



FERMACELL

High Performance Dry Lining

FERMACELL: setting standards.

Modern construction needs modern materials. Design innovation combined with increasing pressure from Building Regulations mean that materials must save time and money on site and offer technically superior solutions. FERMACELL is one such material. A high performance multi-purpose building board that when installed combines the properties of solid blockwork with the speed and flexibility of conventional drywall techniques, and which lets the designer use radical solutions in internal space planning.

Composition.

FERMACELL is produced using ordinary materials in an extraordinary way. Raw gypsum, cellulose fibres from recycled paper and water are combined to form a homogenous mass, which is then formed into a dense sheet material. After curing, the large format boards are cut to size.

The manufacturing technique is not only unique because of the material it produces, but also due to the fact that the process itself is fully recycling – all by-products are fed back into the system, ensuring no waste is produced. Both the product and the process have been awarded the coveted Rosenheim Institute of Construction Biology and Ecology certificate.





INSTITUT FÜR BAUBIOLOGIE ROSENHEIM GMBH

Verleihungs - Urkunde

Aufgrund der ausgezeichneten Prüfergebnisse wird der Firma



Xella Trockenbau-Systeme GmbH
47119 Duisburg

für das Produkt

FERMACELL Gipsfaserplatte

das Prüfsiegel



durch das Institut für Baubiologie Rosenheim GmbH verliehen

Uwe Rose
Rosenheim, im April 2004

Das Prüfsiegel wird für die Dauer von 2 Jahren verliehen.
Eine Nachprüfung muss vor Ablauf dieser Zeit im Interesse des Verbrauchers
erfolgen und beantragt werden.

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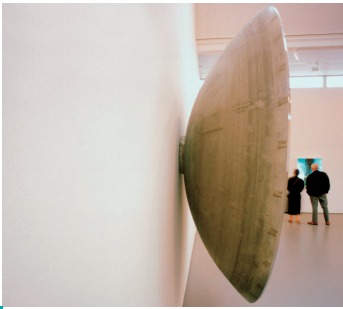
FERMACELL, the multi-purpose board.

General Properties and Applications.

There are a bewildering array of construction systems and techniques to consider when specifying internal finishes. For partitions, this is most apparent when the properties required of the finished wall call for more than one type of building board to be used in the construction. Hotel bathrooms, for example, often require Moisture Resistance with Acoustic Insulation and Fire Protection. Hospitals will add Impact Resistance and flexibility in accepting wall mounted fittings to this. These criteria almost always demand compromise solutions involving specialist board selection and composite layers, with often costly and time

consuming consequences. This in turn creates the potential for confusion, both at detailed drawing stage and on site. Additionally, multiple layering inevitably means thicker walls.

FERMACELL offers a unique, single point solution to these problems, combining high levels of Fire Resistance, Acoustic Insulation and Impact Strength with exceptional Screw Holding ability and inherent Moisture Resistance.



Inevitably, a single board with all of these benefits will cost more than conventional wallboard but the board is only a small element of the overall cost of a partition. Removing the need to double board, use special fixings or additional substructures reduces the installed cost still further.

These benefits are not restricted to the commercial sector. In private house building and Repair, Maintenance and Improvement (RMI), FERMACEll can reap rewards. Because FERMACEll is self finished, there is minimum additional work required prior to painting and decorating. Wallpapers and tiles can be applied direct to the board, and plaster smooth finishes which are ready to paint in about 45 minutes can be achieved on site by non-skilled decorative trades by using our FST system.

The end result is a finished partition that combines the properties associated with solid masonry with the flexibility of drywall, in a construction that is often thinner, quicker and cheaper to install than both. Using a smart board that eliminates unnecessary wet trades makes practical, technical and commercial sense.



Loads hung from the face of FERMACEll walls.

FERMACELL gypsum-fibreboards		Load-bearing strength in kg ⁽¹⁾			
(thickness) ⁽⁴⁾					
		Picture hooks fixed by nails			(2) Screw with continuous thread 5 mm dia.
					(3) Toggle Bolt
10 mm		15	25	35	20
12.5 mm		17	27	37	30
12.5 + 10 mm		20	30	40	35
15 mm		18	28	38	30
18 mm		20	30	40	35

(1) Safety factor: 2 (permanent loading, with relative humidity of up to 85 %).
 (2) Depth of cupboard or shelves: max. 350 mm.
 (3) Standard toggle bolt with > 4 mm dia. screw. (The toggle bolt manufacturer's instruction should be observed.)
 (4) Distance between centres of supporting subframe members = 50 x board thickness.
 N.B. Where fixings are less than 500 mm apart, reduce the load per fixing by 50 %. If a stud support separates the fixings, then use the full load bearing strength shown above.

FERMACELL for walls and ceilings.

FERMACELL is available in standard sizes as well as custom formats up to 6000 mm x 2540 mm.

Wallboard thicknesses range from 10 mm to 18 mm. This choice gives both specifier and installer the ability to select the most appropriate product to speed installation and eliminate waste.

One-Man board.

The practical One-Man board sizes (1500 x 1000 mm and 1200 x 1200 mm) makes use of FERMACELL's unique jointing system. Once set, a FERMACELL glue joint is as strong as the board and effectively produces a continuous membrane from smaller boards. This is particularly useful, where space or access is limited – for example in renovation or attic conversions.

Standard size boards.

Standard size boards in thicknesses from 10 mm to 18 mm are available for domestic and commercial applications where enhanced Fire, Acoustic, Moisture, Impact and Load Bearing properties (or any combination of these) are required. Special sizes to eliminate waste and reduce jointing are available to order.

Tapered Edge Boards.

Tapered edge boards are available with 2 or 4 sided tapered edges for conventional dry lining installation techniques.

Modular Building.

For factory based modular construction and timber frame housing applications, boards up to 6000 x 2540 mm can be supplied.

Accessories.

A full range of proprietary accessories is supplied to ensure perfect results every time.

FERMACELL at a glance:

Suitable for breathing wall constructions.

Eliminates double layering or use of Sheathing Ply.

Up to 50 kg per wallplug and 30 kg per screw.
Eliminates Noggins.

F 60 from single layer partitions.
Class '0' certification.

Suitable for humid areas. Installed before envelope complete.

Environmentally Certified



Sound Insulating



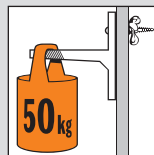
Impact Resistant



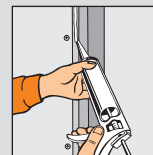
Ready to decorate



Screw Holding



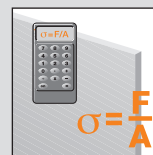
Unique Jointing System



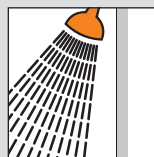
Fire Resistant



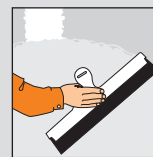
Rigid structure



Moisture Resistant



Rapid finishing



Party Wall constructions from single layer partitions.

Ready to accept paint, wallpaper, tiles.

Glued, square edge boards produce continuous membrane.

TRADA certified Racking board. Up to 10 m high partitions on standard stud.

Fine Surface Treatment (FST) eliminates plastering trades.

