siniat

product
data sheet

GIB
x-block®

GIB **x-block®** is a unique lead-free plasterboard and jointing compound designed for X-ray radiation protection. The lead-free plasterboard contains barium sulphate which forms an effective barrier against X-ray radiation.

The jointing compound used on the GIB **x-block®** plasterboard is designed to give lead equivalent joints on walls and ceilings and it provides a uniform X-ray radiation barrier. The GIB **x-block®** system also offers high insulation performance.

key benefits

- **lead-free x-ray radiation protection**
- **as easy to install and joint as standard plasterboard**
- **eliminates the need for complex installation procedures usually associated with installing lead-based lining solutions**

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product information

	thickness(mm)	width (mm)	length (mm)	weight* (kg/m²)
			3000*	
sheet size	13	1200	•	17.3
combustibility	May be used wherever a non-combustible material is required according to the National Construction Code (NCC) Vol 1 C2D10 (6)(a) [2019:C1.9]			
fire hazards properties	Group 1 with an Average Specific Extinction Area <250 m²/kg determined in accordance with AS 5637.1 as required by National Construction Code (NCC) Vol 1 S7C4 [2019: Spec C1.10 (4)]			
hazards identification	Hazardous according to WHS Regulations and the ADG Code. Refer to SDS for details			

* Weights indicated are nominal. Minimum order quantities and lead times may apply.

performance

x-ray resistant

Lead-free plasterboard and jointing compound designed for x-ray radiation protection. X-ray shielding requirements are typically specified as a thickness of lead.

The lead equivalence of GIB **x-block®** systems depends upon the radiation energy level. Refer to table 1 or table 2 for the lead equivalence of GIB **x-block®** systems at various X-ray energy levels. Always seek advice from a Health Physicist to ensure that the requirements for radiation shielding are met.

Refer to the Siniat Blueprint on the website for further radiation test results, systems, installation and construction details.

application

The GIB **x-block®** system consisting of GIB **x-block®** plasterboard and jointing compound has been designed to provide X-ray radiation protection in X-ray diagnostic rooms within medical facilities, dental clinics and veterinary clinics. The main applications for this system are walls and operator barriers, but it may also be used as a ceiling lining.

installation

GIB **x-block®** is installed using the 'Fastener Only Method'.

GIB **x-block®** compound must be used:

- In the gap between the sheets
- To fill the recessed joints on every layer
- As the bedding coat with siniat paper tape and as the second coat for the face layer
- To fill any other gaps and to cover all face layer fastener heads

Refer to the latest Siniat Blueprint on the website for complete installation instructions:

- www.siniat.com.au/blueprint
- www.siniat.com.au/downloads

table 1.

GIB x-block® lead equivalence measured in millimetre

13mm GIB x-block® lead equivalence (mm)				
x-ray energy (kVp)	1 layer	2 layers	3 layers	4 layers
80	0.8	1.6	2.4	-*
100	0.75	1.5	2.25	2.9
125	0.5	1.0	1.4	1.9
150	0.4	0.7	1.0	1.3

1. Uncertainites ± 0.1mm
2. Source: National Radiation Laboratory Reports 24062003/1, 24062008, 20022009.
3. *Quote from Report 20022009: 'Determination of lead equivalence for 4 layers of GIB X-Block Plasterboard at 80kVp was not feasible owing to the extremely low transmission of the x-rays through this sample thickness'.
4. kVp - kilovolts peak. Maximum voltage applied across the x-ray tube. The kVp controls the maximum energy of the emitted x-rays.

table 2.

GIB x-block® lead equivalence measured in kg/m²

13mm GIB x-block® lead equivalence (kg/m²)				
x-ray energy (kVp)	1 layer	2 layers	3 layers	4 layers
80	9.1	18.1	27.2	-
100	8.5	17.0	25.5	32.9
125	5.7	11.3	15.9	21.5
150	4.5	7.9	12.5	14.7

1. Calculated using the density of lead as 11430kg/m³

x-ray resistance energy levels

x-ray radiation is measured in kilovolts peak (kVp). Depending on the type of radiation equipment used in the room, diagnostic facilities will have different requirements for shielding:

- CT 120-140 kVp
- General radiographic rooms 60-90 kVp
- Dental 60-80 kVp
- Mammography 25-35 kVp

All Siniat products have been developed to meet the specific needs of the Australian market. Products manufactured in Australia comply with quality systems certified as complying with AS/NZS ISO 9001:2015 and meet the requirements of AS/NZS 2588, Gypsum Plasterboard.

The following Siniat products have been independently certified by Global GreenTag to GreenRate Level A: **masta**shield, **fire**shield, **fire**shield h, **sound**shield, **water**shield, **span**shield, **multi**shield, **curve**shield, **opal**, **tru**rock and **tru**rock hd. Compliance certificates are available on siniat.com.au.

All Siniat plasterboard and metal products are available on the Siniat Carbon Neutral Opt-In program to help you meet your sustainability goals. Visit siniat.com.au to find out more.

Disclaimer

Products manufactured and systems designed by Etex Australia Pty Ltd and branded Siniat, are produced in accordance with the Building Code of Australia and relevant Australian Standards. Information in this document is to be used as a guide only and is subject to project approval as many aspects of construction are not comprehensively covered. It is also the responsibility of the project to determine if Siniat's products and systems are suitable for the intended application. Etex Australia Pty Ltd will not be held responsible for any claims resulting from the installation of its products or other associated products not in accordance with the recommendations of the manufacturer's technical literature or relevant Australian Standards. Siniat technical information is regularly updated. To ensure this document is current with the latest information, visit siniat.solutions

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warranty

Siniat's products are guaranteed by a 10 Year Warranty.
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