FERMACELL® FIBER GYPSUM FLOORING ELEMENTS

James Hardie solutions for mass timber projects

Scan for more information.

More information on: **www.fermacell.com**

Discover the future of construction solutions with fermacell®.

fermacell®

fermacell®: Building solutions made simple

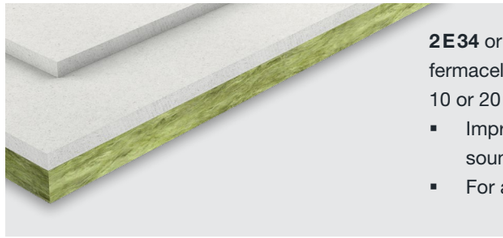
fermacell® designs and manufactures fiber gypsum boards since the 1970s for both interior and exterior applications. The boards, function similarly to drywall but are suitable for partition walls, ceilings as well as a dry topping acoustic floor underlayment to reduce noise transmission between floors and improve sound insulation in buildings.

CCMC EVALUATION 14136-R

Key properties

- **Fire protection:** fermacell® boards are engineered to possess exceptional fire-resistant properties, enabling them to endure high temperatures and effectively inhibit the spread of flames.
- **Sound insulation:** The unique composition of fermacell® boards provide superior acoustic performance, significantly reducing sound transmission between rooms and across floors.
- **Sustainability:** In alignment with environmental stewardship, fermacell® gypsum fiber boards are manufactured from recycled materials, thereby substantially lowering the carbon footprint associated with their production.
- **Ease of installation:** fermacell® boards are versatile and designed for user-friendly installation. Their lightweight nature and compatibility with prefabrication techniques facilitate quicker project turnaround times and cost savings.

2E22
fermacell® flooring element
- Improves airborne sound performance
- For a slim fire protection solution



2E34 or **2E35**
fermacell® flooring element with 10 or 20 mm mineral wool
- Improves airborne and impact sound performance
- For a slim fire protection solution

2E33
fermacell® flooring element with 10 mm wood fiber
- Improves airborne and impact sound performance
- For a slim fire protection solution with possible high loads

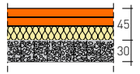
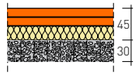
A sound solution

Sound insulation in CLT (Cross-Laminated Timber) multi-storey buildings poses distinct challenges because of the material properties and construction techniques associated with wooden structures.

Fortunately, fermacell® fiber gypsum flooring elements are known for their excellent acoustical properties and provide the following key benefits.

- **Airborne sound insulation:** fermacell® flooring elements achieve high levels of airborne sound insulation, due to their high density, making them effective for reducing noise transmission through floors and ceilings.
- **Impact sound reduction:** fermacell® flooring elements also provide significant impact sound reduction, which is particularly beneficial in multi-story buildings to minimize noise from footsteps and other impacts.

How fermacell® helps silence your space!

	Assembly	Total Height	Airborne Sound	Impact Sound
	CLT Slab: 5-1/8" (131 mm), Honeycomb system: 30 mm, fermacell®: 2 E 35 (45 mm), Floor finish: Engineered wood (10 mm)	216 mm	STC = 59	IIC = 51
	CLT Slab: 7" (175 mm), Honeycomb system: 30 mm, fermacell®: 2 E 32 (30 mm)*, Acoustic membrane: 2.2 mm, Floor finish: Floating floor (6 mm)	243.2 mm	ASTC = 58	AIIC = 58
	CLT Slab: 5-1/8" (131mm), Honeycomb system: 30 mm, fermacell®: 2 E 35 (45 mm)	206 mm	STC = 58	IIC = 52
	CLT Slab: 6" (152.4 mm), fermacell®: 2 E 35 (45 mm), Acoustic membrane: 3.5 mm, Floor finish: Engineered wood (13 mm)	213.9 mm	STC = 51	IIC = 51
	CLT Slab: 6" (152.4 mm), fermacell®: 2 E 35 (45 mm), Acoustic membrane: 3.5 mm, Floor finish: Ceramic tile (8 mm)	205.4 mm	STC = 51	IIC = 50
	CLT Slab: 6" (152.4 mm), fermacell®: 2 E 35 (45 mm)	197.4 mm	STC = 50	IIC = 50

Test reports are available upon request.

* replace with 2 E 33 if encapsulation criteria is required

Invest in safety

Fire protection features of fermacell®

Type X
Certfified

C QAI US
B1157

Cross-laminated timber (CLT) construction presents significant advantages for structural fire protection in multi-storey buildings. In recent years, James Hardie Europe has introduced comprehensive fire protection solutions tailored for mass timber buildings. fermacell® fiber gypsum boards effectively integrate with CLT elements, serving multiple functions, especially when building codes require the encapsulation of mass timber. **The double-layered fermacell® fiber gypsum elements** (e.g. 2E22) **provide a 50-minute encapsulation rating** when installed over mass timber flooring, in accordance with Section 3.1.6.6.2 of the 2020 National Building Code of Canada (NBC).

Standards and Compliance	Details
ASTM C1396/1396M	Standard Specification for Gypsum Board
CAN/ULC S102	Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies
ASTM E84	Standard Test Method for Surface Burning Characteristics of Building Materials

Ratings	Details
Type X	1/2 inch
Flame Spread Index (FSI)	≤ 0
Smoke Developed Index (SDI)	≤ 50
Flame Spread Index (FSI)	≤ 0
Smoke Developed Index (SDI)	≤ 50

meets NBC code requirements for encapsulation

Our boards store CO_2

Committed to sustainability since 1971.

We are pleased to highlight that our production process contributes to CO_2 storage through the following methods, which result in a strong, dense, and resilient construction material:

- **Flue gas gypsum:** Sourced from waste generated by power stations during the energy production process.
- **Paper fibers:** Obtained from recycled paper, including magazines and newspapers collected through domestic recycling initiatives.
- **Manufacturing offcuts:** Excess materials and sanding dust are reintegrated into the manufacturing process.
- **Wastewater recycling:** The wastewater produced during manufacturing is reused within the production line.

Through our cradle-to-gate approach, we are continually optimizing our recycling processes with the goal of achieving 100% recycling efficiency.

The latest version of this brochure applies, which you can download from our website. Subject to technical modifications. Should you require additional information, please contact our customer service.

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