

# Troldtekt® acoustic solutions

The natural choice for ceilings and walls

# Superior acoustics – naturally

With Trolldtekt, acoustics and a comfortable indoor climate go hand in hand in architecture.

Buildings with many hard surfaces are acoustically complex. What is needed are acoustic solutions that significantly reduce reverberation time while contributing positively to the architecture.

Consultants, architects and clients need flexibility to combine superior acoustics and a healthy indoor climate with distinctive design. At the same time, Trolldtekt works with documented sustainability and Trolldtekt acoustic panels are certified in the Gold category under the internationally recognised Cradle to Cradle design concept.

#### **A number of powerful benefits**

Trolldtekt acoustic panels are the natural choice for ceiling and wall cladding in all types of architecture. From schools, institutions and sports halls to office complexes, restaurants and private homes.

Made from a combination of wood and cement, Trolldtekt cement-bonded wood wool panels come with unique sound-absorbing properties which ensure superior acoustics. The material is naturally strong, withstands humid environments and offers effective fire protection.

#### **Considerable design freedom**

Our wide range of colours, textures and design solutions gives you a completely free hand to design rooms with superior acoustics. It is also possible to vary, combine and scale the individual solutions to create just the architectural look you want.

## Six good reasons for choosing Trolldtekt®

- Superior acoustics
- Healthy indoor climate
- Documented sustainability
- Effective fire protection
- Natural strength
- Simple installation

Front cover:  
Project: Design Museum, London  
Architect: OMA  
Photo: Charles Hosea

Page 3:  
Project: The Loom, London  
Architect: Duggan Morris  
Photo: Jack Hobhouse



# A simple recipe for natural strength

Troldtekt cement-bonded wood wool is produced from the raw materials wood and cement. As it has been since 1935.



## Wood

We use Danish Norway spruce, which is a renewable, carbon-neutral resource. At Troldtekt, we only use certified wood, and we are certified according to the two leading standards for responsible forest management: FSC® (FSC®C115450) and PEFC™.

This means that we supply certified acoustic panels made from wood that can be traced back to responsible forestry operations.



## Cement

Cement makes Troldtekt acoustic panels strong and fire safe without the use of harmful chemicals. These are properties that would be difficult to achieve with other binding agents. We only use cement from Aalborg Portland, which extracts the raw materials from the Danish mineral resources with minimal environmental impact.

We are in the process of replacing the cement with the patented cement type FUTURECEM™, which also comes from Aalborg Portland. FUTURECEM exploits the synergies between calcined clay and limestone filler. The result is Troldtekt acoustic panels with a reduced carbon footprint.



## Cement-bonded wood wool

At our factory in Denmark we produce Troldtekt acoustic panels from cement-bonded wood wool which combines the inherent strength of cement with the natural properties of wood.

Visit > [www.troldtekt.com](http://www.troldtekt.com) and watch our film showing how Troldtekt acoustic panels are manufactured.

# Troldtekt and the circular economy

The well-established Cradle to Cradle design concept is at the heart of Troldtekt's business strategy.

Cradle to Cradle is all about designing products where the materials can be reused and create new value – either in the biological cycle, where the materials become a new resource for nature or in the technical cycle, where they are used to produce new products.

Troldtekt's business strategy is based on the circular Cradle to Cradle principles, and our products are Cradle to Cradle Certified™ at Gold level. The certification covers the entire product range of Troldtekt cement-bonded wood wool panels in natural wood/natural grey and standard colours, including Troldtekt based on FUTURECEM.

Troldtekt acoustic panels are documented as being free of harmful substances and can therefore safely be returned to the biological cycle. Additionally, waste from the production of Troldtekt acoustic panels is returned to the technical cycle and used as a resource in new cement at Aalborg Portland.

## Acoustic panels with a reduced carbon footprint

Troldtekt has developed acoustic panels in which the cement has been replaced with the new, CO<sub>2</sub> reduced cement type FUTURECEM™. FUTURECEM is a patented cement product which exploits the synergies between calcined clay and limestone filler. This means that much of the fired clinker in the cement can be replaced, reducing the carbon footprint by 30 per cent.

Troldtekt based on FUTURECEM has carbon footprints that are 26 and 38 per cent lower, respectively, than those of Troldtekt based on grey and white cement, measured throughout the entire life cycle of the acoustic panels.

Troldtekt based on FUTURECEM is – like the other Troldtekt cement-bonded wood wool panels – Cradle to Cradle-certified at Gold level.