Sizes	10 mm	12.5 mm	15 mm	18 mm
Weight per m ²	11.5 kg	15 kg	18 kg	21 kg

1500 x 1000 mm	●	●	●	●	Square edge programme
1200 x 1200 mm	●	●	●	●	
2400 x 1200 mm	●	●	●	●	
2700 x 1200 mm	●	●	●	●	
3000 x 1200 mm	●	●	●	●	Tapered edge programme
1200 x 1200 mm (4 s.)		●			
2000 x 1200 mm (4 s.)		●			
2400 x 1200 mm (2 s.)		●	●		
Specially cut sizes	On request				



**The handy,
One-Man board
1500 x 1000 mm**

**The largest
gypsum-fibreboard
in the world!
2540 x 6000 mm**

Data, nominal values	
Dimensional tolerances at constant humidity	
Board dimensions	
Length	± 1 mm
Width	± 1 mm
Diagonal difference	2 mm
Thickness: 10 / 12.5 / 15 / 18	± 0.3 mm
Nominal density, strength	
Nominal density (Production target)	1150 ± 50 kg/m ³
Bending strength (value after drying at 40 °C), at right angles to the board surface	≥ 5.8 N/mm ²
Transverse strength	≥ 0.3 N/mm ²
Certified tensile values according to DIN 1052 (Permit No. Z-9.1-434)	
Bending perpendicular to the board surface	1.2 N/mm ²
Bending in board surface	1.1 N/mm ²
Tension in board surface	0.5 N/mm ²
Pressure in board surface	2.0 N/mm ²
Pressure perpendicular to the board surface	2.5 N/mm ²
Shearing in board surface	0.3 N/mm ²
Shearing perpendicular to the board surface	0.6 N/mm ²
Modulus calculations (Permit No. Z-9.1-434)	
E-Modulus perpendicular to the board surface	3800 N/mm ²
E-Modulus parallel to the board surface	3800 N/mm ²
E-Modulus tension	3800 N/mm ²
E-Modulus compression	3800 N/mm ²
Shearing modulus G perpendicular to the board surface	1600 N/mm ²
Shearing modulus G bending in the board surface	1600 N/mm ²
Additional Data	
Vapour Resistance μ	13
Thermal Conductivity λ	0.32 W/mK
Specific Heat Capacity c	1.1 kJ/kgK
Brinell Hardness	30 N/mm ²
Swelling after 24 hrs saturation	< 2 %
Thermal co-efficient of expansion	0.001 %/K
Expansion/shrinkage on alteration of the relative humidity of 30 % (20 °C)	0.25 mm/m
Moisture Content at 65 % relative air humidity and 20 °C air temperature	1.3 %
Construction material category according to DIN 4102 Part 1 (non-combustible)	A 2
pH value	7-8

FERMACELL Room-height boards for Superior partitions.

Fast, high performance dry lining for domestic and commercial applications.

FERMACELL boards are fixed to Protektor steel or timber studwork to provide durable solutions for virtually every dry lining application. FERMACELL can provide simple or bespoke systems to easily meet and surpass Building Regulations.

For example the FERMACELL 1 H 23 party wall construction provides a 60 dB, F 60 separating wall as narrow as only 175 mm wide with one 12.5 mm FERMACELL board fixed to each of two separated 70 mm timber studs with a single 40 mm/45 kg m³ mineral fibre layer.

The ability of FERMACELL to be stapled to timber means housebuilders can realise savings not only in materials but also fixing times. The same performance can be obtained by using steel studwork instead of timber.

Similarly, FERMACELL 1 S 21 construction is widely used in commercial applications because of its inherent flexibility. This 100 mm wide construction uses single layers of 12.5 mm board

with mineral wool infill between studs to provide a F 60, 52 dB partition up to 10 m high. By standardising on one construction throughout, fire compartmentalisation and escape routes are less likely to be compromised by the subsequent changes in room layout inherent in drywall applications.

All FERMACELL partitions share the same moisture resistance, meaning, that in many cases installation can be commenced before the building envelope is complete where the boards are semi-exposed. Contact our hotline for more details of use in moisture affected conditions.



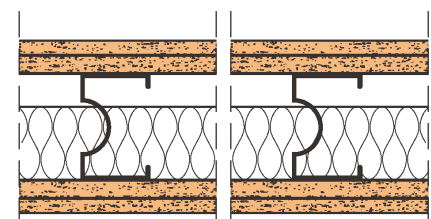
The inherent impact resistance and screwholding of FERMACELL eliminate the need for underdrawing the boards with plywood in high traffic areas or where flexibility in wall mounted fittings is required.

All FERMACELL products are certified by the BBA, and constructions have been tested by independent accreditation bodies including the LPC, BRE, SRL and others.

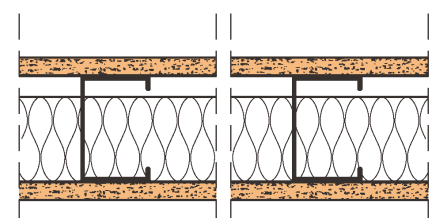
Thin, Simple Part E Solutions.

FERMACELL can provide simple solutions to Approved Document E with simple and slim constructions. Our 1 S 31W steel stud wall provides a 64 dB sound performance with an overall width of 125 mm.

The flexibility in use of FERMACELL means it is the ideal choice – whatever the application.



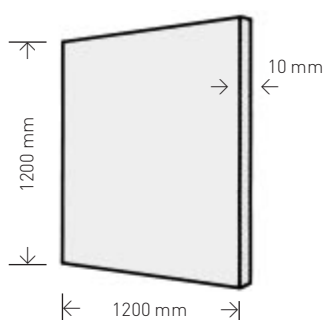
1 S 31/W
R_w 64 dB at 120 mm wide



1 S 21
R_w 52 dB at 100 mm wide



FERMACELL One-Man boards and special sizes for ease of use.



Small format boards for RMI applications.

The unique format of the 1500 mm x 1000 mm and 1200 mm x 1200 mm. One-Man boards are ideally suited to construction projects where access is limited. Retaining all of the properties of its larger counterpart, the lighter one man boards allow full height partitions and ceilings to be created by an individual working alone.

Uniquely, FERMACELL is also available in 1200 mm x 1200 mm x 12.5 mm with a tapered edge on all four sizes. This is particularly suited to ceiling applications and for the DIY and home improvement market.

FERMACELL Special sizes.

FERMACELL boards are available in special sizes up to 6000 mm x 2540 mm. This unique feature means whole walls or ceilings may be created without joints – eliminating cracking, saving process time and money in jointing and ensuring a uniform finish. These benefits are particularly suited to the modular and off site construction industries.

FERMACELL, the ideal backing.

Pre-finished for faster turnaround.

FERMACELL is sized at the factory to accept a wide variety of decorative finishes. Paints, wallcoverings and tiles can all be applied directly to the surface of the board – normally without additional treatment. Also, because of the homogenous nature of the board, redecoration is a simple process that can be repeated time and time again.

Painting.

Once Jointing is complete (see the FERMACELL Handy Guide). All standard trade paints can be applied to FERMACELL. Roller applied trade matt emulsions require no additional treatment, although with vinyl based paints FERMACELL should be primed prior to application. Thinner semigloss applications such as vinyl silk paints should be applied after the surface of the board has been treated with FST. In all cases and especially when using mineral based paints, the recommendations of the paint manufacturer should be followed. In general, it is always good building practice to apply a test area first.

