



Specialist Boards

October 2009

## **Safeboard** X-Ray Shielding Plasterboard

## Get smart about X-Ray shielding

Traditional lead-lined boards are heavy, expensive and time consuming to cut and install, with the need for additional lead strips behind every joint. Often you need additional plasterboards over the top to suit fire or sound requirements.

From their initial implementation for medical use over a hundred years ago to the latest techniques we are familiar with - X-Ray technology has advanced considerably. The methods for protection from these potentially harmful rays had not - until now.



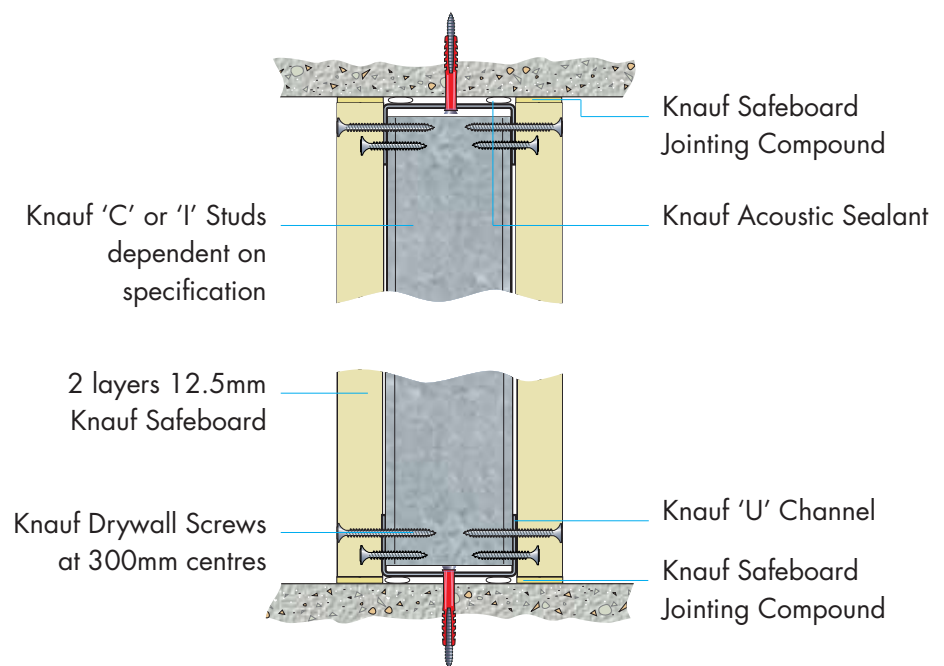
Modern, safe Knauf Safeboard offers a real alternative to traditional techniques and reduces the need for specialist construction skills – as it is installed in the same way as traditional plasterboard partitions.

## X-Ray protection without lead

Knauf Safeboard brings X-Ray protection and fire and acoustic performance together in one easy-to-install board. Safeboard is simple to fix and cuts and snaps like an ordinary plasterboard. Knauf Safeboard Jointing Compound is used to fill joints to complete the radiation shield.

The flexibility to re-design interior layouts and to build in changes of use to rooms is increasingly important when considering modern, future-adaptable healthcare projects. Knauf X-Ray partitions can be inexpensively designed in to suit mobile X-Ray apparatus, and can be retro-fitted or removed far more easily than traditional lead-lined partitions.

- Suitable for providing radiation protection in X-Ray diagnostics and low power X-Ray therapy areas
- Fully tested by the Health Protection Agency
- Cost-effective
- Lightweight, easy to cut, easy to install
- Ideal for radiation protection in hospitals, dental practices, veterinary surgeries, research establishments, manufacturing and industry
- 100% lead-free





# Knauf Safeboard - how does it work?

## What's in it?

The special ingredient is Barium Sulphate. You may have heard of it in relation to a barium meal – and it works on exactly the same concept. Barium Sulphate is a radiocontrasting agent, meaning it is able to create a barrier for radiowaves of specific bandwidths.

## How does it work?

As with a barium meal, where the X-Rays hit the barium and the image shown gives us the silhouette of the specific area of interest, Knauf Safeboard is filled with enough of this material to effectively block X-Rays across its entire area.

## How consistent is it?

Due to significant investment in manufacturing techniques, every single square metre of Safeboard is tested thoroughly to ensure that the stated level of X-Ray shielding will be achieved. There is no degradation of performance during the lifetime of the product, so you can be confident it will shield these potentially harmful rays first time and every time.

