# KNAUF
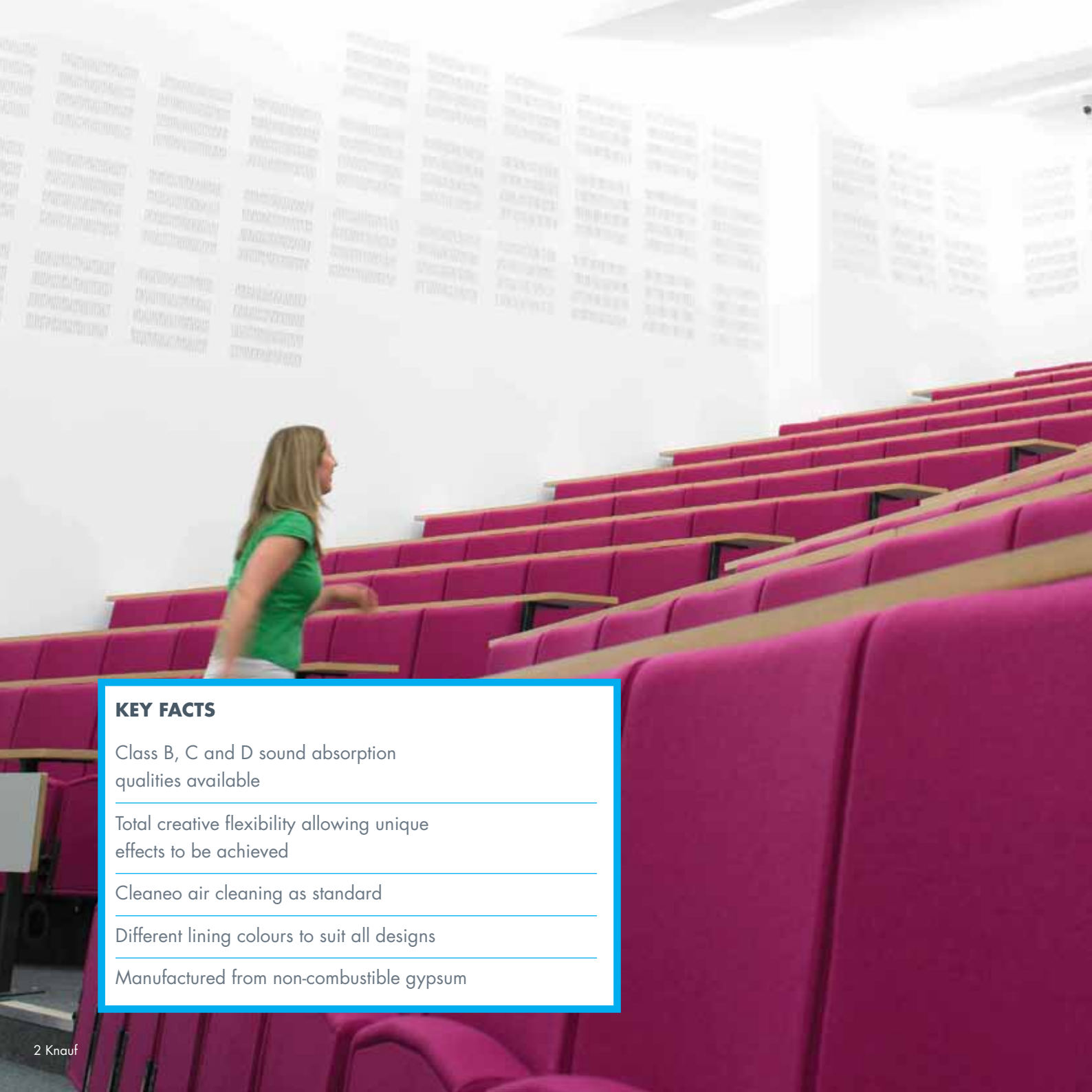
# Knauf Cleaneo Akustik

**Perforated plasterboard for acoustic ceilings and walls**

*Build for the world we live in*

## KEY FACTS

Class B, C and D sound absorption qualities available

Total creative flexibility allowing unique effects to be achieved

Cleaneo air cleaning as standard

Different lining colours to suit all designs

Manufactured from non-combustible gypsum

# Knauf Cleaneo Akustik, the smart choice for stylish acoustic solutions

**Knauf Cleaneo Akustik perforated plasterboard is the ideal solution for large public spaces in retail centres, office complexes, hospitals, schools, showrooms, conference halls and galleries. Combining unrivalled sound absorption performance and attractive design in one easy-to-install board.**

Knauf Cleaneo Akustik reduces noise reverberation whilst enhancing the design of any space. Sixteen different perforation styles give the specifier complete creative freedom, whilst the tested and proven sound absorption performance gives complete confidence.

All Knauf Cleaneo Akustik boards are supplied with the Cleaneo air cleaning effect to reduce in-air VOCs and pollutants, and with a high-quality paper face, providing an excellent surface for direct decoration.

## Contents

# Cleaneo effect

**Knauf perforated plasterboards now come with Cleaneo technology as standard. Knauf Cleaneo Akustik reduces the amount of pollutants and odours in the air creating a healthier safer environment.**

The Cleaneo effect continues to improve air quality long after installation. There is no special maintenance required and Knauf Cleaneo Akustik can be coated with a suitable paint without any detrimental effect on its performance.

The air quality in offices, schools, hotels and restaurants can often be poor due partly to the increasing levels of air tightness, designed to save energy.

Furniture, paints, floor coverings, glues, and cleaning agents all can emit fumes into the working environment. Now, however, there is Cleaneo, a technology that reduces the amount of pollutants in the air.
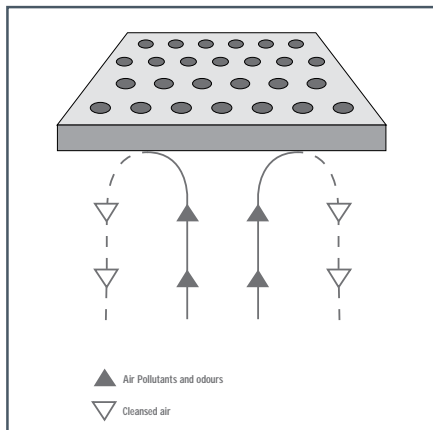


How Knauf Cleaneo Acoustic Works

The world we live in

Facades
Encasement
Sustainability
Air cle
Energy saving
Floors
Ther
Innovatio
Fire protection
Construction
Acoustics
Performance
Refurbishment
Soffits
Recycling
Walls
Product quality
Design

# Seamless aesthetics

**Knauf Cleaneo Akustik boards, when used with Knauf Uniflott, create a strong, tapeless jointing system which offers a seamless quality of finish that simply cannot be achieved with tiles.**

Knauf Cleaneo Akustik boards have an FF edge profile, which has a lapped edge on two sides of the panel, this helps to ensure boards are correctly spaced and limits bulging of the paper liner under humidity.  The unique FF edge detail reduces the depth of the joint between boards and closes it on three sides. This leads to a stronger joint and a reduced risk of cracking whilst optimising consumption of either Knauf Uniflott filler or Knauf Cleneo Rapid to reduce material and water use on site. Knauf Cleaneo Akustik FF edges are also pre-primed and have a slight bevel, further reducing installation time.

The precise board dimensions, innovative edge profile and special fixing tools ensure that the proper perforation distance is always achieved along the length of the board edges. Perforation patterns can therefore be perfectly aligned, creating a mesmerising effect over long runs - the hallmark of Knauf Cleaneo Akustik.

Knauf Cleaneo Akustik, FF board edge profile

# Blocks of pattern

Where a grid like design is desired but there is no time for installing a traditional lay in grid ceiling system Knauf Cleaneo Akustik Block is the perfect solution.

Knauf Cleaneo Akustik Block perforated plasterboards are available in nine designs. Each pattern is made up from a series of blocks of perforations creating a framed design.