FST.

FERMACELL Fine Surface Treatment (FST) eliminates plastering trades, speeds construction and saves money. Made from ground Dolomite marble in a latex emulsion, FST can be applied by non skilled labour as a face fill and is ready to accept other finishes within the hour. The result is a skim smooth surface that doesn't crack.

Independent costings show that FST and FERMACELL can cost no more than Plasterboard and skim – giving you the enhanced Fire, Acoustic, Moisture, Impact and Screwholding properties of FERMACELL for free.





Wallpaper.

With the exception of vinyl wall-coverings, all wallpaper types, including woodchip, Hessian and fibreglass based coverings can be applied to FERMACELL without further treatment. A sizing coat is not necessary saving time and cost on site. Low water content pastes should be used when vinyls or thicker papers are applied.

Uniquely, removal and reapplication of wallcoverings can be achieved without damage to the board.

Tiles and Wall Mounted Slabs.

Ceramic, Plastic, Marble, Granite and other materials can be applied to FERMACELL using appropriate adhesives. All standard trade dispersions, polyurethane and plastic modified cement powder adhesives are suitable for use with FERMACELL.

The rigid nature of FERMACELL can allow heavy wallcoverings to be applied without further reinforcement. Please refer to our technical instructions for further information.

Because FERMACELL is homogenous, broken or cracked tiles can be replaced easily.

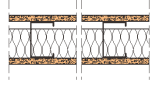
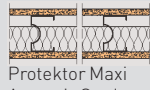
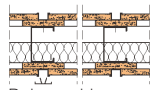

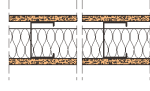
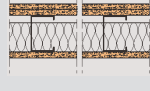
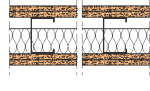
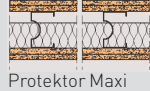
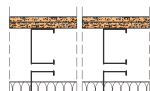

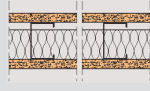
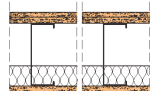
Plasters and other finishes.

Skim plasters are not necessary with FERMACELL as a cheaper, faster and simpler system is available from FERMACELL – see the section on FST left.

Where decorative plasters including Artex are used, joints must be reinforced with fibreglass tape and boards must be sealed. Further information is available from our Technical Department.

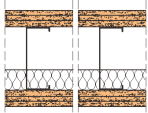
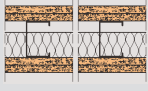
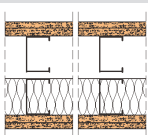
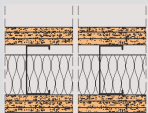
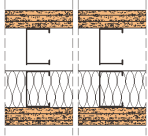


FERMACELL partition walls on steel subframes with insulating material.

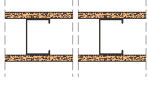




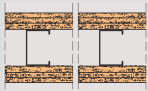
Designation	System drawing	Overall wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Sound insulation	Maximum wall height	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m ³]		R _w ⁽³⁾	[m]	
1 S 11		75	12.5	40/40	F 30	47 dB	3.00	P 81.615a
		100	12.5	40/20	F 30	52 dB	4.50	P 3837/3588
		125						P 3119/1159
		100	12.5	60/20	F 30	52 dB	5.00	G 94 8880
		125						
1 S 11/W	 Protektor Maxi Acoustic Stud	100	12.5	40/45	F 60	52 dB	3.00	G 94 8880
		125						
1 S 12	 Relocatable	100	12.5 (fillet 12.5)	40/20	F 30	53 dB	3.50	P 81.846
1 S 13		180	12.5	40/40	F 30	60 dB ⁽⁷⁾	5.00 ⁽⁹⁾ 3.50 ⁽¹⁰⁾ 6.00 ⁽¹¹⁾	G 94 8880
1 S 21		100	12.5	40/45	F 60	52 dB	4.50	P 1928/8541
		125		or 60/33			10.00 ⁽⁶⁾	
		150		100/40		54 dB	5.00	
1 S 29		85	12.5 + 10	40/40	F 60	54 dB	3.00	G 94 8880
		110	12.5	70/30		57 dB	5.00	
1 S 31		95	12.5 + 10	50/50	F 90	54 dB	3.00	P 84.613
		(100)	(12.5 + 12.5)					G 94 8880
		120 (125)	12.5 + 10	50/50	F 90	60 dB	5.00	
1 S 31/W	 Protektor Maxi Acoustic Stud	145 (150)	(12.5 + 12.5)					
		120 (125)	12.5 + 10	50/50	F 90	64 dB	4.00	G 94 8880
1 S 32		from 200	12.5 + 10 (12.5 + 12.5)	50/50	F 90	64 dB ⁽⁴⁾ ⁽⁷⁾	5.00 ⁽⁹⁾ 3.50 ⁽¹⁰⁾	G 94 8880
1 S 32/1			10 + 10	70/33	F 60	62 dB ⁽⁴⁾⁽⁷⁾	6.70 ⁽¹¹⁾	
1 S 33		111	18	60/50	F 90	57 dB	4.50	P 3423/3899
		136				[studs at 1000 mm c/c]		
1 S 34/1		180	12.5 + 10	40/40	F 90 Height ≤ 7 m	63 dB	7.00	P 86.431
			12.5 + 10 + 10					

⁽¹⁾ In constructions where only sound insulation is required, mineral wool a bulk density ≥ 20 kg/m³ can be used.⁽³⁾ R_w sound insulation value based on a laboratory test result without flanking sound considerations according to DIN 52210 part 2 and EN ISO 140 part 3.⁽⁴⁾ Calculated value for sound insulation based on DIN 4109 part 5.5.2.⁽⁵⁾ Test certificates from the U.K., Germany and other European countries are available.⁽⁶⁾ Construction 1 S 21 is fire rated to 10 m – please refer to the specific construction sheet for details of stud size, spacing and gauge.⁽⁷⁾ Where separated studs are mechanically braced to each other, the sound insulation figure will change. Contact FERMACELL Technical staff for further information.⁽⁹⁾ Wall thickness, heights and construction properties quoted are for separated steel stud partitions with U channels and C studs fixed parallel to each other and jointed with an isolation strip (for example a self adhesive insulation strip). No mechanical bracing across studs.⁽¹⁰⁾ Wall thickness, heights and construction properties quoted are for separated steel stud partitions with U channels and C studs fixed parallel to each other without any of jointing between the two separated stud sections.⁽¹¹⁾ Wall thickness, heights and construction properties quoted are for separated steel stud partitions with U channels and C studs fixed parallel to each other and connected to each other at < 1/3 height with a fillet of board or an off cut of steel stud.

FERMACELL partition walls on steel subframes with insulating material.

Designation	System drawing	Overall wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Sound insulation	Maximum wall height	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m ³]		R _w ⁽³⁾	[m]	
1 S 34/2		190	12.5 + 10 + 10	40/40	F 90 height m 9 m	62 dB	9.00	P 86.431
					F 120 height ≥ 7 m			
1 S 41		135	15 + 15	50/50	F 120	60 dB	5.00	G 94 8880
1 S 42		≥ 215	15 + 12.5	80/50	F 120	64 dB ⁽⁷⁾	5.50 6.00 ⁽¹¹⁾	G 94 8880
1 S 51		170	12.5 + 12.5	80/50	F 180	64 dB	5.00	G 94 8880
		195	+10				5.50	
1 S 52		≥ 230	12.5 + 12.5 +10	80/50	F 180	64 dB ⁽⁷⁾	5.50 6.00 ⁽¹¹⁾	G 94 8880

FERMACELL partition walls on steel subframes without insulating material.

