



SiDeck

Silence Reinvented

Innovative commercial ceiling solutions

January 2020



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Innovative Ceiling Solution

SiDeck - revolutionary commercial acoustical ceiling tiles:

- ◆ Outstanding acoustical performance
- ◆ Non-combustible (both sides) – European Class A1
- ◆ 100% non-organic
- ◆ Zero-emission – European Class E0
- ◆ Moisture- and waterproof
- ◆ 100% recyclable



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Innovative Ceiling Solution



Ceiling tile 60cm x 60 cm
Square edge



Real-size
texture



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Market Demand

Professionals know that even existing premium ceiling tiles **do not score equally high** vs. all essential requirements:

- ◆ Some of them are **combustible**
- ◆ Some contain **toxic or unsafe** components (including microfibers)
- ◆ Some are very **poor in noise reduction**
- ◆ Some are **non-waterproof**
- ◆ And none of them is perfect



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Acoustical Ceiling Tiles

SiDeck ceiling tiles are perfect acoustical solution for commercial and living interiors

- ◆ Outstanding noise reduction due to **active acoustic surface**
- ◆ Special natural porosity relief allows to **absorb wide range of noise frequencies**
- ◆ Unique **pattern of large, small and micro cavities** work along the specter to ensure comfortable noiseless environment



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Fire Resistance

SiDeck ceiling tiles have unique fire resistance properties:

- ◆ Absolutely **non-combustible, both sides** – European Class A1
- ◆ **No smoke, no emission** of toxic agents during heat or fire
- ◆ Contain **no organic components** that can ignite, burn, cause any rise in temperature or give off flammable vapors



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Fire Resistance

SiDeck ceiling tiles have unique fire resistance properties:

- ◆ **Low thermal conductivity** ($\lambda=0.045$ W/m °K) combined with non-combustibility can be used as **fire protection** when combined with fireproof suspension system or mineral glue
- ◆ Perfect for commercial buildings with **high and special fire safety requirements**
- ◆ Including evacuation routes and areas with cable conduits placed behind the ceiling tiles



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100% Non-organic

SiDeck ceiling have number of strong benefits vs. traditional fiber ceiling tiles that contain organic components:

- ◆ **100% non-organic**, contains no organic fibers, glues and binding
- ◆ **Formaldehyde-free** and non-toxic, zero-emission – European Class E0
- ◆ **Fiber-free**, contains no basalt/mineral fibers or micro-shards that can be inhaled and cause health problems
- ◆ **No dust**



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Moisture- and Waterproof

SiDeck ceiling tiles are chemically close to foamed glass so they are:

- ◆ **Humidity resistant**, can be used in areas with humidity up to 100%
- ◆ **Waterproof**, do not lose their properties even if get wet or drown
- ◆ **Washable and cleanable**, can be washed and cleaned using surfactants, sponges, brushes and high-pressure cleaners
- ◆ **Sag resistant**, no deformation caused by high humidity or contact with water



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Moisture- and Waterproof

SiDeck ceiling tiles are chemically close to foamed glass so they are:

- ◆ **Mold/mildew/fungus resistant**
due to the natural alkaline condition of the material
- ◆ **Acid resistant material**



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Easy Installation

- ◆ Can be installed using **standard suspension grid systems** available on the market for 60cm x 60cm tiles
- ◆ **Can be glued directly to the surface** of the ceiling or walls
- ◆ **Lightweight** for easy labor-saving installation
- ◆ This allows **using cheaper suspension systems** with a lower load
- ◆ **Nondirectional** pattern reduces installation time and waste
- ◆ **Strong edges and corners** that do not crumble during the installation and maintenance process





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100% Recyclable

SiDeck ceiling tiles are 100% recyclable material:

- ◆ **No special waste treatment** required
- ◆ Can be crushed and **used as an effective thermal insulation material or aggregate for extra-light concretes**