Knauf Cleaneo Akustik Block boards are available with either an FF edge profile or a four–sided tapered edge. They can therefore be installed with traditional tape-and-joint techniques, or with either Knauf Uniflott or Knauf Cleaneo Rapid to achieve a high-quality finish every time.

To offer even more design choices, Knauf Cleaneo Akustik Block boards are also available with white, grey or black acoustic linings.

Knauf Cleaneo Akustik, tapered board edge profile

Knauf Cleaneo Akustik, FF board edge profile

# Stylish lines

**Knauf Cleaneo Akustik Linear offers the fastest installation of any acoustic plasterboard system available, the ideal choice for school and commercial building renovation and other time-critical applications.**

The industry-leading installation speed is made possible by the unique edge design, with precision-engineered butt joints on all four edges of the board. Cleaneo Akustik Linear boards butt together quickly and easily, allowing perfect alignment of perforation patterns in a fraction of the time.

Knauf Cleaneo Akustik Linear also requires no jointing so the potential cost, time and mess implications of filling joints above head height are eliminated. Even screw heads need no finishing as the system uses the innovative Knauf Cleaneo Akustik Linear Cap, which fixes boards securely and discretely through the circular perforations.

The result is a striking grid design which can be finished immediately after installation. No filling of joints or screw heads means no water is used on site and impacts on other trades are reduced to a minimum.

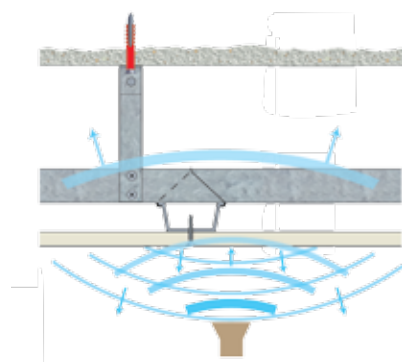Knauf Cleaneo Akustik Linear, board edge profile

# Unrivalled acoustic performance

**Knauf Cleaneo Akustik plasterboards are used in conjunction with either Knauf Cleaneo Akustik Wall liner or Knauf MF Ceiling frameworks to build fully-warranted acoustic systems with unbeatable sound absorption performances.**
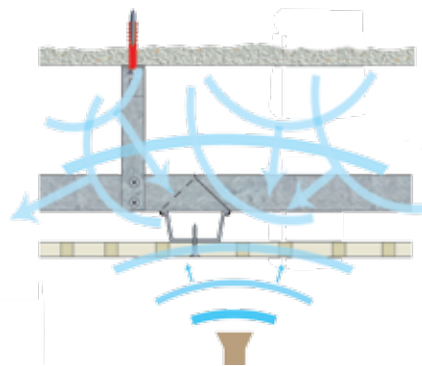
Both systems use fast construction techniques and can be specified with confidence in public areas.

### How it works

Knauf Cleaneo Akustik perforated and patterned boards are designed to absorb sound (reverberant) energy. The holes in Knauf Cleaneo Akustik allow noise to pass through but its path is disrupted, taking energy out on its return and reducing echoes in a room. The clarity of speech or music can be tuned by the choice of pattern, using Knauf Insulation or adjusting the void depth.

### Achieving a performance class rating

The rate of absorption is classified in accordance with BS EN ISO 11654 giving each Cleaneo Akustik pattern a class rating.

Regulations such as Approved Document E for residential, BB 93 for schools and HTM 08-01 for hospitals give guidance on the performance required.

Knauf Cleaneo Akustik ceiling systems achieve a minimum Class D sound absorption performance with a void depth of just 65mm. Increasing the void depth and adding insulation with select boards can improve the sound absorption performance up to an industry-leading Class B.

The following pages detail the sound absorption performance of the different perforations and patterns available.

Knauf MF Ceiling with Knauf Plasterboard

Knauf MF Ceiling with Knauf Cleaneo Akustik

# Cleaneo Akustik Seamless

## Cleaneo Akustik Seamless : Circular 6/18
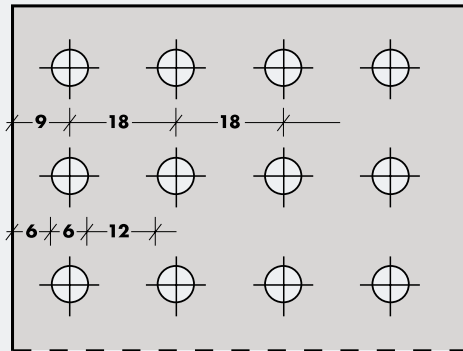


**Area of perforation** 8.7%

**Board size**
Width 1188mm
Length 1998mm
Weight 10.7 kg/m²

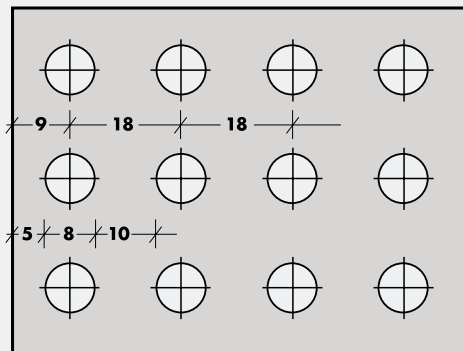**FF Material Number**
White Lining 94387
Black Lining 94386

| Void Depth            Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|
| 65mm | 0.20 | 0.30 | 0.45 | 0.55 | 0.45 | 0.45 | Class D |
| 65mm with insulation* | 0.35 | 0.45 | 0.50 | 0.50 | 0.45 | 0.50 | Class D |
| 200mm | 0.40 | 0.45 | 0.50 | 0.45 | 0.40 | 0.50 | Class D |
| 200mm with insulation* | 0.40 | 0.45 | 0.50 | 0.45 | 0.45 | 0.50 | Class D |
| 400mm | 0.40 | 0.45 | 0.45 | 0.45 | 0.45 | 0.50 | Class D |
| 400mm with insulation* | 0.40 | 0.45 | 0.45 | 0.50 | 0.45 | 0.50 | Class D |

## Cleaneo Akustik Seamless: Circular 8/18



**Area of perforation** 15.5%

**Board size**
Width 1188mm
Length 1998mm
Weight 9.9 kg/m²

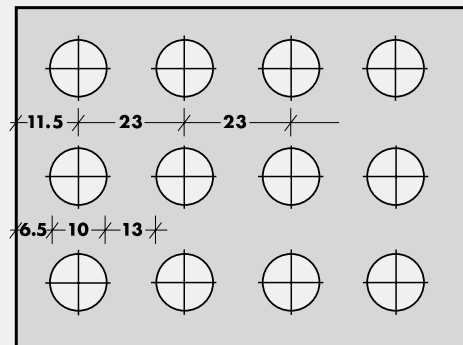**FF Material Number**
White Lining 94397
Black Lining 94394

**Linear Material Number**
White Lining 146210
Black Lining 146208

| Void Depth            Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|
| 65mm | 0.15 | 0.30 | 0.60 | 0.75 | 0.65 | 0.60 | Class C |
| 65mm with insulation* | 0.35 | 0.55 | 0.70 | 0.75 | 0.65 | 0.65 | Class C |
| 200mm | 0.45 | 0.60 | 0.70 | 0.60 | 0.55 | 0.65 | Class C |
| 200mm with insulation* | 0.50 | 0.65 | 0.70 | 0.65 | 0.60 | 0.70 | Class C |
| 400mm | 0.55 | 0.65 | 0.65 | 0.60 | 0.55 | 0.65 | Class C |
| 400mm with insulation* | 0.55 | 0.65 | 0.65 | 0.65 | 0.60 | 0.65 | Class C |

## Cleaneo Akustik Seamless : Circular 10/23



**Area of perforation** 14.8%

**Board size**
Width 1196mm
Length 2001mm
Weight 9.9 kg/m²

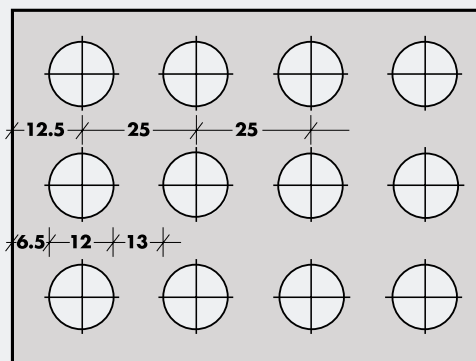**FF Material Number**
White Lining 94421
Black Lining 94420