Designation	System drawing	Overall wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Sound insulation	Maximum wall height	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m ³]		R _w ⁽³⁾	[m]	
1 S 15		100	12.5		F 30	41 dB	4.50	P 3119/1159
		125				42 dB	5.00	
		150					5.50	
1 S 25		105	15		F 60	42 dB	4.50	WRFC 135948
1 S 16		110	12.5		F 30	46 dB	4.50	G 018/Ap.
			12.5 + 10					
1 S 22		125	12.5 + 12.5		F 60	52 dB	4.50	G 018/Ap.
		150				54 dB	5.00	
		175					5.50	
1 S 23		130	12.5 + 10		F 60	54 dB	4.50	G 018/Ap.
			12.5 + 10 + 10					
1 S 35		140	12.5 + 10 + 10		F 90	58 dB	4.50	P 3466/3951
		165				60 dB	5.00	
		190					5.50	

⁽¹⁾ In constructions where only sound insulation is required, mineral wool with a bulk density ≥ 20 kg/m³ can be used.

⁽³⁾ R_w sound insulation value based on a laboratory test result without flanking sound considerations according to DIN 52210 part 2 and EN ISO 140 part 3.

⁽⁵⁾ Test certificates from the U.K., Germany and other European countries are available.

⁽⁶⁾ Where separated studs are mechanically braced to each other, the sound insulation figure will change. Contact FERMACELL Technical staff for further information.

⁽⁷⁾ Calculated value for sound insulation based on DIN 4109 part 5.5.2.

⁽¹¹⁾ Wall thickness, heights and construction properties quoted are for separated steel stud partitions with U channels and C studs fixed parallel to each other and connected to each other at < 1/3 height with a fillet of board or an off cut of steel stud.

FERMACELL partition walls on timber subframes with insulating material.

Designation	System drawing	Overall wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Sound insulation	Maximum wall height	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m ³]		R _w ⁽³⁾	[m]	
1 H 11		85 or 100	12.5	40/30	F 30	44 dB	3.10 4.10	G 94 8880
1 H 12		80 or 95	10	40/30	F 30	44 dB	3.10 4.10	G 94 8880
1 H 22/GB		100	12.5	40/45	F 60	44 dB	3.00	–
1 H 23/GB		185	12.5	40/45	F 60	60 dB	3.10	–
1 H 29		110	12.5 + 10 12.5	70/30	F 60	51 dB	3.00	P 30 3348
1 H 31		105 or 125	12.5 + 10	50/50	F 90	50 dB	3.10 4.10	G 94 8880
1 H 32		145	12.5 + 10 (one-sided transverse 30/50 timber with/without mineral wool strip)	50/50	F 90	59 dB with mineral wool strip 56 dB without mineral wool strip	3.60	G 94 8880
1 H 35		170 210	12.5 + 10	50/50	F 90	66 dB	3.10 4.10	G 94 8880
1 H 36		280	10 + 10	60/60	F 60	62 dB	3.10	–

FERMACELL partition walls on timber subframes without insulating material.

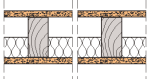
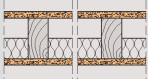
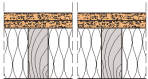
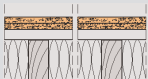

Designation	System drawing	Wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Sound insulation	Maximum wall height	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m ³]		R _w ⁽³⁾	[m]	
1 H 13		105	12.5		F 30	41 dB	4.10	P 303348
1 H 14		115	12.5 12.5 + 10		F 30	43 dB	4.10	G 111/Ap.
1 H 21		125	12.5 + 10		F 60	51 dB	4.10	P 303348
1 H 33		145	12.5 + 10 + 10		F 90	54 dB	4.10	G 111/Ap.
1 H 34		175	12.5 + 10 + 10 (one-sided transverse 30/50 with mineral wool strip)		F 90	56 dB with mineral wool strip	4.10	G 111/Ap.

⁽¹⁾ In constructions where only sound insulation is required, mineral wool a bulk density $\geq 20 \text{ kg/m}^3$ can be used.

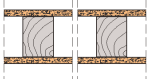
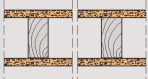
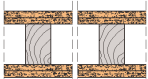
⁽³⁾ R_w sound insulation value based on a laboratory test result without flanking sound considerations according to DIN 52210 part 2 and EN ISO 140 part 3.

⁽⁵⁾ Test certificates from the U.K., Germany and other European countries are available.

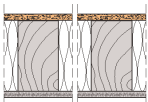
FERMACELL partion walls on timber subframes. Loadbearing lining party walls.

Designation	System drawing	Overall wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Sound insulation $R_w^{(3)}$	Maximum wall height	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m ³]			[m]	
1 HT 11		105	12.5	40/30	F 30	44 dB	3.50	G 94 8880
1 HT 12		100	10	40/30	F 30	44 dB	3.00	G 94 8880
1 HT 31-6		160	15 + 15	100/30	F 90	≥ 51 dB	3.50	P-3165/1558
1 HT 32-2		≈ 215	12.5 + 12.5 (with Protektor TPS-profile)	140/30	F 90	≥ 60 dB	3.50	P-3165/1558
1 HT 35-1		230	15 + 15	100/30	F 90	66 dB	3.00	P-3165/1558

FERMACELL partion walls on timber subframes. Loadbearing internal walls.

Designation	System drawing	Overall wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Sound insulation $R_w^{(3)}$	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m ³]			
1 HT 14		105	12.5		F 30	41 dB	G 94 8880 G 017/98 -Nau- P 303348
1 HT 15		110	15		F 30	41 dB	G 94 8880 G 017/98 -Nau- P 303348
1 HT 21		130	12.5 + 12.5		F 60	51 dB	G 94 8880 G 017/98 -Nau- P 303348

FERMACELL non exposed separating walls.

Designation	System drawing	Wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Sound insulation R_w	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m ³]			
1 HG 32-8		167.5	12.5 15 HD board	140/20	F 30 F 90	≥ 64 dB ⁽⁷⁾	P -3165/1558

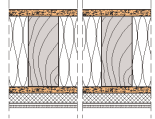
⁽¹⁾ In constructions where only sound insulation is required, mineral wool a bulk density ≥ 20 kg/m³ can be used.

⁽³⁾ R_w sound insulation value based on a laboratory test result without flanking sound considerations according to DIN 52210 part 2 and EN ISO 140 part 3.

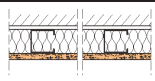
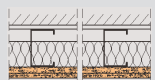
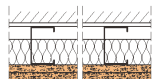
⁽⁵⁾ Test certificates from the U.K., Germany and other European countries are available.

⁽⁷⁾ The values shown are valid for two identical walls that are separated by 30 mm.

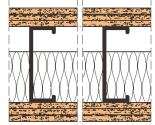
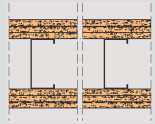
FERMACELL external loadbearing party walls.