## Renewable energy at own factory

By focusing on sustainability and massive investments, we have achieved a number of value-creating milestones. Among other things, close to 98 per cent of the energy used in our production comes from renewable energy sources (wind power and biofuels).

In collaboration with Ramboll, Troldtekt has documented how the acoustic solutions contribute positively to the various criteria in the leading certification schemes: DGNB, BREEAM, LEED and WELL.

Visit > [www.troldtekt.com](http://www.troldtekt.com) and read more about Troldtekt's contribution to sustainable architecture.





## UK's National Memorial Arboretum

**Ceiling panels:** Troldekt acoustic panels

**Colour:** Grey 202

**Structure:** Coarse (3.0 mm wood wool)

**Architects:** Glenn Howells Architects

**Photos:** Rob Parrish Photography

## Design Museum, London

**Ceiling panels:** Troldekt acoustic panels

**Colour:** Grey 202

**Structure:** Ultrafine (1.0 mm wood wool)

**Architects:** OMA

**Photos:** Charles Hosea



## London's Regent's Park Theatre

**Ceiling and wall panels:** Troldekt acoustic panels

**Colour:** Natural wood & Natural grey

**Structure:** Fine (1.5 mm wood wool)

**Architects:** Reed Watts Architects

**Photos:** David Jensen



## Bath Archway, UK

**Ceiling and wall panels:** Troldekt acoustic panels

**Colour:** Natural wood

**Structure:** Fine (1.5 mm wood wool)

**Architects:** Feilden Clegg Bradley Studios

**Photos:** James Newton

## The Nordic Barn House, Randers, Denmark

**Ceiling and wall panels:** Troldekt line

**Colour:** Black 207

**Structure:** Ultrafine (1.0 mm wood wool)

**Architect:** BRUNOJAKOBSENDESIGN+

**Photos:** Tommy Kosior, Troldekt A/S



## Therme Lindau, Germany

**Ceiling panels:** Troldekt acoustic panels

**Colour:** Black 207, custom colours

**Structure:** Fine (1.5 mm wood wool)

**Architects:** 4a Architekten, Stuttgart

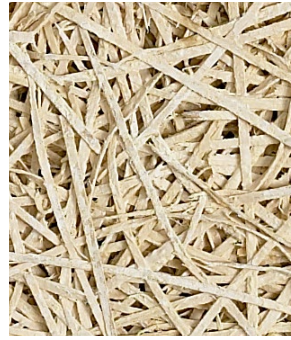
**Photo:** Olaf Weichers, architect MAA



Extreme fine (0.5 mm)



Ultrafine (1.0 mm)



Fine (1.5 mm)



Coarse (3.0 mm)

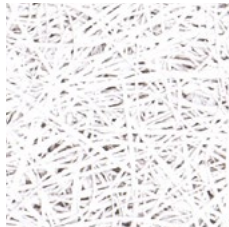
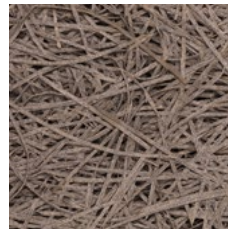
Natural wood



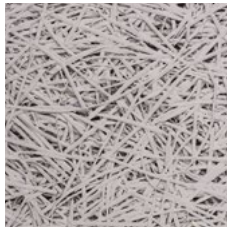
Natural grey



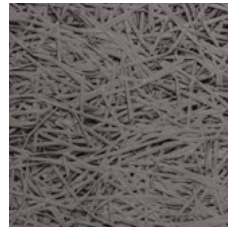
Natural grey (FUTURECEM)



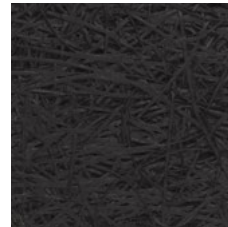
White 101



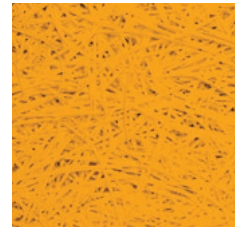
Grey 202



Grey 208



Black 207



Custom colours

# Choose between a range of structures and colours

Extreme fine or coarse? A natural look, classic white or an evocative colour? It's entirely up to you.

The characteristic structure of the Troldekt acoustic panels is determined by the width of the wood wool strands. You can choose between extreme fine, ultrafine, fine and coarse, depending on the look you want to achieve.