**Linear Material Number**
White Lining 146213
Black Lining 146212

| Void Depth            Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|
| 65mm | 0.15 | 0.30 | 0.60 | 0.70 | 0.65 | 0.60 | Class C |
| 65mm with insulation* | 0.35 | 0.55 | 0.70 | 0.70 | 0.60 | 0.65 | Class C |
| 200mm | 0.45 | 0.60 | 0.65 | 0.60 | 0.55 | 0.60 | Class C |
| 200mm with insulation* | 0.50 | 0.65 | 0.70 | 0.65 | 0.60 | 0.65 | Class C |
| 400mm | 0.55 | 0.65 | 0.60 | 0.60 | 0.55 | 0.60 | Class C |
| 400mm with insulation* | 0.55 | 0.65 | 0.60 | 0.65 | 0.60 | 0.65 | Class C |

## Cleaneo Akustik Seamless: Circular 12/25

**Board size**
Width 1200mm
Length 2000mm
Weight 9.6 kg/m²

**FF Material Number**
White Lining 94429
Black Lining 94428

**Linear Material Number**
White Lining 146217
Black Lining 146215

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.30 | 0.60 | 0.80 | 0.70 | 0.55 | Class C |
| 65mm with insulation* | | 0.30 | 0.55 | 0.75 | 0.80 | 0.70 | 0.60 | Class C |
| 200mm | | 0.45 | 0.65 | 0.75 | 0.65 | 0.60 | 0.60 | Class C |
| 200mm with insulation* | | 0.50 | 0.70 | 0.75 | 0.70 | 0.65 | 0.65 | Class C |
| 400mm | | 0.55 | 0.70 | 0.65 | 0.65 | 0.60 | 0.60 | Class C |
| 400mm with insulation* | | 0.55 | 0.65 | 0.70 | 0.75 | 0.65 | 0.65 | Class C |

**Area of perforation** 18.1%

## Cleaneo Akustik Seamless: Circular 15/30

**Board size**
Width 1200mm
Length 1980mm
Weight 9.3 kg/m²

**FF Material Number**
White Lining 94446
Black Lining 94445

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.30 | 0.60 | 0.80 | 0.65 | 0.60 | Class C |
| 65mm with insulation* | | 0.30 | 0.55 | 0.80 | 0.80 | 0.65 | 0.65 | Class C |
| 200mm | | 0.45 | 0.65 | 0.75 | 0.65 | 0.60 | 0.60 | Class C |
| 200mm with insulation* | | 0.50 | 0.70 | 0.75 | 0.70 | 0.65 | 0.65 | Class C |
| 400mm | | 0.55 | 0.70 | 0.65 | 0.65 | 0.60 | 0.60 | Class C |
| 400mm with insulation* | | 0.55 | 0.70 | 0.65 | 0.75 | 0.65 | 0.65 | Class C |

**Area of perforation** 19.6%

## Cleaneo Akustik Seamless: Circular 8/12/50
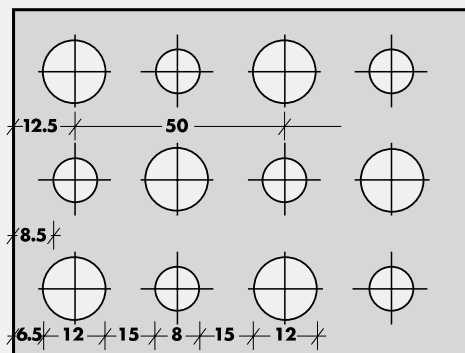
**Board size**
Width 1200mm
Length 2000mm
Weight 10.2 kg/m²

**FF Material Number**
White Lining 94465
Black Lining 94464

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.30 | 0.60 | 0.70 | 0.60 | 0.50 | Class C |
| 65mm with insulation* | | 0.35 | 0.55 | 0.70 | 0.70 | 0.60 | 0.50 | Class C |
| 200mm | | 0.45 | 0.60 | 0.65 | 0.60 | 0.50 | 0.55 | Class C |
| 200mm with insulation* | | 0.50 | 0.65 | 0.65 | 0.65 | 0.55 | 0.55 | Class C |
| 400mm | | 0.55 | 0.65 | 0.60 | 0.60 | 0.55 | 0.55 | Class C |
| 400mm with insulation* | | 0.55 | 0.65 | 0.60 | 0.65 | 0.55 | 0.55 | Class C |

**Area of perforation** 13.1%

# Perforated Cleaneo Akustik Seamless

## Cleaneo Akustik Seamless : Circular 12/20/66
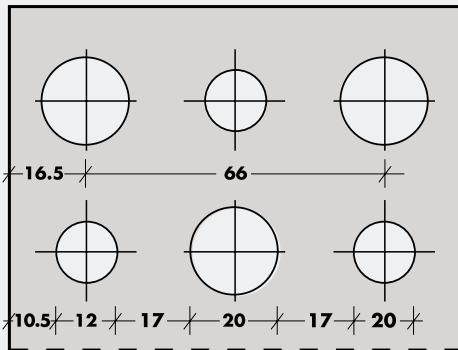


**Area of perforation** 19.6%

**Board size**
Width 1188mm
Length 1980mm
Weight 9.4 kg/m²

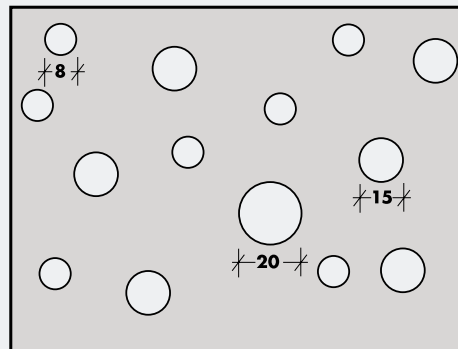**FF Material Number**
White Lining 94475
Black Lining 94474

**Linear Material Number**
White Lining 146221
Black Lining 146220

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.10 | 0.30 | 0.60 | 0.80 | 0.60 | 0.55 | Class C |
| 65mm with insulation* | | 0.30 | 0.55 | 0.80 | 0.85 | 0.60 | 0.65 | Class C |
| 200mm | | 0.45 | 0.65 | 0.80 | 0.65 | 0.50 | 0.60 | Class C |
| 200mm with insulation* | | 0.55 | 0.70 | 0.80 | 0.75 | 0.60 | 0.65 | Class C |
| 400mm | | 0.60 | 0.70 | 0.65 | 0.65 | 0.55 | 0.60 | Class C |
| 400mm with insulation* | | 0.60 | 0.70 | 0.70 | 0.80 | 0.60 | 0.65 | Class C |

## Cleaneo Akustik Seamless: Random 8/15/20



**Area of perforation** 9.9%
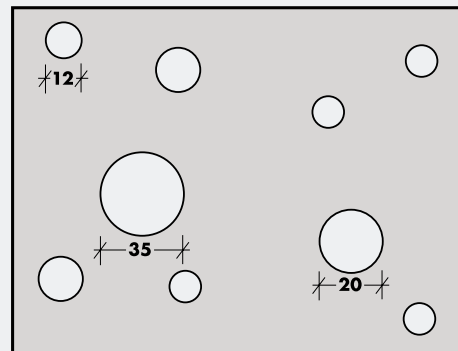
**Board size**
Width 1200mm
Length 1875mm
Weight 10.5 kg/m²