Designation	System drawing	Wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Sound insulation ⁽⁴⁾	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m ³]		R _w	
1 HA 11		~230	12.5	140/20	F 30	50 dB	G 94 8880
			vapour barrier				
			60 mm, PS 15				
			3 mm reinforcement 3 mm render coat				

FERMACELL independent lining/shaft wall on steel substructures.

Designation	System drawing	Wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Improved sound insulation ⁽¹⁴⁾	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m ³]		ΔR _w	
3 S 11		62.5	12.5	50/40	F 30 Fire classification from both sides	20 dB	G 267/94-Ap.
		87.5					
		112.5					
3 S 12		75	12.5 + 12.5	50/40	F 30 Fire classification from both sides	22 dB	G 267/94-Ap.
		100					
		125					
3 S 21		105	10 + 10	50/45 Mineral wool insulation	F 60	22 dB	CC 83574

FERMACELL firewalls on steel substructures.

Designation	System drawing	Overall wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Sound insulation	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m ³]		R _w ⁽³⁾	
4 S 31	 Loadbearing	225	3 x 12.5 1 x 0.38 steel sheet	100/30	F 90	60 dB	P 3414/3002a
4 S 32	 Non loadbearing	175	3 x 12.5 1 x 0.38 steel sheet		F 90	59 dB without insulation	G 3933/8697
		200				60 dB with insulation	

⁽¹⁾ In constructions where only sound insulation is required, mineral wool a bulk density $\geq 20 \text{ kg/m}^3$ can be used.

⁽³⁾ R_w sound insulation value based on a laboratory test result without flanking sound considerations according to DIN 52210 part 2 and EN ISO 140 part 3.

⁽⁴⁾ Calculated value for sound insulation based on DIN 4109 part 5.5.2

⁽⁵⁾ Test certificates from the U.K., Germany and other European countries are available.

⁽¹⁴⁾ The quoted improvements in sound insulation are valid for independent wall linings are individual values for sound reduction in solid walls with an area mass between 135 and 250 kg/m² (R_w 40 dB – 47 dB according to DIN standard 4109 table 1) and are valid for flanking constructions with an area mass of approximately 350 kg/m² or for solid walls with a discontinuous dry lining. For other types of walls and flanking conditions different values will apply.

FERMACELL Dry Lining on steel subframes.

Designation	System drawing	Wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Flanking sound insulation	Test certificate ⁽⁵⁾
		[mm]	[mm]	[mm]/[kg/m³]		R' _{L,w,R}	
3 WS 11		42.5	12.5	30/20	–	57 dB	G 267/94-Ap.
		62.5		50/40	F 30		
		87.5					
3 WS 12		60	12.5 + 12.5	20/20	–	62 dB	
		75		50/40	F 30		
		100					

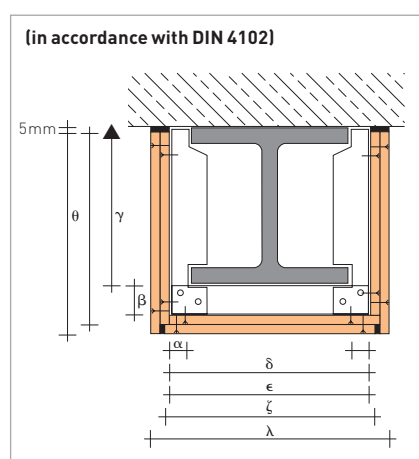
FERMACELL Dry Lining on timber subframes.

Designation	System drawing	Wall thickness	FERMACELL panelling each side	Mineral wool ⁽¹⁾	Fire protection in minutes	Flanking sound insulation
		[mm]	[mm]	[mm]/[kg/m³]		R' _{L,w,R}
3 WH 01		42.5	12.5	30/20	–	57 dB
		52.5		40/20		
		72.5		60/20		
3 WH 02		52.5	12.5 + 10	30/20	–	61 dB
		62.5		40/20		
		82.5		60/20		
		55	12.5 + 12.5	30/20		
		65		40/20		
		85		60/20		

⁽¹⁾ In constructions where only sound insulation is required, mineral wool a bulk density $\geq 20 \text{ kg/m}^3$ can be used.

⁽⁵⁾ Test certificates from the U.K., Germany and other European countries are available.

Beam encasements.



Lining thickness			
F 30	F 60	F 90	F 120
10 mm	10 mm	15 mm	18 mm
–	10 mm	12.5 mm	18 mm

The following tables are valid for steel sections with a section factor of

$$H_p/A \leq 300 \text{ m}^{-1}$$

according to the formula:

$$H_p/A = \frac{2h - b}{A}$$

Where H_p = Heated perimeter

and A = Cross Sectional Area of metal Element

How to calculate board dimensions.

Calculation of board dimensions must take into account the board thickness needed to achieve the required fire rating. Refer to the table on "Lining Thickness" left.

$$\text{Width } \varepsilon = \delta + (\alpha \times 2)$$

$$\text{Width } \zeta = \varepsilon + (2 \times 1^{\text{st}} \text{ layer thickness}) - (2 \times 5 \text{ mm joint filler})$$

$$\text{Width } \eta = \gamma + \beta - 5 \text{ mm joint filler} + 1^{\text{st}} \text{ layer thickness of board}$$

$$\text{Width } \theta = \eta + 2^{\text{nd}} \text{ layer thickness of board}$$

Note.

α and β are the width, from the edge of the beam, of the proprietary steel clip systems. Examples of the Protektor range are available from Cornercare (01562 515200). Staples can be used to edge fix the boards to each other. Timber grounds may also be placed in the web to provide the necessary fixing points. Grounds or proprietary clip systems must be installed at 400 mm centres, and screws and staples should be spaced at 150 mm centres.

Horizontal joints should be staggered by 400 mm.

F 30 constructions with one layer should be sealed at the corners with a fire proof mastic. For multiple layer constructions, the last (outer) layer should be sealed with joint filler as shown in the drawing left.

All fixing and jointing must be made in accordance with the FERMACELL Handy Guide.

FERMACELL ceilings on steel or timber substructures, irrespective of main ceiling construction.

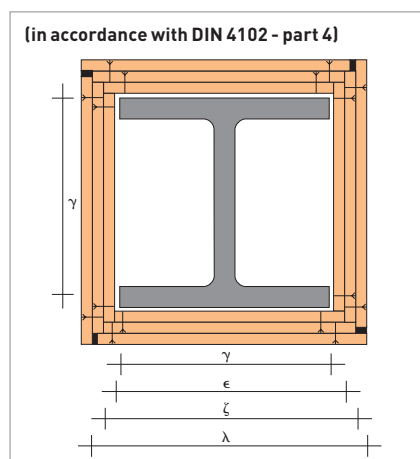
Designation	System drawing	Ceiling type	FERMACELL panelling	Mineral wool ^[41]	Fire protection in minutes	Test certificate ^[42]
2 S 11 ↑ u		Protektor S 400 suspended ceiling with fire protection from below	2 x 10 or 2 x 12.5	optional	F 30	P 23.0539.1.79
2 S 11 ↑ u ↓ o		Protektor S 400 suspended ceiling with fire protection from above and below	2 x 10 or 2 x 12.5	40/30	F 30	P 23.0319.0.83-1
2 S 21 ↑ u		Protektor S 400 suspended ceiling with fire protection from below	3 x 10 or 2 x 15	optional	F 60	G 94 8880
2 S 34 ↑ u ↓ o		Protektor S 400 suspended ceiling with fire protection from above and below	15 + 2 x 12.5 or 4 x 10	40/40	F 90	P 3255/2458
2 H 13 ↑ u		suspended ceiling with fire protection from below	2 x 10 or 2 x 12.5	optional	F 30	P 23.0534.3.80-1
2 H 23 ↑ u		suspended ceiling with fire protection from below	3 x 10 or 2 x 15	optional	F 60	G 94 8880
2 H 34 ↑ u		suspended ceiling with fire protection from below	15 + 2 x 12.5 or 4 x 10	optional	F 90	P 3255/2458

^[41] For roof and ceiling constructions without mineral wool, other types of insulation may compromise the stated fire rating.