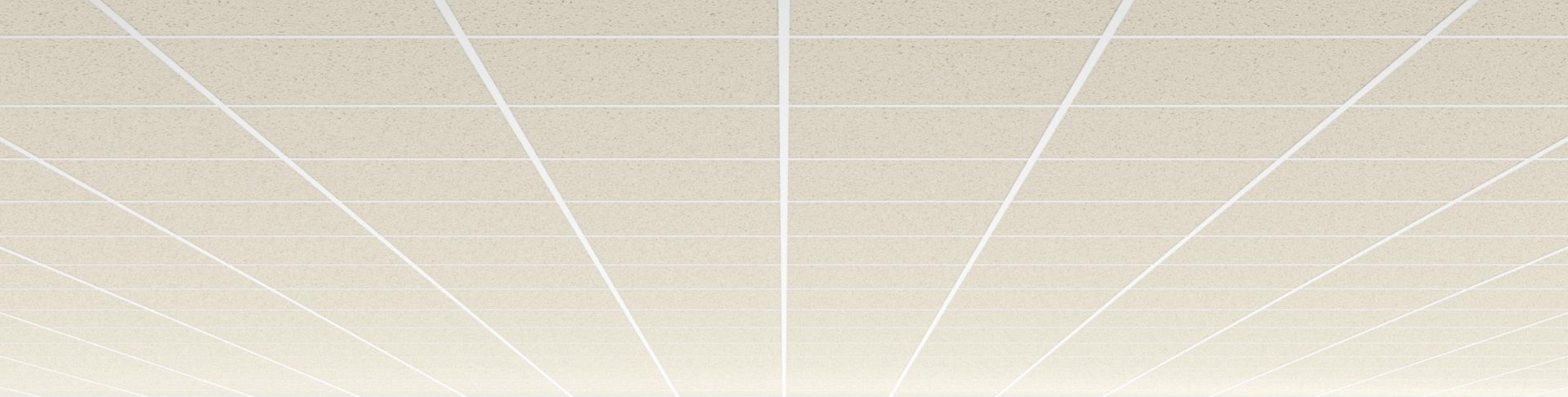


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Interior Design Solutions

SiDeck ceilings provide a wide range of interior design solutions:

- ◆ Tiles are **paintable**
- ◆ Natural **color of tiles is beige** and they have unique non-repeating natural porous pattern similar to natural stone – porous sandstone or shell limestone
- ◆ Tiles are solid and they can have different **custom thicknesses**
- ◆ Surface **can be 3-D engraved** with any custom design pattern



The overall look of **SiDeck** ceilings in interior is quite similar to existing solutions so even conservative customers can use **SiDeck** instead of mineral fiber acoustical ceiling tiles.





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Why Are They So Efficient?

- ◆ Most of the ceiling tiles on the market have acoustical properties based on their fiber structure
- ◆ They consist of fibers (wooden wool, basalt, mineral etc.) that are bound with certain glues (resins, cement, starch etc.)





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Why Are They So Efficient?

- ◆ **SiDeck** is unique, it has a **homogenous porous structure** throughout
- ◆ This is possible due to porous silicate granules of **Siopor** (3-8 mm) bound with expanded silicate binding, that together form **SiDeck**
- ◆ After forming and expanding the board is cut into 2 tiles revealing two **active acoustical surfaces**
- ◆ Each acoustical surface is **tempered in open flame to glaze** to improve light reflectance (natural white color without paint), surface hardness and cleanability



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Why Are They So Efficient?

- ◆ **Fractal structure** gives **SiDeck** unique acoustical properties due to numerous large, small and micro pores
- ◆ Surface of large pores is covered with minor pores, small ones have micro pores and again, to the micro level (can be visible on macro shot of **Siopor** granule)

