



Troldekt®
acoustic solutions
The ideal choice for ceilings and walls

Good acoustics – in all types of buildings

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 good acoustics and a healthy indoor climate with distinctive design. At the same time, Trolldtekt acoustic panels have achieved gold certification according to the internationally recognised Cradle to Cradle Certified® design concept.

A number of powerful benefits

Trolldtekt acoustic panels are the ideal 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 good acoustics. The material is robust and durable, withstands humid environments and provides 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 initiatives
- Effective fire protection
- Robust and durable
- 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



One simple recipe makes an audible difference

Troldtekt are acoustic panels produced from the raw materials wood and cement. This has been the case since 1935.



Wood

We use Danish red spruce, which is a renewable resource, because more trees are being planted than are being felled. During its growth, the tree absorbs CO₂ from the atmosphere and stores it until the tree is burned or rots.

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 (PEFC/09-31-030). This means that we supply certified acoustic panels made from wood that can be traced back to responsibly managed forestry.



Cement

The cement gives Troldtekt acoustic panels their strength, durability and fire safety without the use of harmful chemicals. These are beneficial properties that are currently difficult to achieve with other binding agents. We use two types of cement from Aalborg Portland, which extracts the raw materials from the Danish subsoil: FUTURECEM™ and white portland cement.

FUTURECEM is the result of an innovative technology using limestone filler and calcined clay – and it produces cement that has an approximately 30 per cent lower carbon footprint during the manufacturing phase than traditional cement. This means that Troldtekt panels based on FUTURECEM have a lower carbon footprint than Troldtekt panels based on traditional cement. As of 2024, we have completely phased out the use of traditional grey cement.



Cement-bonded wood wool

At our factory in Denmark, we produce Troldtekt acoustic panels from cement-bonded wood wool, which combines the strength of cement with the flexibility and breathability of wood. Troldtekt panels contribute to acoustic comfort in most types of architecture – in many countries around the world.

Visit > www.troldtekt.com and watch our film showing how Troldtekt acoustic panels are manufactured.

The wood used in Troldtekt is Norwegian spruce from Danish forests.

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, CO₂ 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

Through selected investments, we have reached 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 and read more about Troldtekt's contribution to certified 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

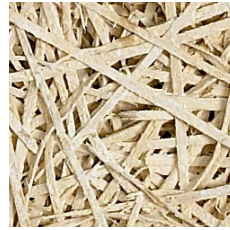
Photo: Olaf Weichers, architect MAA



Extreme fine (0.5 mm)



Ultrafine (1.0 mm)



Fine (1.5 mm)

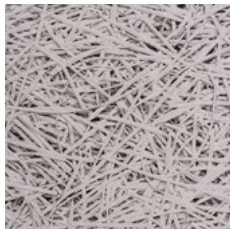
Natural wood



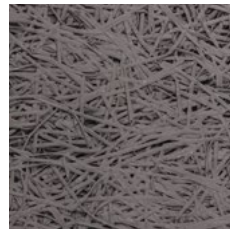
Natural grey (FUTURECEM)



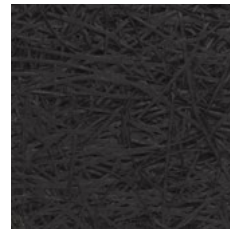
White 101



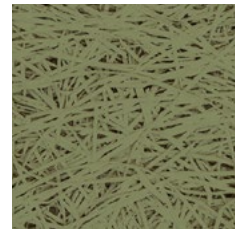
Grey 202



Grey 208



Black 207



Custom colours

Choose from a variety of textures and colours

You have the option of choosing an acoustic ceiling in three textures for different looks. In addition, you can choose from a wide range of colours.

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 and fine, all of which provide the space with different looks.

Troldekt acoustic panels are available in two basic variants:

- > natural grey (FUTURECEM), based on the cement type FUTURECEM
- > natural wood based on white cement

Colours to suit your taste

Troldekt acoustic panels do not require any additional surface treatment, but we offer to spray-paint them at our painting facility at the factory. We use water-based paint in the standard colours white 101, grey 202, grey 208, black 207 and clay 210. Troldekt is also available to order in most NCS and RAL colours.

All Troldekt acoustic panels in natural wood and painted in standard colours are Cradle to Cradle Certified® at gold level. The certification does not cover panels in custom colours.

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

Troldekt in natural grey (FUTURECEM)

Troldekt based on FUTURECEM is suitable as a base panel for painting with both light and dark colours. However, if you choose white 101 (FUTURECEM), you will find that the white-painted panel will have a slightly darker colour tone than if you choose white 101 on a natural wood base panel.

Troldekt in natural wood

Troldekt in natural wood has the warm colour and natural colour variation of wood – and is also suitable for painting with the colour white 101. The panels can vary in colour, both across the individual panel and from panel to panel, as is also the case with wood floors, for example. In our experience, Troldekt in natural wood lightens slightly over time, so that any colour variations become less pronounced.



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.



Trolldtekt® design solutions

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

Trolldtekt 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
2024**



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 and download the special brochure about the design solutions under the menu item 'Web tools & downloads'.

GOOD ACOUSTICS SINCE 1935

At Troldtekt, we are committed to ensure good acoustics and contribute to a good indoor climate in buildings. We are driven a passion for people and the planet.

Since 1935, we have been producing Troldtekt acoustic panels made from Danish wood and cement. We design, develop and manufacture the panels at our high-tech factory in Denmark.

We make a difference you can hear

Troldtekt contributes to acoustic comfort in most types of architecture – in many countries around the world. Our acoustic panels clad ceilings and walls in offices, businesses, schools, childcare institutions, cultural venues, sports facilities, swimming pools and private residences. Wherever Troldtekt is used, we make a difference you can hear.

We recognize the value of high quality

We understand that quality materials are essential for future-proofing the architecture. Troldtekt acoustic solutions contribute to distinctive buildings that last. We are ambitious and work continuously to develop even better solutions while remaining competitive.

We take responsibility

For us, it is important to work holistically with people and environment in all aspects of our business. That's why the Cradle to Cradle Certified® design concept is a key part of our business strategy. The concept's three basic principles are to eliminate waste, transition to renewable energy and support diversity. At Troldtekt, this translates into initiatives that focus on the environment, society and business.

We are part of an ambitious group

Since 2022, Troldtekt has been part of the Kingspan Group, a listed Irish building materials company with operations in more than 80 countries. With its Planet Passionate programme, Kingspan has set ambitious climate goals. By 2030, Kingspan will be a zero-waste-to-landfill company with carbon-neutral production with no net emissions.



Visit Troldtekt online for more inspiration:



#troldtekt
#goodacoustics



This document reflects Troldtekt's knowledge of certifications, standards, and products at the time of publication.

No rights can be derived from this document. Changes, typesetting and printing errors reserved.

The most recent version can be found online by scanning the QR code.

This printed matter is produced to the highest environmental standards.

The printed material is Cradle to Cradle Certified® ensuring that the paper and inks are produced without chemicals and heavy metals.

The printed matter also carries the Nordic Swan Ecolabel – the official ecolabel throughout the Nordic region.

The wood for the paper comes from responsible FSC-certified forestry, which ensures that the origin is traceable and that no more wood is felled than the forests can reproduce.