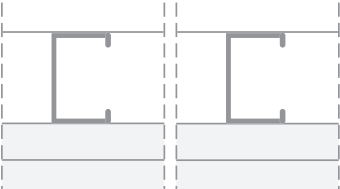
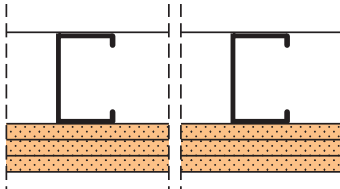
A1 classification for linings are increasingly being specified throughout Europe for public buildings where dry construction methods are used. The reason is the harmonisation of fire safety tests and fire protection classifications, which have resulted in more stringent national requirements for construction materials and building elements. FERMACELL Firepanel A1 was designed specifically for these applications. A new formulation and the use of non-combustible fibres have made this possible.



All the familiar properties of the FERMACELL Gypsum Fibreboard for dry construction have been retained. However, with the additional fire protection properties of FERMACELL A1 the construction now performs even better!

Examples of designs using FERMACELL Firepanel A1

System-built walls and shaft wall designs

Gypsum plasterboards type F	FERMACELL Firepanel A1	Advantages of FERMACELL Firepanel A1
 <p>Design (DIN 4102-4): 2 x 12.5 mm gypsum plasterboards type F (fire protection boards) 60 mm / 50 kg/m³ mineral fibre</p>	<p>1 S 31 A1</p>  <p>Design: 2 x 10 mm FERMACELL Firepanel A1 No insulating material required</p>	<p>Fire resistance class F 90 or EI 90</p> <ul style="list-style-type: none"> ■ Slim partition design ■ No insulating material required ■ Fixing of second layer of boards without affecting the studding (board in board) ■ No need to apply filler to first layer of boards <p>Classification Report KB 3.2/11-035-2</p>
 <p>Design (DIN 4102-4): 2 x 15 mm gypsum plasterboards type F (fire protection boards) 80 mm / 50 kg/m³ mineral fibre</p>	<p>1 S 41 A1</p>  <p>Design: 2 x 12.5 mm FERMACELL Firepanel A1 No insulating material required</p>	<p>Fire resistance class F 120 or EI 120</p> <ul style="list-style-type: none"> ■ Slim partition design ■ No insulating material required ■ Fixing of second layer of boards without affecting the studding (board in board) ■ No need to apply filler to first layer of boards <p>Classification Report KB 3.2/11-035-1</p>
 <p>Design (standard market systems): 2 x 25 mm gypsum plasterboards type F (fire protection boards) No insulating material required</p>	<p>3 S 31 A1</p>  <p>Design: 3 x 12.5 mm FERMACELL Firepanel A1 No insulating material required</p>	<p>Fire resistance class F 90 or EI 90</p> <ul style="list-style-type: none"> ■ Slim shaft wall design ■ No insulating material required ■ Fixing of third layer of boards without affecting the studding ■ No need to apply filler to first two layers of boards <p>Classification Report KB 3.2/11-035-4</p>

Construction material class A1

The new FERMACELL Firepanel A1 complies with the highest European construction materials class A1 in accordance with DIN EN 13501-1 and the German standard DIN 4102-1. Consequently FERMACELL