**FF Material Number**
White Lining 94484
Black Lining 94483

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.30 | 0.50 | 0.60 | 0.45 | 0.45 | Class D |
| 65mm with insulation* | | 0.35 | 0.45 | 0.55 | 0.55 | 0.40 | 0.45 | Class D |
| 200mm | | 0.40 | 0.50 | 0.55 | 0.50 | 0.40 | 0.45 | Class D |
| 200mm with insulation* | | 0.45 | 0.50 | 0.55 | 0.50 | 0.40 | 0.50 | Class D |
| 400mm | | 0.45 | 0.50 | 0.50 | 0.50 | 0.40 | 0.45 | Class D |
| 400mm with insulation* | | 0.45 | 0.50 | 0.50 | 0.55 | 0.45 | 0.45 | Class D |

## Cleaneo Akustik Seamless : Random 12/20/35



**Area of perforation** 9.8%

**Board size**
Width 1200mm
Length 1875mm
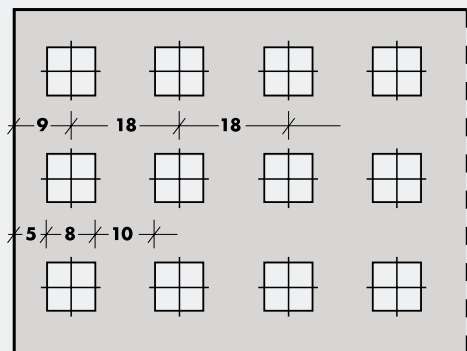Weight 10.5 kg/m²

**FF Material Number**
White Lining 94496
Black Lining 94495

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.30 | 0.55 | 0.55 | 0.40 | 0.35 | Class D |
| 65mm with insulation* | | 0.35 | 0.50 | 0.65 | 0.55 | 0.35 | 0.35 | Class D |
| 200mm | | 0.40 | 0.50 | 0.60 | 0.45 | 0.35 | 0.35 | Class D |
| 200mm with insulation* | | 0.45 | 0.55 | 0.60 | 0.50 | 0.35 | 0.40 | Class D |
| 400mm | | 0.45 | 0.55 | 0.55 | 0.45 | 0.35 | 0.35 | Class D |
| 400mm with insulation* | | 0.45 | 0.50 | 0.55 | 0.50 | 0.35 | 0.40 | Class D |

## Cleaneo Akustik Seamless: Square 8/18



**Area of perforation** 19.8%

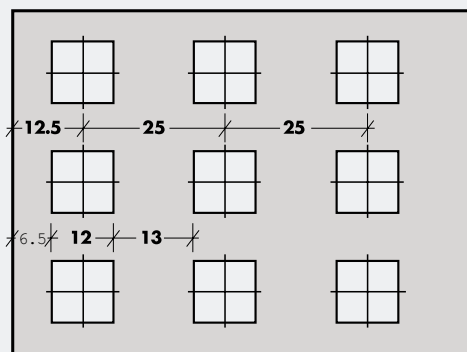**Board size**
Width 1188mm
Length 1998mm
Weight 9.4 kg/m²

**FF Material Number**
White Lining 94413
Black Lining 94412

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.10 | 0.30 | 0.60 | 0.80 | 0.70 | 0.65 | Class C |
| 65mm with insulation* | | 0.30 | 0.55 | 0.80 | 0.80 | 0.70 | 0.75 | Class C |
| 200mm | | 0.45 | 0.65 | 0.75 | 0.65 | 0.60 | 0.70 | Class C |
| 200mm with insulation* | | 0.55 | 0.70 | 0.75 | 0.70 | 0.70 | 0.75 | Class C |
| 400mm | | 0.55 | 0.70 | 0.65 | 0.65 | 0.60 | 0.70 | Class C |
| 400mm with insulation* | | 0.60 | 0.70 | 0.70 | 0.75 | 0.70 | 0.75 | Class C |

## Cleaneo Akustik Seamless: Square 12/25



**Area of perforation** 23.0%

**Board size**
Width 1200mm
Length 2000mm
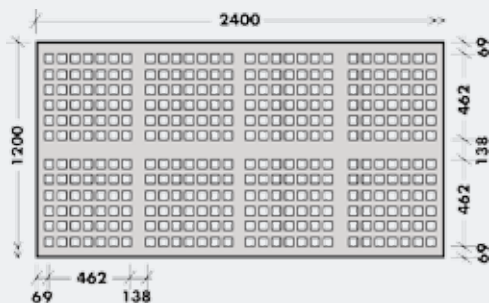Weight 9.2 kg/m²

**FF Material Number**
White Lining 94438
Black Lining 94437

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.10 | 0.30 | 0.60 | 0.80 | 0.75 | 0.60 | Class C |
| 65mm with insulation* | | 0.30 | 0.60 | 0.85 | 0.90 | 0.75 | 0.70 | Class B |
| 200mm | | 0.50 | 0.70 | 0.80 | 0.70 | 0.65 | 0.65 | Class C |
| 200mm with insulation* | | 0.55 | 0.75 | 0.80 | 0.75 | 0.75 | 0.75 | Class B |
| 400mm | | 0.60 | 0.75 | 0.65 | 0.70 | 0.65 | 0.60 | Class C |
| 400mm with insulation* | | 0.60 | 0.75 | 0.70 | 0.80 | 0.75 | 0.70 | Class C |

# Cleaneo Akustik Block

## Cleaneo Akustik Block: Square Type B4



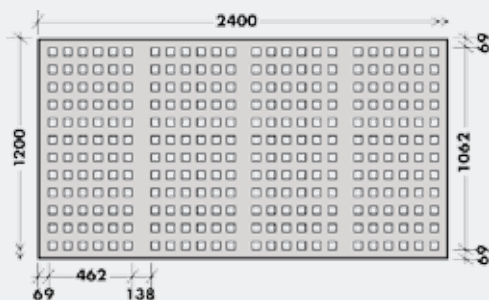**Area of perforation** 14.4%

**Board size**
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

**FF Material Number**
White Lining 286412
Black Lining 286413

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.35 | 0.55 | 0.65 | 0.55 | 0.45 | Class D |
| 65mm with insulation* | | 0.35 | 0.55 | 0.70 | 0.65 | 0.55 | 0.50 | Class C |
| 200mm | | 0.45 | 0.60 | 0.65 | 0.55 | 0.50 | 0.45 | Class D |
| 200mm with insulation* | | 0.50 | 0.60 | 0.65 | 0.60 | 0.55 | 0.50 | Class C |
| 400mm | | 0.50 | 0.60 | 0.55 | 0.55 | 0.50 | 0.45 | Class D |
| 400mm with insulation* | | 0.55 | 0.60 | 0.60 | 0.60 | 0.55 | 0.50 | Class C |

## Cleaneo Akustik Block: Acoustic Square Type B6



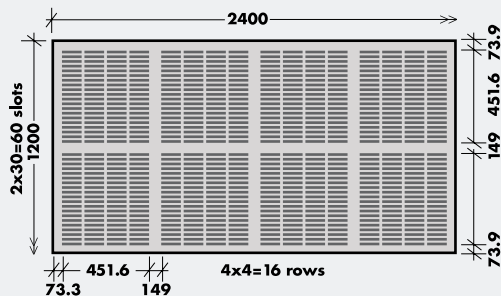**Area of perforation** 16.3%

**Board size**
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

**FF Material Number**
White Lining 286416
Black Lining 286417

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.30 | 0.60 | 0.70 | 0.60 | 0.45 | Class D |
| 65mm with insulation* | | 0.35 | 0.55 | 0.75 | 0.75 | 0.60 | 0.55 | Class C |
| 200mm | | 0.50 | 0.65 | 0.70 | 0.60 | 0.55 | 0.50 | Class C |
| 200mm with insulation* | | 0.55 | 0.65 | 0.70 | 0.65 | 0.60 | 0.55 | Class C |
| 400mm | | 0.55 | 0.65 | 0.60 | 0.60 | 0.55 | 0.50 | Class C |
| 400mm with insulation* | | 0.55 | 0.65 | 0.65 | 0.65 | 0.60 | 0.55 | Class C |

