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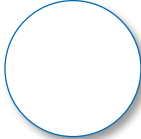
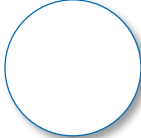
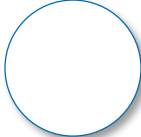
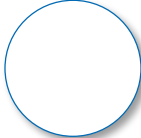
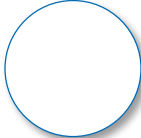
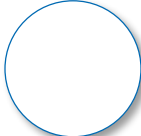
Fibre-free Sound Absorption for Specific Process Conditions

Dr. Nicolas Komorek/Dr. Christian Komorek



Structure

Fibre-free sound absorption MASH®

-  **Introduction**
filtertechnik.Europe
-  **Status quo**
Sound absorption for tech. applications
-  **Concept**
Fibre-free sound absorption
-  **MASH®**
Material Absorbing Sound and Heat
-  **MASH® applications**
Established solutions
-  **MASH® potentials**
Technical fields for increased function

Function
Principle of fibre-free
sound absorption with MASH®

Development Process
„Towards the Snake”

Use Case
Fibre-free sound absorption for
specific process conditions

Introduction

filtertechnik.Europe



Technology

Engineering and manufacturing of functional solutions of metal mesh

Functions

Filtration, dispersion, sound absorption, heat absorption, precision assemblies

Development

Development partner for industry customers from various sectors

fteu®

Headquarters in Germany, further locations in P.R. China and the Czech Republic, global sales reps.

Fibre-Free Sound Absorption for
Specific Process Conditions



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We develop and manufacture
solutions for technical functions
of metal mesh

Fibre-Free Sound Absorption for
Specific Process Conditions



Status quo

Sound absorption for tech. apps.



Conventional sound absorption

Combination of perforated surface, absorption structure of fibres, reverberative wall

Problems

- Diminished function in specific conditions (humidity, explosion prevention)
- Decreasing sound absorption over time
- Contamination of system
- Lack of cleanability

Challenge

Creation of fibre-free sound absorption for specific process conditions



Status quo

Sound absorption for tech. apps.



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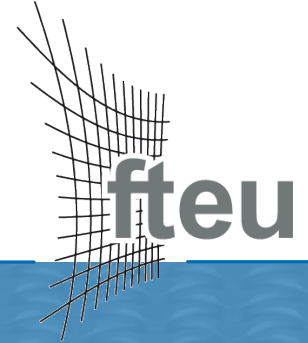
Creation of fibre-free sound absorption for specific process conditions



Effective sound absorption for specific process conditions (humidity, explosion prevention, hygiene, contamination) has to be designed fibre-free

Concept

Fibre-free sound absorption



1-material-solution

Fibre-free sound absorption through combination of perforated surface and absorption structure

“Closed” surface

Absorption (Helmholtz resonator) requires an almost closed surface that is yet permeable for sound

Defined 3D-structure

An effective absorption structure is defined in the third dimension



Concept

Fibre-free sound absorption



1-material-solution

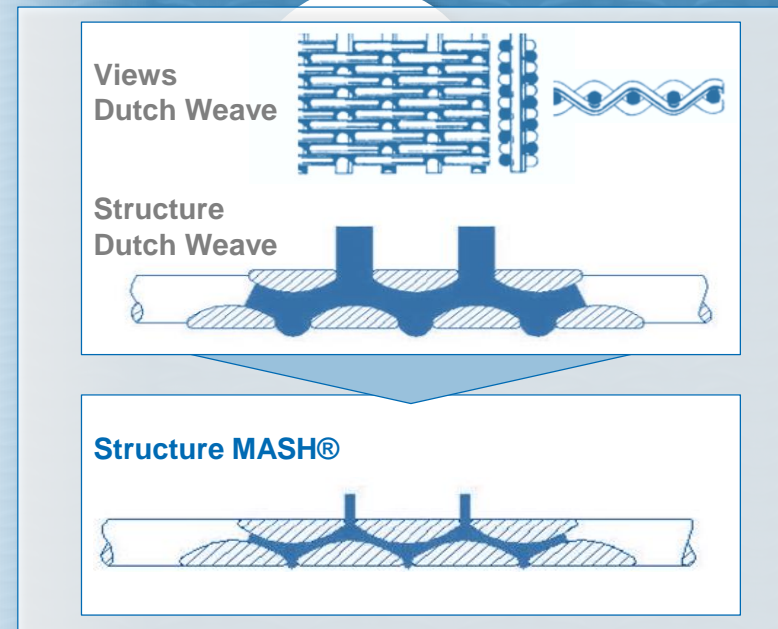
Fibre-free sound absorption through combination of perforated surface and absorption structure

“Closed” surface

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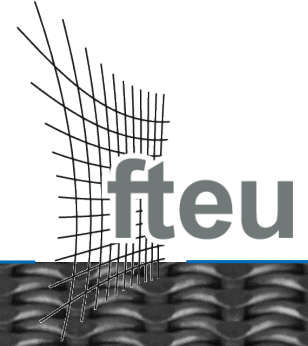
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Concept

Fibre-free sound absorption



1-material-solution

Fibre-free sound absorption through combination of perforated surface and absorption structure

“Closed” surface

Absorption (Helmholtz resonator) requires an almost closed surface that is yet permeable by sound

Defined 3D-structure

An effective absorption structure is defined in the third dimension

MASH® achieves effective sound absorption fibre-free through its unique absorption structure