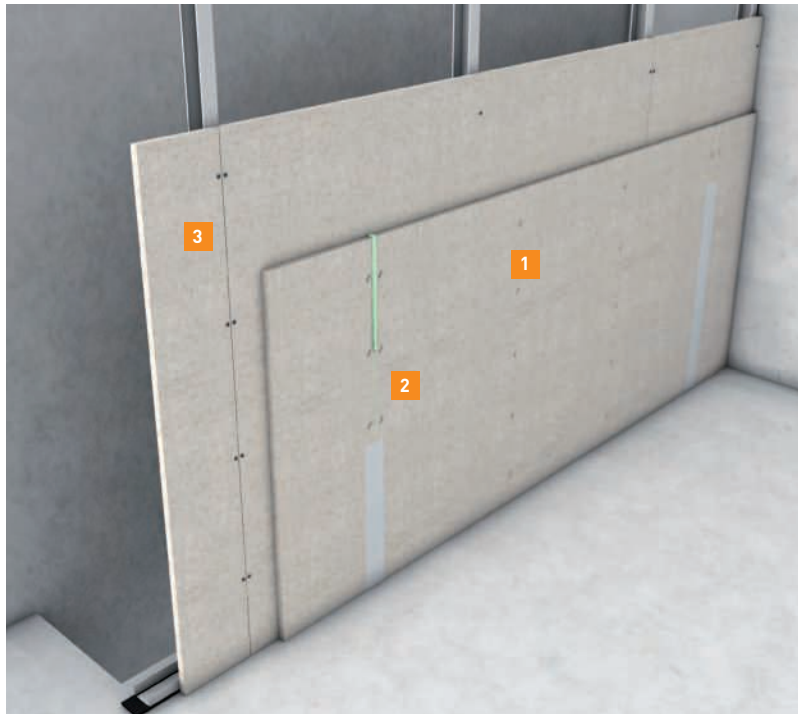
Firepanel A1 products can be used wherever construction class A1 materials are required for fire protection in buildings.

CE marking

Firepanel A1 boards are manufactured, tested and labelled (CE marking) in accordance with the European standard for fibre-reinforced gypsum plasterboard products, DIN EN 15283-2.

FERMACELL Firepanel A1 – safe, approved and economical

FERMACELL Firepanel A1 installation:
as quick and efficient as FERMACELL's original gypsum fibreboard!



To install Fermacell Firepanel A1 -

1 Fixing

The boards can be fixed next to another with screws or staples, without affecting the studding.

2 Board joint

When multiple layers are installed, the vertical board joint (visible face) can also occur in the field area.

3 Joints

When multiple layers are installed, the joints of the first / lower board layer can be butted tightly together. The joints do not need to be filled.

Shaft wall EI 60 (F 60-A)

3 S 21 A1 – FERMACELL Firepanel A1 (2 x 15 mm) – no insulating material required

Easy, economical installation and high-performance systems

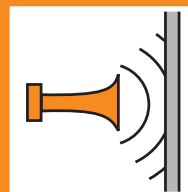
System features



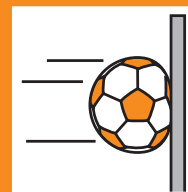
Non-combustible – A1



High level of fire protection



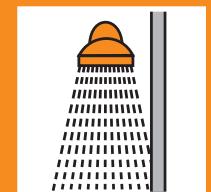
High level of sound insulation



Extremely stable

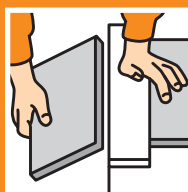


Can withstand enormous loads



Suitable for wet rooms

Easy to install



Breaking



Cutting



Fixing with screws



Fixing with staples



Bonding



Application of filler

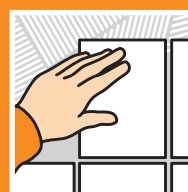
Typical finishes – characteristics of use



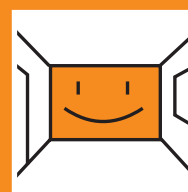
Painting



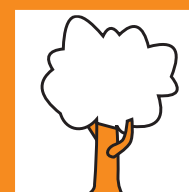
Papering



Tiles



Healthy indoor climate



Natural strengths

Stricter fire protection requirements in Europe

Due to the European harmonisation of fire protection tests for construction materials, certain building elements have to consist of class A1 construction materials in many countries and for various applications. The national construction material classes have been superseded by the European classification system.

The new FERMACELL Firepanel A1 meets these stringent requirements and therefore offers a safe solution for structural fire protection in Europe.