## Cleaneo Akustik Block: Slot Type B4



**Area of perforation** 13.7%

**Board size**
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

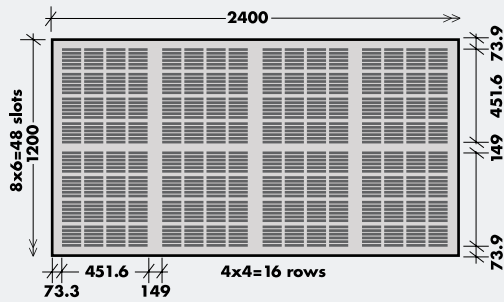**SE Material Number****
White Lining 286425
Black Lining 286426

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.35 | 0.60 | 0.65 | 0.50 | 0.40 | Class D |
| 65mm with insulation* | | 0.35 | 0.55 | 0.70 | 0.65 | 0.50 | 0.45 | Class D |
| 200mm | | 0.45 | 0.60 | 0.65 | 0.55 | 0.45 | 0.45 | Class D |
| 200mm with insulation* | | 0.50 | 0.65 | 0.65 | 0.60 | 0.50 | 0.50 | Class C |
| 400mm | | 0.55 | 0.65 | 0.55 | 0.55 | 0.45 | 0.45 | Class D |
| 400mm with insulation* | | 0.55 | 0.60 | 0.60 | 0.60 | 0.50 | 0.50 | Class C |

# Cleaneo Akustik Block

## Cleaneo Akustik Block: Slot Type B5



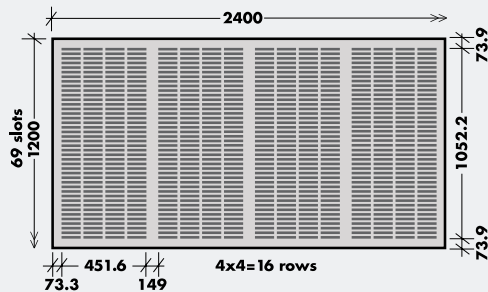**Area of perforation** 10.9%

**Board size**
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

**SE Material Number****
White Lining 286427
Black Lining 286428

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.35 | 0.55 | 0.60 | 0.45 | 0.35 | Class D |
| 65mm with insulation* | | 0.35 | 0.55 | 0.65 | 0.60 | 0.45 | 0.40 | Class D |
| 200mm | | 0.45 | 0.55 | 0.60 | 0.50 | 0.40 | 0.40 | Class D |
| 200mm with insulation* | | 0.50 | 0.60 | 0.60 | 0.55 | 0.45 | 0.45 | Class D |
| 400mm | | 0.50 | 0.60 | 0.55 | 0.50 | 0.40 | 0.40 | Class D |
| 400mm with insulation* | | 0.50 | 0.55 | 0.55 | 0.55 | 0.45 | 0.40 | Class D |

## Cleaneo Akustik Block: Slot Type B6



**Area of perforation** 15.7%
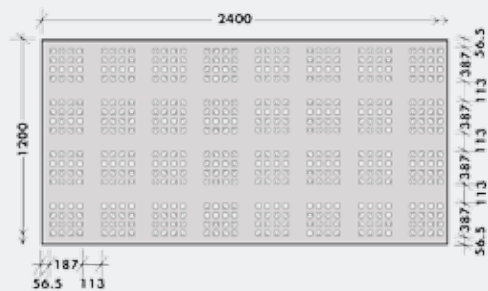
**Board size**
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

**SE Material Number****
White Lining 286429
Black Lining 286430

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.35 | 0.60 | 0.70 | 0.55 | 0.45 | Class D |
| 65mm with insulation* | | 0.35 | 0.55 | 0.75 | 0.70 | 0.55 | 0.50 | Class C |
| 200mm | | 0.45 | 0.55 | 0.60 | 0.50 | 0.45 | 0.40 | Class D |
| 200mm with insulation* | | 0.55 | 0.70 | 0.70 | 0.65 | 0.55 | 0.55 | Class C |
| 400mm | | 0.55 | 0.65 | 0.60 | 0.55 | 0.50 | 0.45 | Class D |
| 400mm with insulation* | | 0.55 | 0.65 | 0.65 | 0.65 | 0.55 | 0.50 | Class C |

## Cleaneo Akustik Block: Square Type B7



**Area of perforation** 10%

**Board size**
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²
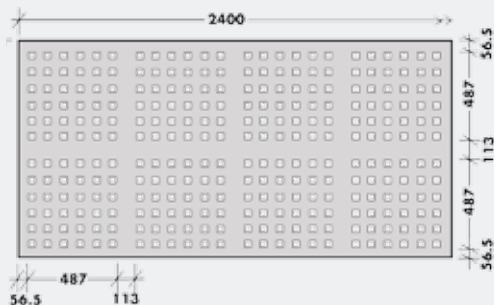
**4TE Material Number**
White Lining 432044
Black Lining 432045
Grey Lining 432046

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.35 | 0.55 | 0.55 | 0.45 | 0.35 | Class D |
| 65mm with insulation* | | 0.35 | 0.50 | 0.60 | 0.55 | 0.45 | 0.35 | Class D |
| 200mm | | 0.45 | 0.50 | 0.60 | 0.50 | 0.40 | 0.35 | Class D |
| 200mm with insulation* | | 0.45 | 0.55 | 0.60 | 0.50 | 0.45 | 0.40 | Class D |
| 400mm | | 0.50 | 0.55 | 0.50 | 0.50 | 0.45 | 0.35 | Class D |
| 400mm with insulation* | | 0.50 | 0.50 | 0.55 | 0.55 | 0.45 | 0.40 | Class D |

# Cleaneo Akustik Block

## Cleaneo Akustik Block: Square Type B8



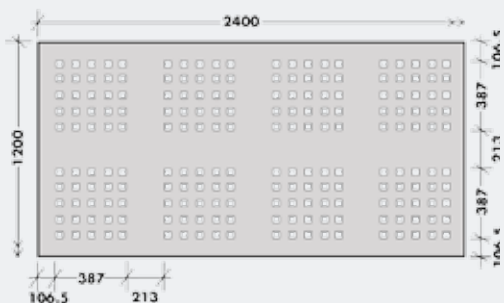**Area of perforation** 16%

**Board size**
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

**4TE Material Number**
White Lining 432055
Black Lining 432102
Grey Lining 432103

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.15 | 0.35 | 0.60 | 0.70 | 0.60 | 0.45 | Class C |
| 65mm with insulation* | | 0.35 | 0.60 | 0.75 | 0.70 | 0.60 | 0.50 | Class C |
| 200mm | | 0.45 | 0.65 | 0.75 | 0.60 | 0.55 | 0.50 | Class C |
| 200mm with insulation* | | 0.50 | 0.70 | 0.70 | 0.65 | 0.60 | 0.55 | Class C |
| 400mm | | 0.55 | 0.65 | 0.60 | 0.60 | 0.55 | 0.50 | Class C |
| 400mm with insulation* | | 0.55 | 0.65 | 0.65 | 0.65 | 0.60 | 0.55 | Class C |

## Cleaneo Akustik Block: Square Type B9



**Area of perforation** 10%

**Board size**
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

**4TE Material Number**
White Lining 432107
Black Lining 432646
Grey Lining 432108

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.20 | 0.35 | 0.50 | 0.50 | 0.40 | 0.30 | Class D |
| 65mm with insulation* | | 0.40 | 0.50 | 0.55 | 0.50 | 0.40 | 0.35 | Class D |
| 200mm | | 0.45 | 0.55 | 0.55 | 0.40 | 0.35 | 0.35 | Class D |
| 200mm with insulation* | | 0.50 | 0.55 | 0.50 | 0.45 | 0.40 | 0.40 | Class D |
| 400mm | | 0.45 | 0.55 | 0.45 | 0.40 | 0.40 | 0.35 | Class D |
| 400mm with insulation* | | 0.45 | 0.50 | 0.50 | 0.50 | 0.40 | 0.40 | Class D |