Where mineral wool is used for fire rating, additional insulation may be added for acoustic purposes without compromising the fire rating.

^[42] Test certificates from the U.K., Germany and other European countries are available.

Column encasements.



Lining thickness				
F 30	F 60	F 90	F 120	F 180
10 mm	10 mm	15 mm	15 mm	15 mm
-	10 mm	15 mm	15 mm	15 mm
-	-	12.5 mm	15 mm	15 mm
-	-	-	15 mm	15 mm
-	-	-	-	15 mm

The following tables are valid for steel sections with a section factor of

$$H_p/A \leq 300 \text{ m}^{-1}$$

according to the formula:

$$H_p/A = \frac{2b - 2h - b^2}{A}$$

Where H_p = Heated perimeter

and A = Cross Sectional Area of metal Element

How to calculate board dimensions.

Calculation of board dimensions must take into account the board thickness needed to achieve the required fire rating. Refer to the table on "Lining Thickness" left.

$$\text{Width } \varepsilon = \gamma + (1 \times 1\text{st layer thickness})$$

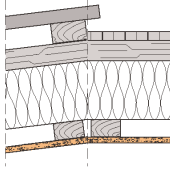
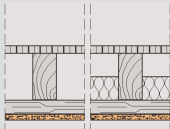
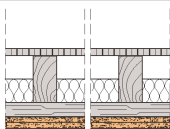
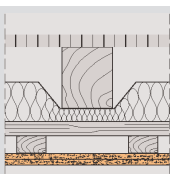
$$\text{Width } \zeta = \varepsilon + (1 \times 1\text{st layer thickness}) + (1 \times 2\text{nd layer thickness})$$

$$\text{Width } \lambda = \zeta + (1 \times 2\text{nd layer thickness}) + (1 \times 3\text{rd layer thickness}) + 5 \text{ mm for joint filler}$$

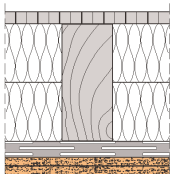
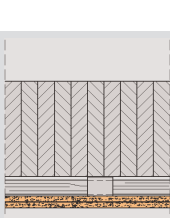
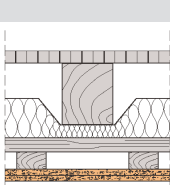
Note.

α and β are the width, from the edge of the beam, of the proprietary steel clip systems. Examples of the Protektor range are available from Cornercare (01562 515200). Staples can be used to edge fix the boards to each other. Timber grounds may also be placed in the web to provide the necessary fixing points. Grounds or proprietary clip systems must be installed at 400 mm centres, and screws and staples should be spaced at 150 mm centres. Horizontal joints should be staggered by 400 mm. F 30 constructions with one layer should be sealed at the corners with a fire proof mastic. For multiple layer constructions, the last (outer) layer should be sealed with joint filler as shown in the drawing left. All fixing and jointing must be made in accordance with the FERMACELL Handy Guide.

FERMACELL timber joist ceilings.

Designation	System drawing	Ceiling type	FERMACELL panelling	Mineral wool ^[41]	Fire protection in minutes	Test certificate ^[42]
			[mm]	[mm]/[kg/m³]		
2 H 11		ceilings with/without a layer of structural overlay board for pitched roofs	1 x 10 or 1 x 12.5	100/15	F 30	P-MPA-E-00-27 P-MPA-E-00-28
2 H 14		ceilings with a layer of structural overlay board	1 x 10 or 1 x 12.5	optional	F 30	P 3354/2449
2 H 23		ceilings with a layer of structural overlay board	2 x 10	50/60	F 60	TE 81278
2 H 31		wood joist ceiling with a layer of structural overlay board	2 x 10 or 2 x 12.5	wire netting 50/80	F 90	P-MPA-E-99-203

FERMACELL ceilings with timber subframes.

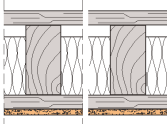
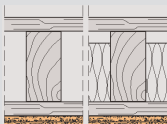
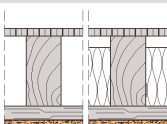
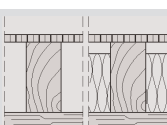
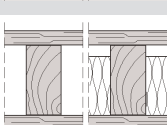
Designation	System drawing	Ceiling type	FERMACELL panelling	Mineral wool ^[41]	Fire protection in minutes	Test certificate ^[42]
			[mm]	[mm]/[kg/m³]		
2 H 32		ceilings with a layer of structural overlay board	2 x 15	2 x 100/30	F 90	G 075/96-Ap.
2 H 33		glulam floors	2 x 10 or 2 x 12.5	optional	F 90	G 184/97-Nau-
2 H 41		ceilings with a layer of structural overlay board	2 x 10 or 2 x 12.5	wire netting 50/100	F 120	P-MPA-E-99-203

^[41] For roof and ceiling constructions without mineral wool, other types of insulation may compromise the stated fire rating.

Where mineral wool is used for fire rating, additional insulation may be added for acoustic purposes without compromising the fire rating.

^[42] Test certificates from the U.K., Germany and other European countries are available.

FERMACELL Roof constructions.

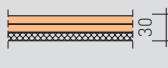
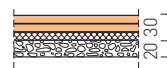
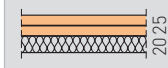
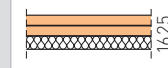
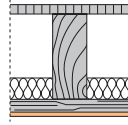
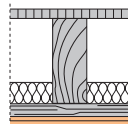
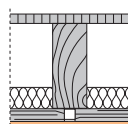
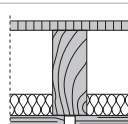
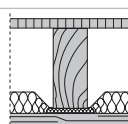
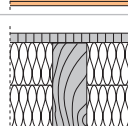
Designation	System drawing	Ceiling type	FERMACELL panelling	Mineral wool ^[41]	Fire protection in minutes	Test certificate ^[42]
			[mm]	[mm]/[kg/m ³]		
2 HD 11		ceilings without a layer of structural overlay board	1 x 10 or 1 x 12.5	100/15	F 30	P 23.0560.1.87-1
2 HD 12		ceilings without a layer of structural overlay board	2 x 10 or 2 x 12.5	optional	F 30	G 94 8880
2 HD 13		ceilings with a layer of structural overlay board	1 x 10 or 1 x 12.5	optional	F 30	G 94 8880
2 HD 21		ceilings with a layer of structural overlay board	2 x 10 or 2 x 12.5	optional	F 60	G 94 8880
2 HD 34		roof structure with independent ceiling and non-essential decking/overlay	15 + 2 x 12.5 or 4 x 10	optional	F 90	G 94 8880

^[41] For roof and ceiling constructions without mineral wool, other types of insulation may compromise the stated fire rating.