Construction material classifications in accordance with DIN 4102-1 and DIN EN 13501-1

Building regulations requirement	DIN 4102-1	DIN EN 13501-1
Non-combustible construction materials	A1, A2	A1, A2
Combustible construction materials		
Flame-resistant	B1	B, C
Normally flammable	B2	D, E
Easily flammable construction materials	B3	F

The reaction to fire of construction materials is rated on the basis of DIN 4102-1 or DIN EN 13501-1. The classifications apply as alternatives as regards proof of the reaction to fire of construction materials.

Fire-resistance classes of non-load-bearing internal walls in accordance with DIN EN 13501-2

Building regulations requirement	Classification
Fire-retardant	EI 30
Highly fire-retardant	EI 60
Fire-resistive	EI 90
Fire resistance 120 min.	EI 120
Fire wall	EI 90-M

Classification criteria in accordance with DIN EN 13501-2
 E (Étanchéité) = Enclosure of space
 I (Insulation) = Heat insulation (when exposed to fire)
 M (Mechanical) = Mechanical effect on walls (impact load)

Example: Escape route partitions in public buildings of some European countries

Requirements – previous:

Building component:
Partition F 90
Construction material:
Lining material A2

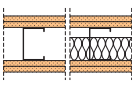
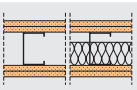


Requirements – current:

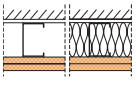
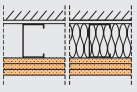
Building component:
Partition EI 90
Construction material:
Lining material A1

System solutions / Designs with FERMACELL Firepanel A1

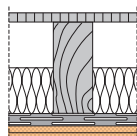
FERMACELL Firepanel A1 system-built walls with steel studding
without cavity insulation or insulation not required for fire protection purposes

Product code	System drawing	Wall thickness	Studding	FERMACELL Firepanel A1 panelling each side	Mineral wool thickness / density		Max. wall heights with fire protection requirements *	Weight per unit area	Airborne sound reduction index $R_{w,R}$		Longitudinal sound reduction index $R_{L,w,R}$		Fire protection in acc. with DIN 4102 / (EN13501)	Fire protection Classification Report
					without	at least A2			without insulation	with insulation	without insulation	with insulation		
		[mm]	[UW-CW]	[mm]	[mm]	[mm]/[kg/m ²]	[cm]	[kg/m ²]	[dB]	[dB]				
1 S 31 A1		90	50 x 06	10 + 10	with-out	at least A2	500	50	≥ 46	54	53	57	F 90-A (EI 90)	KB 3.2/11-035-2
		115	75 x 06							58				
		140	100 x 06											
		165	125 x 06					51						
1 S 41 A1		125	75 x 06	12,5 + 12,5	with-out	at least A2	500	64	52	60	57	F 120-A (EI 120)	KB 3.2/11-035-1	
		150	100 x 06						54					
		175	125 x 06											

FERMACELL Firepanel A1 cladding / shaft walls

Product code	System drawing	Wall thickness	Studding	FERMACELL Firepanel A1 panelling each side	Mineral wool thickness / density		Max. wall heights with fire protection requirements *	Weight per unit area	Airborne sound reduction index $R_{w,R}$		Longitudinal sound reduction index $R_{L,w,R}$		Fire protection in acc. with DIN 4102 / (EN13501)	Fire protection Classification Report
					without	at least A2			without insulation	with insulation	without insulation	with insulation		
		[mm]	[UW-CW]	[mm]	[mm]	[mm]/[kg/m ²]	[cm]	[kg/m ²]	[dB]	[dB]				
3 S 21 A1		105	≥ 75 x 06	15 + 15	with-out	at least A2	300	40	-	≥ 22	≥ 57	≥ 62	F 60-A (EI 60)	KB 3.2/11-035-3
3 S 31 A1		112,5	≥ 75 x 06	12,5 + 12,5 + 12,5	with-out	at least A2	300	49	-	≥ 22	≥ 57	≥ 62	F 90-A (EI 90)	KB 3.2/11-035-4