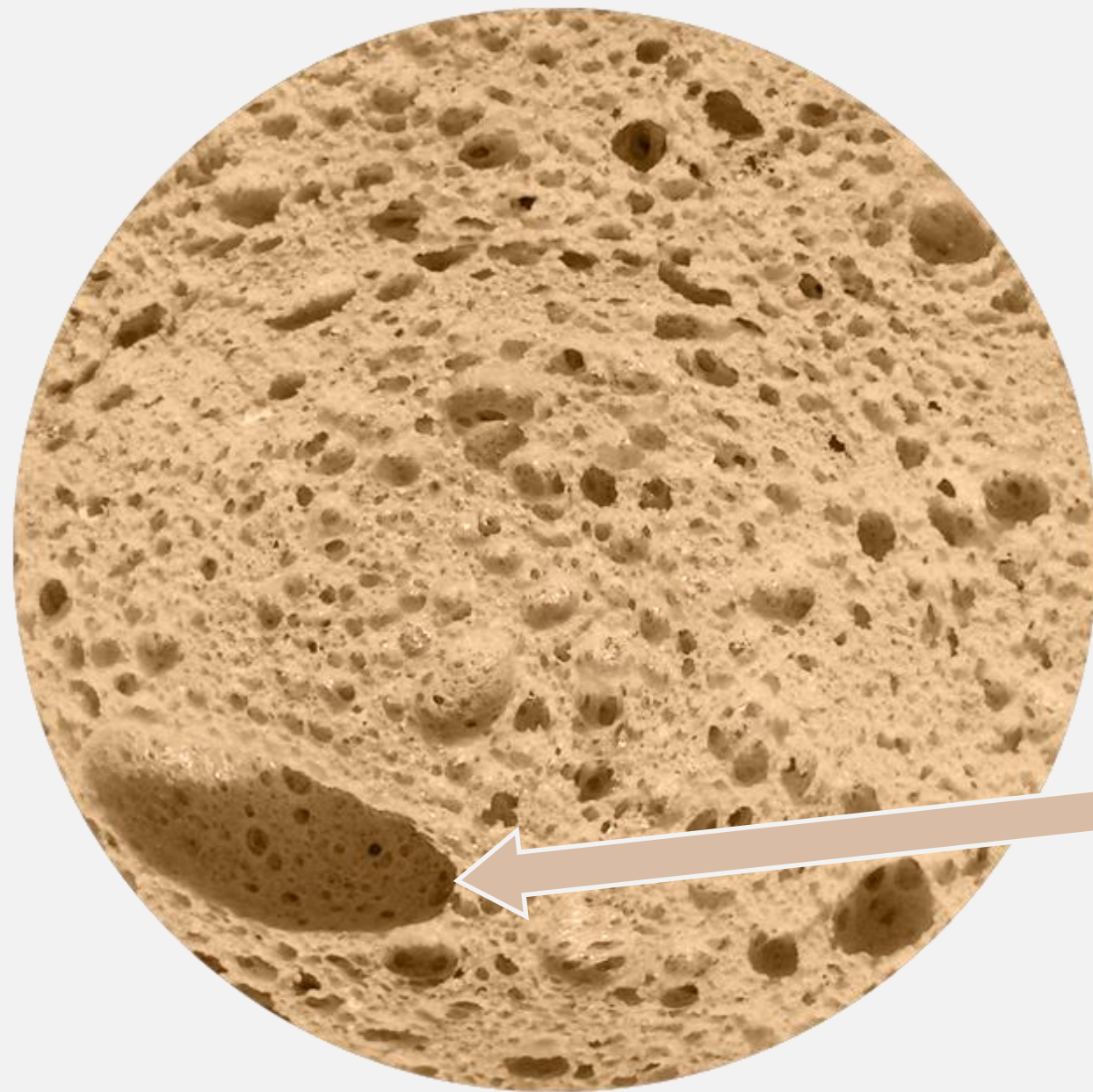


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Why Are They So Efficient?

Macro shot of porous structure of one expanded **Siopor** granule.

Each granule has diameter of 3-9 mm.



Fractal porosity



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Production

Production of **SiDeck** is very efficient and environmental-friendly

- ◆ **Energy-efficient low-temperature** production (300 °C) with maximum warmth recuperation and as a result – **low CO2 emission**
- ◆ **Wasteless** production as all the broken or defected products and parts can be crushed and used as effective thermal insulation material and aggregate for extra-light concretes
- ◆ **Environment-friendly** production with no waste effluent, only pure water vapor is emitted into the air (can be reused)

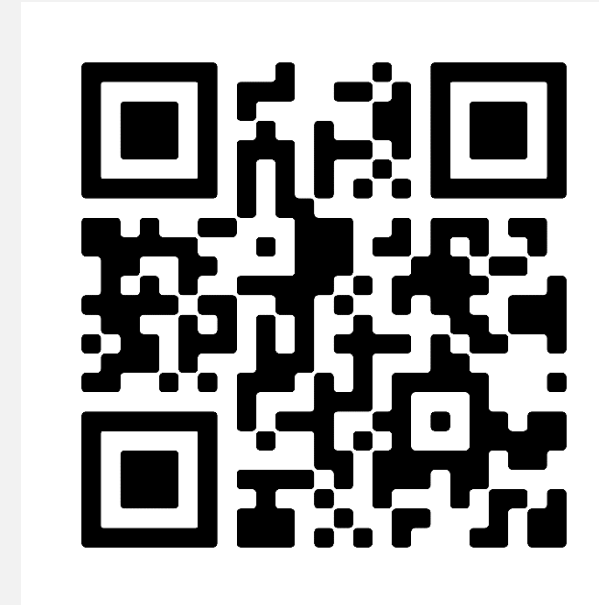


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Contacts

Visit our website to see info
about our products and solutions:

<https://si-tech.solutions/sideck>



Visit our YouTube channel
for product demo videos:

<https://tinyurl.com/wmp2odo>





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