Where mineral wool is used for fire rating, additional insulation may be added for acoustic purposes without compromising the fire rating.

^[42] Test certificates from the U.K., Germany and other European countries are available.

FERMACELL dry flooring elements – improved sound insulation on timber joist floors.

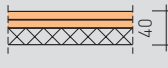
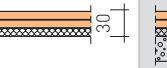

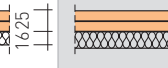
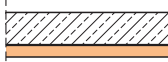
Floor/ceiling constructions				FERMACELL dry flooring systems			
				2 E 32	2 E 32-c	2 E 22-mi	2 E 22-al
							
				FERMACELL dry flooring element + 10 mm MW (mineral wool)	2 E 32 FERMACELL dry flooring element + 10 mm MW -c FERMACELL levelling compound	2 E 22 FERMACELL dry flooring element -mi MW 22/20 mm (2)	2 E 22 FERMACELL dry flooring element -al wood fibre insulation slab 17/16 mm ≥ 150 kg/m³ (2)
1		40	R_w [dB]	49	52	51	48
		75	$L'_{n,w,R}$ [dB]	64	67	63	69
2		42	R_w [dB]	51	54	53	51
		73	$L'_{n,w,R}$ [dB]	62	63	61	65
3		50	R_w [dB]	54	56	55	54
		67	$L'_{n,w,R}$ [dB]	58	56	55	58
4		53	R_w [dB]	58	59	58	57
		62	$L'_{n,w,R}$ [dB]	53	51	50	53
5		53	R_w [dB]	57 ⁽¹⁾	59 ⁽¹⁾	59 interpolated	57 interpolated
		63	$L'_{n,w,R}$ [dB]	53 ⁽¹⁾	49 ⁽¹⁾	49 interpolated	53 interpolated
6		55	R_w [dB]	59 ⁽¹⁾	59 ⁽¹⁾	58 ⁽¹⁾	58
		58	$L'_{n,w,R}$ [dB]	50 ⁽¹⁾	45 ⁽¹⁾	49 ⁽¹⁾	49

⁽¹⁾ Floor and ceiling constructions F 90⁽²⁾ Product mineral wool: Akustic EP3 by G+H or Floorrock GP by Rockwool.
Product wood fibre insulation slab: Pavatex Pavapor. Area of application 1/admissible point loading 1.0 kN.

Floor and ceiling construction (from top to bottom).

- | | | |
|---|---|---|
| <p>1 22 mm chipboard
80/200 mm timber joists
50 mm mineral wool
50/30 mm battens
10 mm FERMACELL</p> | <p>2 22 mm chipboard
80/200 mm timber joists
50 mm mineral wool
50/30 mm battens
10 mm FERMACELL
10 mm FERMACELL</p> | <p>3 22 mm chipboard
80/200 mm timber joists
100 mm mineral wool
Protektor TPS25
Acoustic Ceiling System
10 mm FERMACELL</p> |
| <p>4 22 mm chipboard
80/200 mm timber joists
100 mm mineral wool
Protektor TPS25
Acoustic Ceiling System
10 mm FERMACELL
10 mm FERMACELL</p> | <p>5 22 mm chipboard
80/200 mm timber joists
50 mm Rockwool RPM
60/40 mm counterbattens
60/40 mm battens on acoustic hangers
10 mm FERMACELL
10 mm FERMACELL</p> | <p>6 22 mm chipboard
80/200 mm timber joists
100 mm mineral wool
100 mm mineral wool
Protektor TPS25
Acoustic Ceiling System
15 mm FERMACELL
15 mm FERMACELL</p> |

FERMACELL dry flooring elements – improved sound insulation on concrete floors.

Concrete floors [315 kg/m ²]				Drawing of the systems			
				2 E 13	2 E 32	2 E 32-c	2 E 22-al
							
				FERMACELL dry flooring element + 20 mm rigid foamed polystyrene	FERMACELL dry flooring element + 10 mm MW	2 E 32 FERMACELL dry flooring element + 10 mm MW -c FERMACELL levelling compound	2 E 22 FERMACELL dry flooring element -al wood fibre insulation slab 17/16 mm ≥ 150 kg/m³ (2)
7		$L'_{n,w,R}$ 83 dB	ΔL_w [dB]	17	21	22	22
							27

⁽²⁾ Product mineral wool: SPT/G (AKUSTIC EP3) by G+H or Floorrock by Rockwool.
Product wood fibre insulation slab: Pavatex Pavapor. Area of application 1/admissible point loading 1.0 kN.

FERMACELL Dry flooring elements for finished floors – fast.

FERMACELL Flooring Systems.

FERMACELL Flooring Systems are a dry alternative to conventional wet screed systems and are designed for upgrading both impact and airborne sound insulation in floors, or for increasing thermal performance. They are also particularly suitable for use with warm water Underfloor Heating (UFH) systems and can be used for upgrading the fire protection to the upper surface of a floor construction.

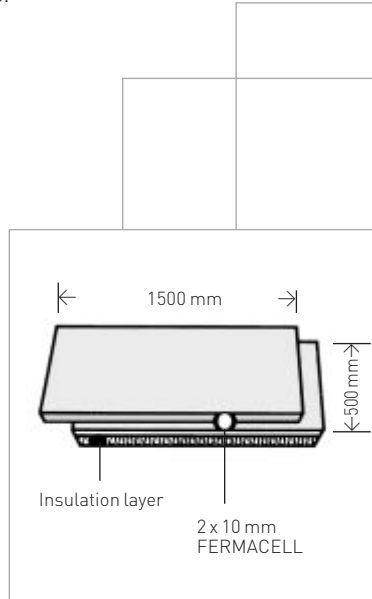
The individual elements are glued and screwed together using a unique staggered jointing system which when set provides a continuous floating floor membrane. The floor can be used within 24 hours of laying.

The finished floor is highly resistant to impact, point and rolling loads. It is also able to accept a wide variety of floor coverings including tiles, carpets and natural floorcoverings, parquet, wood laminates and certain types of solid wood floor. Please refer to our technical manuals for further information.



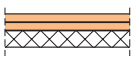
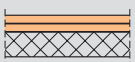
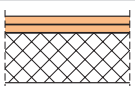

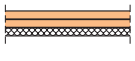
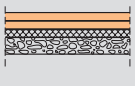



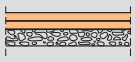
- No drying out time – available for immediate use.
- Continuous floating membrane – stable substrate for a wide variety of floor coverings.
- Exceeds Building Regulations for impact and airborne sound insulation, when used in conjunction with the correct acoustic ceiling treatment.
- Improves thermal performance of floors beyond latest recommended values.
- Increases fire protection from above – up to F 90.
- Suitable for use with Underfloor Heating (UFH) systems.
- Easy to handle, simple to lay. Contractor friendly.

- Recycled or renewable materials used. Ecologically friendly.
- In conjunction with FERMACELL granular levelling compound may be used to level uneven floors.

FERMACELL Flooring is designed as a system. A range of accessories and ancillary products are available to further increase the performance of the finished floor. Please call for further details.



FERMACELL dry flooring elements.