FERMACELL Firepanel A1 wooden beam ceilings

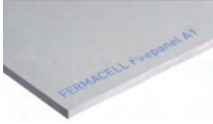
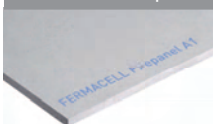
Product code	System drawing	Exposure to fire	Studding material, sections	Design height	FERMACELL Firepanel A1 panelling	Span	Cavity insulation	Weight per unit area **	Fire protection in acc. with DIN 4102 / (EN13501)	Fire protection Classification Report
				[mm]	[mm]	[mm]	[mm]/[kg/m ²]	[kg/m ²]		
2 H 35 A1		From below	Steel CD 60 x 27 x 06	≥ 318	15 + 15	625	100/30 (at least B2)	40	F 90-B (REI 90)	KB 3.2/11-035-5

* Greater wall heights are available on request.

** Figures apply to lower ceiling covering incl. supporting sections and required insulation layer.

FERMACELL Firepanel A1 – at a glance

Product range

Product designation	Thickness [mm]	Description	Product no.	EAN	Size [mm]	Units per pallet	m ²	kg	Weight per m ² in kg
FERMACELL Firepanel A1 – 10 mm									
	10	Large size	70430	4007548015615	2000 x 1250	60	150	1843	approx. 12 kg/m ²
	10	Large size	70420	4007548015653	2000 x 1200	60	144	1770	approx. 12 kg/m ²
FERMACELL Firepanel A1 – 12,5 mm									
	12,5	“One Man Board”	71401	4007548015639	1500 x 1000	60	90	1384	approx. 15 kg/m ²
	12,5	Large size	71430	4007548015622	2000 x 1250	48	120	1843	approx. 15 kg/m ²
	12,5	Large size	71420	4007548015660	2000 x 1200	48	115,2	1770	approx. 15 kg/m ²
FERMACELL Firepanel A1 – 15 mm									
	15	Large size	72430	4007548015646	2000 x 1250	40	100	1843	approx. 18 kg/m ²
	15	Large size	72420	4007548015677	2000 x 1200	40	96	1770	approx. 18 kg/m ²

Approvals

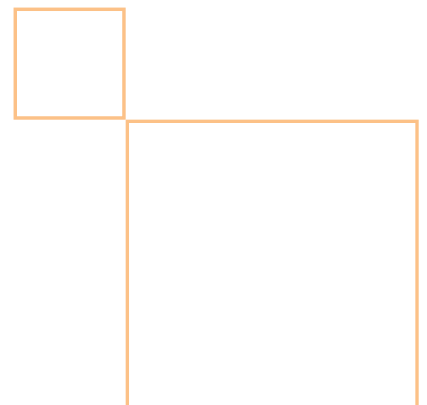
Construction material in acc. with DIN EN 13501-1	Non-combustible, A1
Labelling in acc. with DIN EN 15283-2	GF-I-W2-C1
IMO FTPC part 1	Non-combustible
Building component classifications	National / European

Dimensional tolerances at moisture equilibrium for standard board sizes

Length, width	± 0 / - 2 mm
Diagonal difference	≤ 2 mm
Thickness	± 0.2 mm

Characteristic values

Density	1200 ± 50 kg/m ³
Flexural strength	> 5.8 N/mm ²
Water vapour diffusion resistance coefficient	μ = 16
Thermal conductivity	λ = 0.38 W/m·K
Expansion / Shrinkage in response to 30% change in relative humidity (20°C)	0.25 mm/m
Moisture equilibrium at 65% relative humidity and 20°C air temperature	1.3%
pH value	7-8



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Version: 11/2011

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Please call the helpline to ensure that you are in
possession of the latest information.

For additional information please see the FERMACEL website.