## Cleaneo Akustik Block: Square Type B10



**Area of perforation** 17%

**Board size**
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

**4TE Material Number****
White Lining 432110
Black Lining 432109
Grey Lining 432111

| Void Depth | Hz | 125 | 250 | 500 | 1000 | 2000 | 4000 | Perform.Class |
|---|---|---|---|---|---|---|---|---|
| 65mm | | 0.10 | 0.30 | 0.60 | 0.75 | 0.65 | 0.45 | Class D |
| 65mm with insulation* | | 0.30 | 0.60 | 0.80 | 0.75 | 0.65 | 0.55 | Class C |
| 200mm | | 0.45 | 0.65 | 0.75 | 0.60 | 0.60 | 0.55 | Class C |
| 200mm with insulation* | | 0.55 | 0.65 | 0.70 | 0.65 | 0.60 | 0.55 | Class C |
| 400mm | | 0.55 | 0.65 | 0.60 | 0.60 | 0.60 | 0.55 | Class C |
| 400mm with insulation* | | 0.55 | 0.65 | 0.65 | 0.65 | 0.70 | 0.65 | Class C |

# GLOW exhibition, Bluewater, Kent

### Bluewater's Glow benefits from seamless performance

Glow, the stunning £60m events venue at Bluewater in Kent, shows off both the extraordinary versatility of Knauf Cleaneo Akustik plasterboard and its outstanding acoustic performance. Designed by internationally-renowned architects and exhibition experts Denton Corker Marshall, the 5,200m$^2$ events and exhibition venue was conceived of as a major landmark within Bluewater, providing additional reasons for over 28.1 million visitors per year to travel there by extending the Bluewater 'day-out' experience.

"Cleaneo Akustik met our specifications because it was recommended by our acoustic consultant and because it has the aesthetic qualities we were looking for – the perforations on the acoustic board match those on the external envelope," explains architect Charles Liddington.

The design was particularly complex, involving bulkheads and curves, and led to close cooperation between the subcontractors Excel Plastering (Ilford) and Knauf's own technical services. Peter Brewer, Director of Excel Plastering says: "Knauf's technical department was heavily involved in rewriting the specification and design of the supporting structures in order to meet the design and acoustic criteria of the project. It's certainly been a challenge – for example, one of the ceilings bends in two planes over a length of around 150 metres."
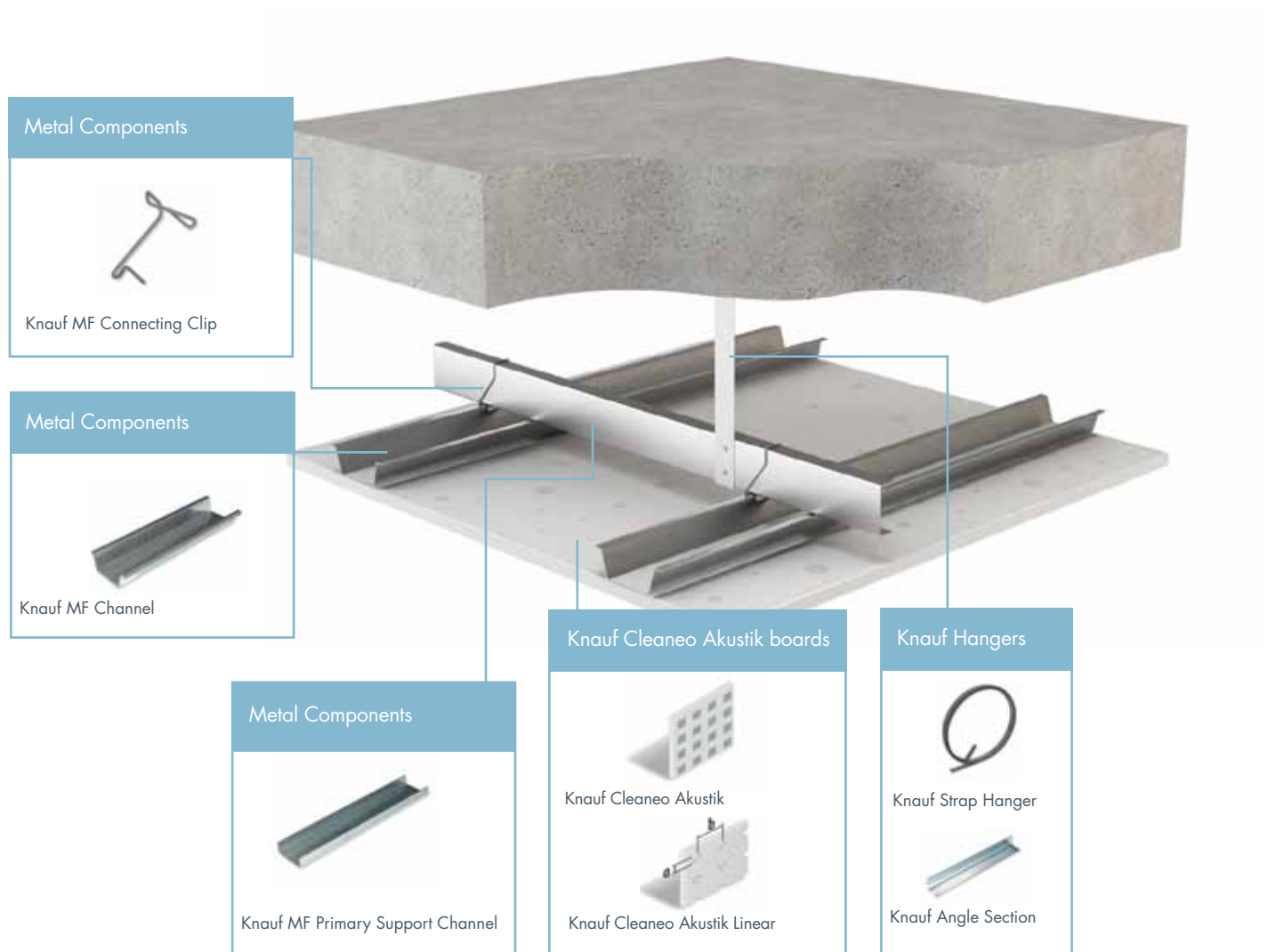
### Project Data

| | |
|---|---|
| Project Outline: | New event and exhibition venue. |
| Value: | £60m |
| Client: | The Bluewater Experience |
| Architect: | Denton Corker Marshall |
| Main Contractor: | BAM Construction |
| Subcontractor: | Excel Plastering |

# Knauf Cleaneo Akustik systems

**Knauf Cleaneo Akustik systems give you the freedom to carefully control the acoustic properties of a room whilst creating stunning aestethics.**

**Metal Components**

Knauf MF Connecting Clip

**Metal Components**

Knauf MF Channel

**Metal Components**

Knauf MF Primary Support Channel

**Knauf Cleaneo Akustik boards**

Knauf Cleaneo Akustik

Knauf Cleaneo Akustik Linear

**Knauf Hangers**

Knauf Strap Hanger

Knauf Angle Section

## Knauf Jointing

Knauf Uniflott

Knauf Cleaneo Rapid

## Other Components

Knauf Cleaneo Akustik installation kit

Knauf Screws

Knauf Cleaneo Akustik Linear Caps

Knauf MF Nut and Bolt

## Knauf Cleaneo Akustik is also suitable for wall lining insulations

**Brackets**

Knauf Apertura 'U' Mounting Bracket

**Wall Lining Stud**

Knauf Apertura 'C' Channel

**Head Track and Floor Track**

Knauf Apertura 'U' Channel - Perimeter Support
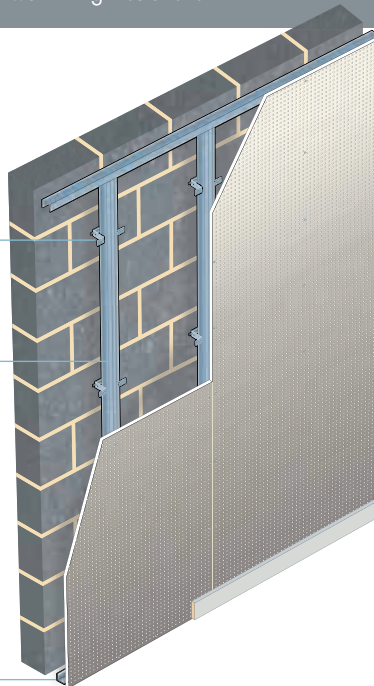
# Cleaneo Akustik Installation

**When installing a Knauf Cleaneo Akustik system the instructions can be broken down into two main sections: the different support framework for wall and ceiling application and the boards themselves. The boards can also be split into two sections: Knauf Cleaneo Akustik boards for a seamless finish and Knauf Cleaneo Akustik**

**Linear boards for fast installation which does not require jointing.**

Ensure that the ceiling or wall liner system has been set out following the information given in this brochure to ensure the correct channel spacings are used to suit the board perforation size.