Ref. no.	Floor construction	Thick- ness	Weight	Areas of application	Admissible ^{(1) (2)} point loading	Thermal resistance ⁽³⁾	Class ⁽⁴⁾ Fire load from above
		mm	kN/m ²		kN	[l/Δ] (m ² K/W)	
2 E 11	 FERMACELL dry flooring element (2 x 10 mm)	20	0.24	1 + 2	1.5	0.06	F 30
2 E 22	 FERMACELL dry flooring element (2 x 12.5 mm)	25	0.30	1 + 2 + 3	2.5	0.075	F 60
2 E 13	 FERMACELL dry flooring element (2 x 10 mm) + 20 mm rigid foamed polystyrene	40	0.24	1 + 2	1.5	0.56	F 30
2 E 14	 FERMACELL dry flooring element (2 x 10 mm) + 30 mm rigid foamed polystyrene	50	0.25	1 + 2	1.5	0.81	F 30
2 E 15	 FERMACELL dry flooring element (2 x 10 mm) + 60 mm extruded rigid foam plastic	80	0.26	1 + 2	1.5	2.06	F 30
2 E 31	 FERMACELL dry flooring element (2 x 10 mm) + 10 mm wood fibre insulating slab	30	0.26	1 + 2 + 3	2.5	0.26	F 90
2 E 32	 FERMACELL dry flooring element (2 x 10 mm) + 10 mm mineral wool	30	0.26	1	1.0	0.31	F 90
2 E 32-c	 FERMACELL dry flooring element (2 x 10 mm) + 10 mm mineral wool 20 mm FERMACELL levelling compound	50	0.33	1	1.0	0.53	F 90
2 E 22-a	 10 mm FERMACELL glued FERMACELL dry flooring element (2 x 12.5 mm)	35	0.42	1 + 2 + 3 + 4	3.5	0.10	F 90
2 E 31-a	 10 mm FERMACELL glued FERMACELL dry flooring element (2 x 10 mm) + 10 mm wood fibre insulating slab	40	0.38	1 + 2 + 3 + 4	3.5	0.28	F 90
2 E 32-a	 10 mm FERMACELL glued FERMACELL dry flooring element (2 x 10 mm) + 10 mm mineral wool	40	0.38	1 + 2	1.5	0.33	F 90
2 E 11-c	 FERMACELL dry flooring element (2 x 10 mm) 20 mm FERMACELL levelling compound	40	0.31	1 + 2	1.5	0.28	F 90

Suggested areas of application

1	Housing spaces, corridors and lofts
2	Offices, corridors and lofts in office building, sales rooms up to 50 m ² area in residential buildings
3	Wards and common rooms in hospitals, lecture halls, class rooms, inns, domestic cellars
4	Surgeries, corridors of hospitals, corridors to lecture halls, meeting rooms of public buildings, churches, theatres and cinemas, dance halls and gymnasia, exhibition and sales rooms, office buildings and department stores, libraries and archives

⁽¹⁾ Data relating to the admissible point loading are based on a square loading surface area $\geq 10 \text{ cm}^2$ and the distance must be $\geq 500 \text{ mm}$.
The distance to the floor corner must be $\geq 250 \text{ mm}$ or the loading surface must be at $\geq 100 \text{ cm}^2$. The total floor load must not exceed the maximal admissible floor load capacity.

⁽²⁾ The admissible point loading can be increased by the installation of a third layer of FERMACELL – see “FERMACELL Dry Flooring Elements – Instruction Manual”.

⁽³⁾ Where a greater degree of thermal insulation is required, an increase in the thickness of the insulating layer can be achieved by using the appropriate materials in accordance with the “FERMACELL Dry Flooring Elements – Instruction Manual”.

⁽⁴⁾ The listed floor constructions with FERMACELL dry flooring have been classified according to DIN 4102 into the respective fire protection class.

⁽⁵⁾ When installing underfloor heating systems, a value of $0.09 \text{ m}^2 \text{ K/W}$ (thermal resistance) must be observed.

FERMACELL: the very best credentials.



Technical and installation support is available as follows:

Tel: +44(0) 870-6 09 03 06

Fax: +44(0) 870-2 40 29 48

Email: fermacell-uk@xella.com

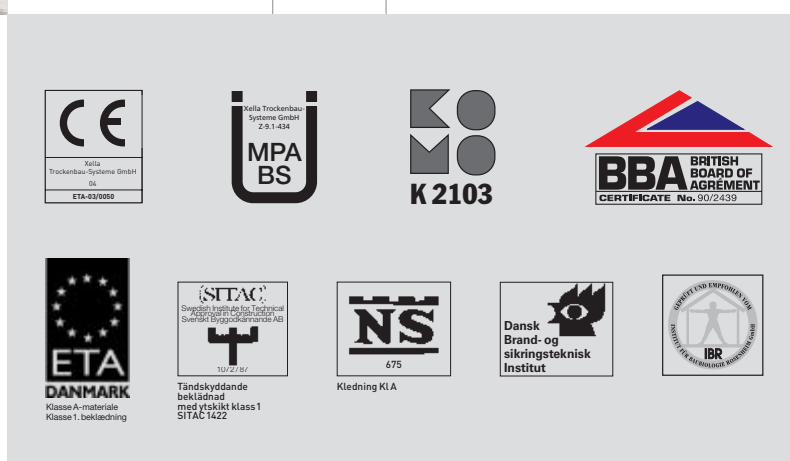
Web: www.fermacell.co.uk

Our technical support staff is fully qualified to provide detailed technical solutions – usually at the time of your enquiry. Where special detailing or a non-standard solution is required we shall undertake to have given a preliminary answer within 24 hours.

Visits either to your premises or site are arranged at short notice according to your requirements. Please call our Hotline for further assistance.

Training.

FERMACELL is an innovative, high performance product and installation techniques, whilst not difficult, are different to standard dry lining practice. For this reason we recommend that first time users of FERMACELL – either specifiers or installers – contact us for a brief explanation of the main differences in the use of the board. Although this can be usually accomplished by telephone, we always encourage training including demonstrations on site or at our training centre, according to customer preferences.



CPD.

Generic, CPD service accredited presentations on the features, benefits and use of Gypsum Fibreboards can be arranged at short notice. These presentations are free and are available to professional and trade bodies, architectural and other building practices as well as schools of architecture and building colleges.

International Certification.

FERMACELL is produced to the highest international quality standards – our reputation depends upon it. In addition to the accreditation of our factories to ISO 9001 to ensure consistent product quality, FERMACELL itself has been certified by the bodies shown above as well as international equivalent bodies throughout Europe.

Research Led R & D.

Being the best doesn't mean you can be complacent. Increasing innovation in building techniques, changes in Building Regulations and requests and suggestions from our customers lead us to develop both new products and methods of application.

Our purpose built R & D centre in the Harz Mountains in Germany has a continuous programme of New Product Development. This is combined with a rigorous testing regime – often in conjunction with the University of Brunswick.

FERMACELL's daily and continued use in thousands of high profile projects worldwide is a testament not only to the product's huge appeal and breadth of application, but also to the service and professionalism of Xella staff in supporting its users. Call us to experience the benefits of FERMACELL for yourself.

Version: 02/2005. We reserve the right to change specifications.
Please call the helpline to ensure that you are in possession of the latest information.
For additional information please see the FERMACELL website.

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