We use grey and white cement which are used to manufacture Troldekt in natural grey and Troldekt natural wood acoustic panels respectively. In addition, we supply Troldekt acoustic panels based on FUTURECEM cement, which has a reduced carbon footprint.

FUTURECEM gives the Troldekt acoustic panels a slightly warmer hue than traditional cement.

## Colours to your liking

Troldekt acoustic panels do not require any additional surface treatment but we offer to spray-paint them at our painting facility at the factory. Here we use water-based paint in the standard colours white 101, grey 202, grey 208 and black 207. Troldekt is also available to order in most NCS and RAL colours. All Troldekt acoustic panels in natural wood/natural grey and painted in standard colours are Cradle to Cradle-certified at Gold level. The certification does not include panels in custom colours.

Neither factory painting nor the subsequent painting of Troldekt acoustic panels will affect their unique sound-absorbing properties.





DTU Science Park in Hørsholm, Denmark.  
Photo: Helene Høyer Mikkelsen

# Flexible form and function

With Trolldtekt you can create unbroken and functional ceiling surfaces – also when renovating.

## **Trolldtekt® acoustic panels**

Our classic Trolldtekt acoustic panels ensure superior acoustics as ceiling and wall cladding in all types of buildings.

## **Trolldtekt® Plus**

Acoustic panel with a backing of sealed mineral wool. Space-saving solution for retrofitting on existing ceilings or suspended ceilings.