The table below details the required channel centres for Knauf Cleaneo Akustik Wall Liner and for Knauf MF Ceiling Channels. For full MF Ceiling installation procedures please refer to the Knauf Manual.

| Perforation | | Size | | Channel Centres | | Weight |
|---|---|---|---|---|---|---|
| | | Board Length (mm) | Board Width (mm) | Walls (mm) | Ceilings (mm) | Board Weight & Ceiling System |
| Straight-Line Circular Perforation | 6/18 | 1998 | 1188 | 396 | 333 | $\leq 15$ kg/m$^2$ |
| | 8/18 | 1998 | 1188 | 396 | 333 | $\leq 15$ kg/m$^2$ |
| | 10/23 | 2001 | 1196 | 400 | 333.5 | $\leq 15$ kg/m$^2$ |
| | 12/25 | 2000 | 1200 | 400 | 330.3 | $\leq 15$ kg/m$^2$ |
| | 15/30 | 1980 | 1200 | 400 | 330 | $\leq 15$ kg/m$^2$ |
| Alternate Circular Perforation | 8/12/50 | 2000 | 1200 | 400 | 333.3 | $\leq 15$ kg/m$^2$ |
| | 12/20/66 | 1980 | 1188 | 396 | 330 | $\leq 15$ kg/m$^2$ |
| Random Circular Perforation | 8/15/20 | 1875 | 1200 | 400 | 312.5 | $\leq 15$ kg/m$^2$ |
| | 12/20/35 | 1875 | 1200 | 400 | 312.5 | $\leq 15$ kg/m$^2$ |
| Straight-Line Square Perforation | 8/18 | 1998 | 1188 | 396 | 333 | $\leq 15$ kg/m$^2$ |
| | 12/25 | 2000 | 1200 | 400 | 333.3 | $\leq 15$ kg/m$^2$ |
| Acoustic Square | B4,B6,B7, B8,B9,B10 | 2400 | 1200 | 400 | 300 | $\leq 15$ kg/m$^2$ |
| Acoustic Slot | B4,B5,B6 | 2400 | 1200 | 400 | 300 | $\leq 15$ kg/m$^2$ |

Table 1.

The installation procedures in this brochure, the engineered quality of the products, and our purpose-designed installation kits combine to make installation quick and simple.

The Knauf Installation Kit consists of two assembly aids with nodules to fit the relevant perforation and can be used to ensure correct alignment of the pattern is achieved creating a seamless finish. Assembly aids are designed for the following Cleaneo Akustik designs: Circular 6/18, 8/18, 10/23, 12/25, 15/30, 8/12/50 and 12/20/66 but can also be used for square pattern boards.

Note: Always control the overall image of the building line through the straights and diagonals of the rows of perforations. Lay perforated boards across the joints.



First row of boards
Line in centre of room
Second row of boards



Diagonal
Straight
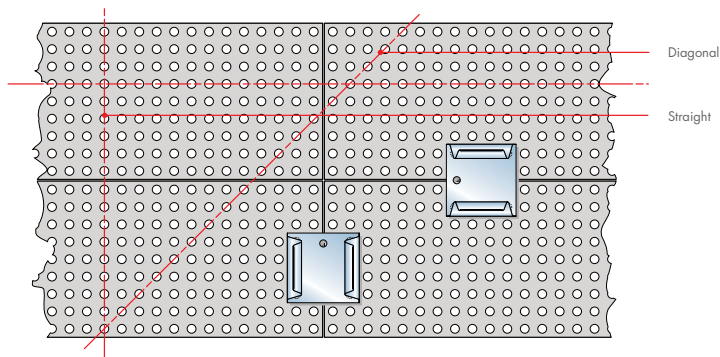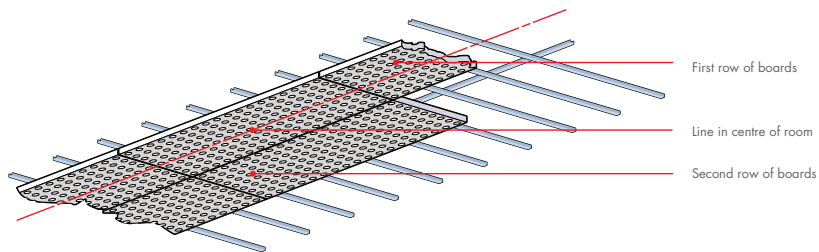
# Installing Cleaneo Akustik on a wall liner system

**Knauf Apertura Wall Liner is specifically designed for use with Knauf Cleaneo Akustik boards to create the rigidity required for the seamless finish. The system provides a variable stand-off from the wall of between 30mm and 125mm.**

### 1. Fixing Knauf Apertura 'U' Channel to floor and soffit

Mark guidelines on the floor and soffit to establish the positions of the floor and head tracks relative to the stand-off distance required. Mark vertical guidelines on the background to establish the Knauf Apertura 'C' Channel positions (see table 1 on page 22). Knauf Cleaneo Apertura 'U' Channels should be used for the head and base along the guidelines using fixings appropriate for the background. Fix at maximum 600mm centres.



### 2. Positioning of Knauf Apertura 'U' Mounting Brackets

Mark the wall with the location of Knauf 'U' Mounting Brackets in line with the channel guidelines and at maximum 900mm vertical centres.



### 3. Positioning of Knauf Apertura 'C' Channels

Fix Knauf Apertura 'U' Mounting Brackets to the background, at the marked positions, using fixings appropriate for the background. Offer up the Knauf Apertura 'C' Channels to engage with the Knauf Apertura 'U' Mounting Brackets and in the floor and head tracks. Extend the length of Knauf Apertura 'C' Channels, where necessary, by using Knauf Apertura 'C' Channel Connectors. Adjust the channels for position and alignment.

### 4. Fixing Knauf Apertura 'C' Channel

Secure the Knauf Apertura 'C' Channels to the Knauf Apertura 'U' Mounting Brackets using Knauf Waferhead Jackpoint Screws. Depending on the stand-off distance, bend back the legs of the crimped 'U' Mounting Brackets so as not to obstruct the fixing of the Knauf Cleaneo Akustik board. Fix Knauf Angle Sections at external corners and reveals where appropriate.



### 5. Fixing Knauf Cleaneo Akustik Boards

Start at one end of the lining and work along. Fix Knauf Cleaneo Akustik boards using 25mm Knauf Screws at 300mm centres, reduced to 200mm at the corners placed carefully between the perforations. Knauf Cleaneo Akustik boards should be fixed parallel to the vertical Knauf Apertura 'C' Channels. Offer up the next board ensuring that the boards are correctly lined up and fix. Continue fixing boards in this manner until the wall is complete.
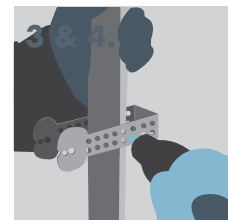
# Installing Knauf Cleaneo Akustik, standard FF edge

### 1. Fixing Knauf Cleaneo Akustik board

Align the first board in the middle of the ceiling and fix using 25mm Knauf screws at max. 200mm centres. Offer up the next board ensuring that the board pattern is aligned correctly, using Knauf Cleaneo Akustik Installation aids as necessary. Continue fixing boards along the long edge and then with the short edge, until the ceiling is finished.