## How is it specified?

Understandably, shielding X-Rays requires special consideration. Ensure that where necessary you engage a Radiation Protection Advisor. If it's a larger project, it's likely it will require an accompanying Radiation Protection Report.

That report gives a "lead code", which relates to the thickness of lead required. Where Safeboard differs to lead is that there are differing requirements based on the output of the X-Ray source (measured in kV). The table below gives an indication of the number of layers of Safeboard required in a partition when compared to its lead equivalent.

### Step One:

Receive a "lead code" or lead thickness from the Radiation Protection Officer

Code 3	Code 4	Code 5	Code 6	Code 7
1.32mm	1.80mm	2.21mm	2.65mm	3.15mm

### Step Two:

Identify the output of the X-ray source (in kV)

60 kV	70 kV	80 kV	90 kV	100 kV	125 kV	150 kV
-------	-------	-------	-------	--------	--------	--------

### Step Three:

Cross-reference the lead thickness (or "lead code") with the x-ray output to show the required number of Safeboard layers in a partition

60 kV	70 kV	80 kV	90 kV	100 kV	125 kV	150 kV	
0.45	0.60	0.75	0.70	0.70	0.50	0.40	1 layer
0.90	1.20	1.50	1.40	1.40	1.00	0.80	2 layers
1.35	1.80	2.20	2.10	2.10	1.50	1.10	3 layers
1.80	2.30	2.90	2.80	2.80	2.00	1.40	4 layers
-	-	-	-	3.40	2.40	1.70	5 layers
-	-	-	-	4.00	2.80	2.00	6 layers

## Technical Service

Hotline: 01795 416 259

Email: [technical@knauf.co.uk](mailto:technical@knauf.co.uk)

Website: [www.knaufdrywall.co.uk](http://www.knaufdrywall.co.uk)

## Customer Service

Freephone: 0800 521 050

Freefax: 0800 521 205

Email: [cservice@knauf.co.uk](mailto:cservice@knauf.co.uk)

Literature: 08700 613 700

## Knauf Drywall

PO Box 133

Sittingbourne

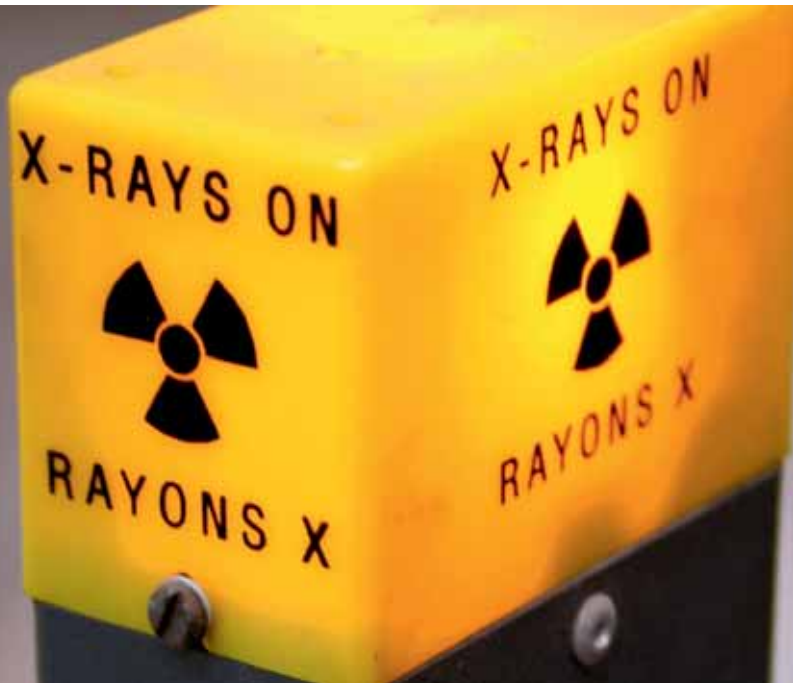
Kent ME10 3HW

Tel: 01795 424 499

Fax: 01795 428 651

Specialist Boards

October 2009



## Knauf Safeboard

Components:

### Knauf Safeboard

X-Ray Shielding Plasterboard



### Knauf Safeboard Joint Filler

To complete the system