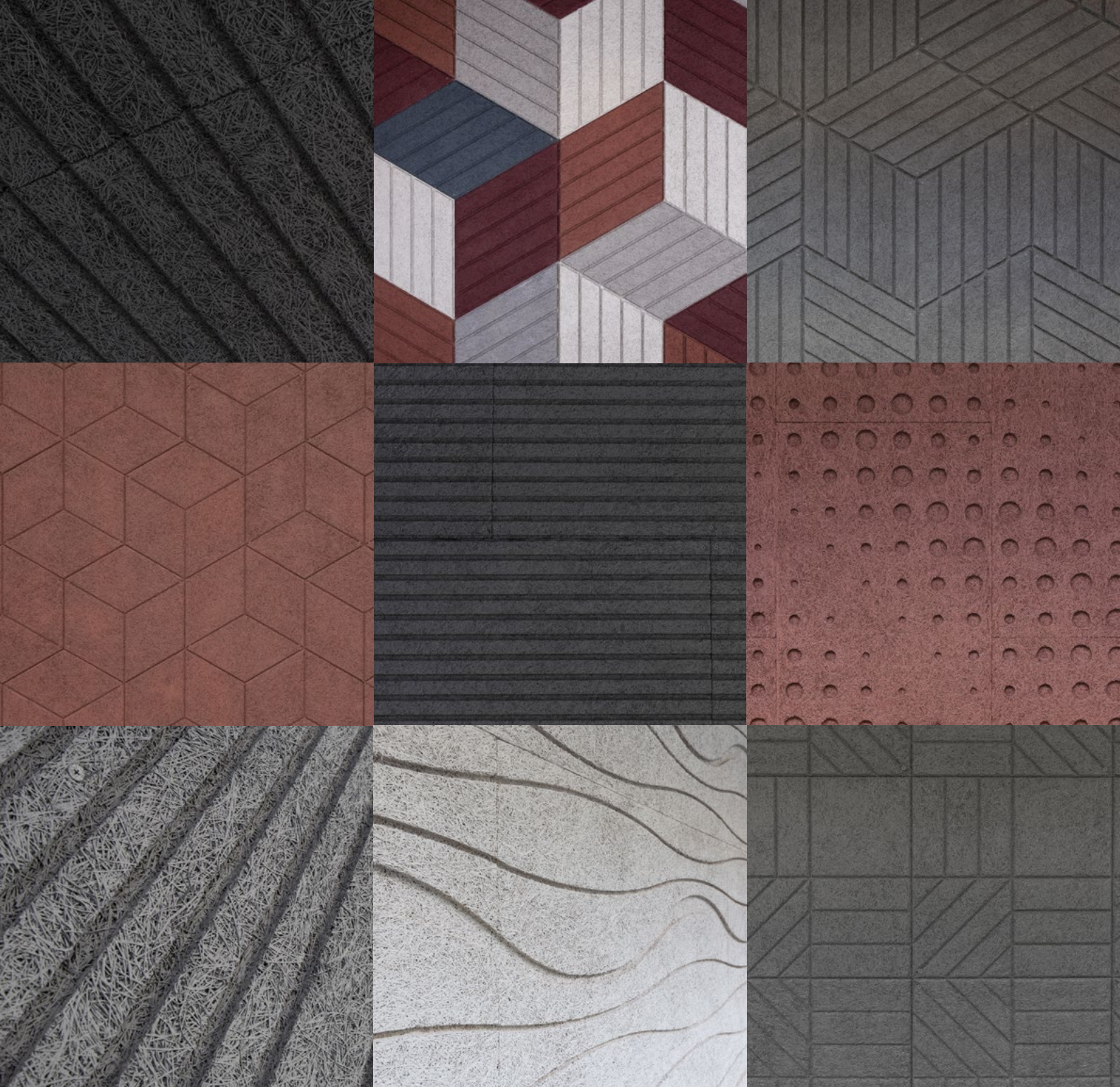
## **Trolldtekt® A2**

Non-combustible acoustic panel for the use in areas where there are stricter fire safety regulations, such as in means of escape.

## **Trolldtekt® design solutions**

With Trolldtekt design solutions, you have the freedom to combine superior acoustics and a healthy indoor climate with a distinctive look.

The photo is from DTU Science Park in Hørsholm, Denmark, which is Denmark's leading growth and development environment. Here, Trolldtekt curves design solution in a dark custom colour has been chosen for the ceiling creating a nice sense of visual coherence between the rooms separated by the glass walls.



# Troldekt® design solutions

Enjoy the freedom to unite form and function in interior design.  
Choose one of the solutions from our award-winning design series.

Troldekt design solutions allow you great freedom to combine superior acoustics and a healthy indoor climate with a distinctive look. You can create your own patterns and rhythms in the design – and vary and scale the individual design solutions.

The design solutions are industrially produced with, for example, grooves cut into the surface, patterns or special dimensions. All the solutions are designed to ensure that ceilings or walls are experienced as large cohesive surfaces. In short, it's not about the panel but the surface.



**GERMAN  
DESIGN  
AWARD  
WINNER  
2020**



### Freedom for architects to create original designs

The purpose of the Trolldtekt design solutions range is to give architects the greatest possible flexibility when designing ceiling and wall surfaces for superior acoustics. Some of the new solutions are clearly inspired by Nordic design – with straight lines and angles, while others are more expressive.

Most of the design solutions are based on 35 mm Trolldtekt acoustic panels, which are machined using, among other

things, CNC technology. However, the two latest solutions in the range, Trolldtekt v-line 1way and 2way with discreet v-shaped grooves, are based on classic 25 mm Trolldtekt panels. This means that they are lighter in weight and can be produced at an even more competitive price.

Visit [www.trolldtekt.com](http://www.trolldtekt.com) and download the special brochure about the design solutions under the menu item 'Web tools & downloads'.

## HEALTHY INDOOR CLIMATE SINCE 1935

Troldtekt A/S has been designing, developing and manufacturing Troldtekt acoustic panels since 1935 – from locally sourced natural materials and under modern conditions with minimal environmental impact. Our products are developed and manufactured in Denmark and distributed in numerous countries around the world.

### **We are trendsetting**

It is our vision to be a trendsetter within intelligent acoustic solutions with a sustainable indoor climate focus. We therefore develop new solutions in close collaboration with industry experts, architects and other building consultants.

### **We take responsibility**

It is important for us to play a responsible role in society – also for our own sake. We believe companies do well by doing good. We have therefore systematised our social responsibility efforts by committing to the UN Global Compact – the world's largest voluntary corporate social responsibility initiative.

### **We create added value**

The sustainable Cradle to Cradle design concept is a key part of our business strategy. The concept focuses on ensuring that materials add value for the environment, for society and for our business. We ensure that our activities are in line with the international Cradle to Cradle principles through our collaboration with the international research and advisory institute EPEA.

### **We are part of a group with ambitious climate goals**

Since 2022, Troldtekt has been part of the Kingspan Group, a listed Irish building materials company with operations in more than 70 countries. With its Planet Passionate programme, Kingspan is setting ambitious climate goals that are very much in line with Troldtekt's Cradle to Cradle strategy. By 2030, Kingspan's ambitious targets include zero waste to landfill and net zero carbon manufacturing.

Visit Troldtekt online for more inspiration:



#troldtekt  
#goodacoustics