### 2. Jointing Knauf Cleaneo Akustik
### 2a. Using Knauf Uniflott

Cut the nozzle of the applicator to suit. Using it with a standard sealant gun fully fill the joint. It is will set in approximately 90 minutes so ensure the applicator has been rinsed and cleaned.

### 2b. Using Knauf Cleaneo Rapid

Insert the foil into the foil gun. Remove the sealing clip. Screw on the nozzle and trim to suit. Fully fill the joint.

### 3. Carefully remove the excess

When the jointing material has stiffened in the joints remove any excess with a jointing knife, being careful not to damage the paper. To remove Knauf Uniflott push the jointing knife away from you, to remove excess Knauf Cleaneo Rapid pull the knife towards you. Once the material has fully set apply a second coat with a standard jointing knife in order to ensure a flush joint is achieved. This stage is critical to achieving a perfect seamless finish, so care should be taken to ensure the joints are completely filled, applying a second coat if necessary.
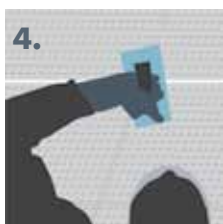
### 4. Sanding

Once the joints are completely filled and set, sand to a flat and even finish.

### 5. Decoration

Apply an undiluted coat of Knauf Wallboard Primer to the entire surface to equalise the suction levels between the joints and the boards. The surface can then be decorated using a foam rubber roller.

## Frieze options

### 1. Flush-jointing to plasterboard

Prior to fixing the Knauf Cleaneo Akustik boards fix a minimum 100mm wide strip of 12.5mm Square Edge Knauf Wallboard to the perimeter framework. Chamfer the edge of the Wallboard where it meets the board and leave a 3mm gap ready for jointing with either Knauf Uniflott or Knauf Cleaneo Rapid.
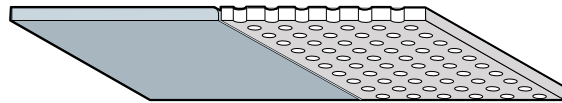
### 2. Flush-jointing to Cleaneo Akustik

Fix Knauf Cleaneo Akustik board as described above continuing to the perimeter. Mark out the desired position of the frieze with a chalk line, and fix low stick masking tape to the inside. Any holes remaining within the frieze area can then be filled with either Knauf Uniflott or Knauf Cleaneo Rapid to create a smooth surface.
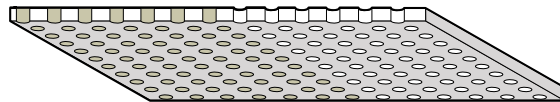
### 3. Raised feature using plasterboard

Fix Knauf Cleaneo Akustik boards as described above, continuing to the perimeter. To create the raised frieze, fix a strip of 12.5mm Square Edge Knauf Wallboard, at least 100mm wide, on top of Knauf Cleaneo Akustik, through to the perimeter framework.
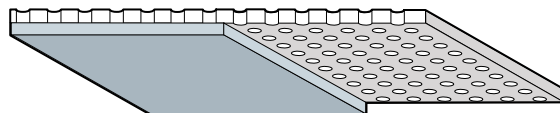
# Installing Knauf Cleaneo Akustik Linear

**Knauf Cleaneo Akustik Linear boards, when used in conjunction with Knauf Cleaneo Akustik Linear Caps, create an extremely quick and easy to install ceiling solution that doesn't require any jointing. Each board has two notched edges and two lapped edges which allow for an easy and precise alignment.**
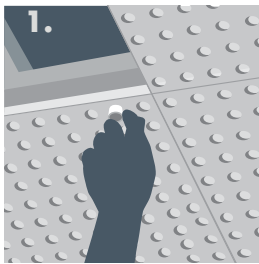


### 1. Installing the Knauf Linear Caps

Always place the notched edge adjacent to the lapped edge of the next board. Starting in the middle of the room fix the first boards in place using Knauf Linear Caps. The cap should be pushed into the perforation in line with the support framework.
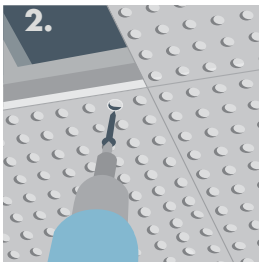


### 2. Fixing the boards

Once the cap is in place fix the board to the framework using Knauf Linear screws (supplied with the caps). Continue to fix the first row of boards then use a reference line to check that the perforation alignment is correct. Fix the second row of boards again starting in the middle of the room to form a cross shape. Finally fill in the four corners to complete the room.
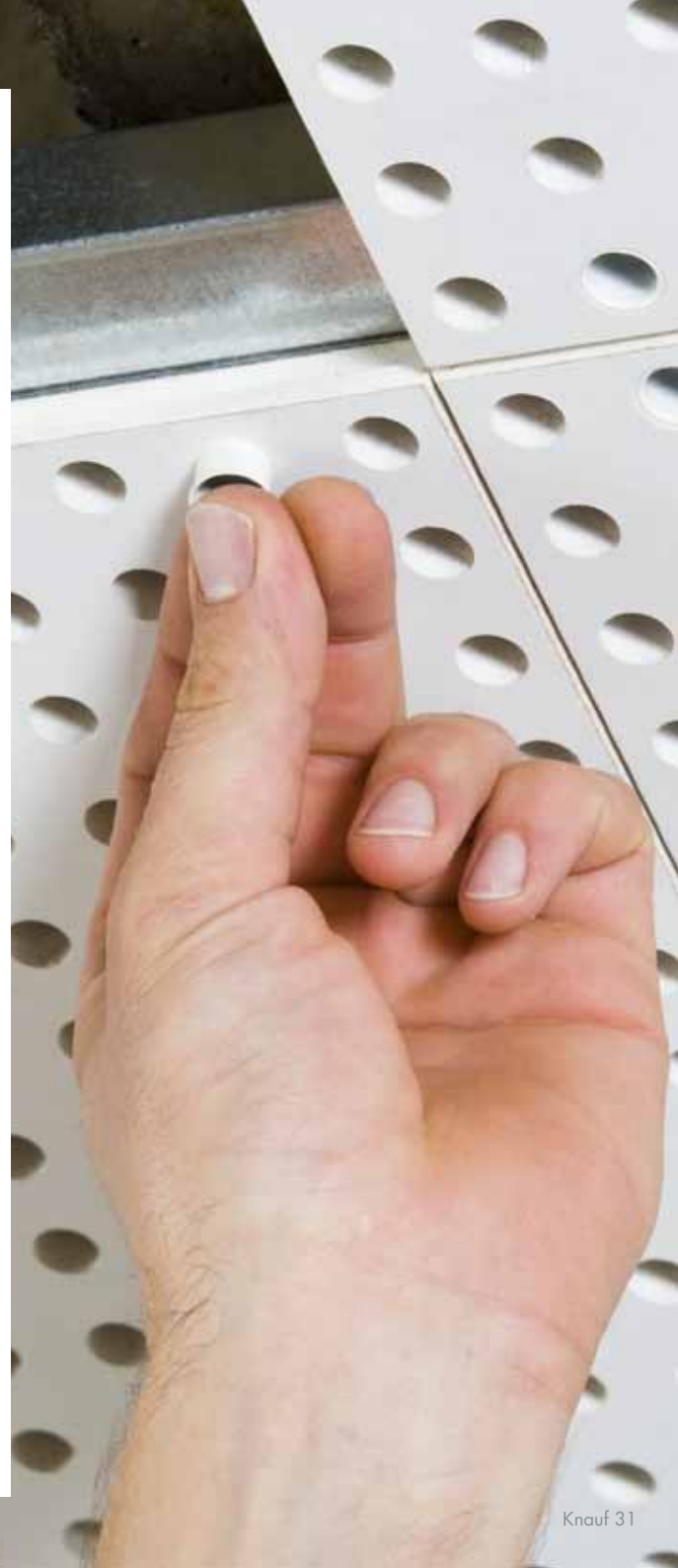
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