Fibre-free

- Long-lasting
- Robust
- Cleanable

Broadband

- Absorption starting <1kHz
- Absorption max. at 2,4kHz
(Kundt tube; 20mm wall proximity)

Metal

Use of a variety of different specs. for defined properties (i.e. weight, heat, chem. resistance)

Moldable

Sheet metal like molding (pleating, deep-drawing) with affection sound absorption



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Metal

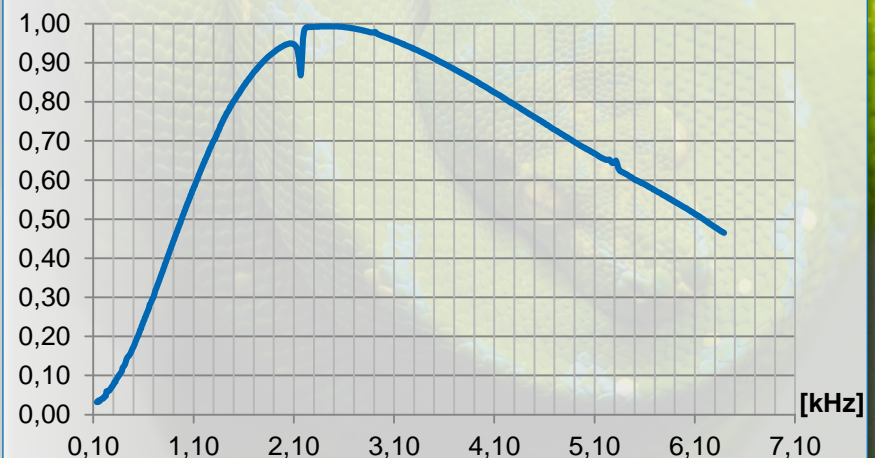
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Moldable

Sheet metal like molding (pleating, deep-drawing) with affection sound absorption

MASH® enables broadband sound absorption in specific process conditions

Absorption coefficient, 20mm wall proximity



Applications MASH®

Established solutions



Tube sound absorber

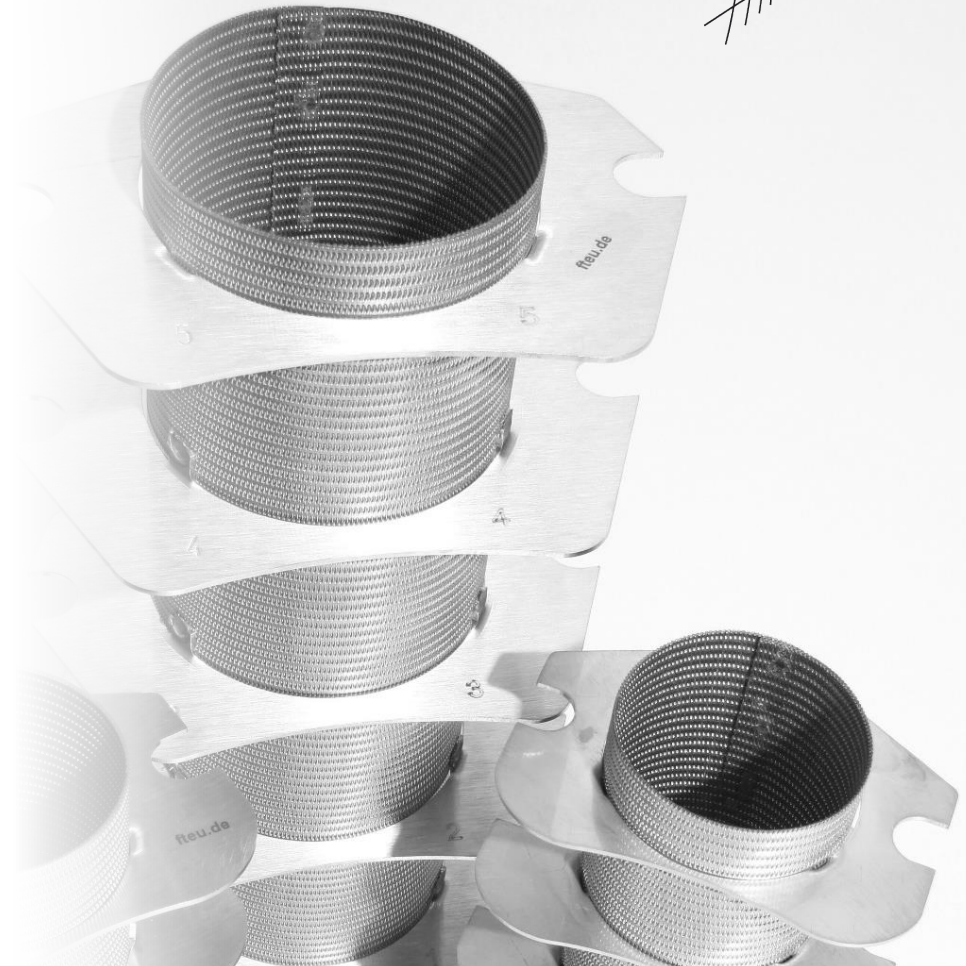
- Funnels (ships, chimneys)
- Compressors

Areal sound absorber

- Sealing covers

Molded absorber

- exhaust elbows (automotive)
- Shield plates (chain saws)



Fibre-Free Sound Absorption for
Specific Process Conditions

Sound
Absorption



MASH® applications

Established solutions



Tube sound absorber

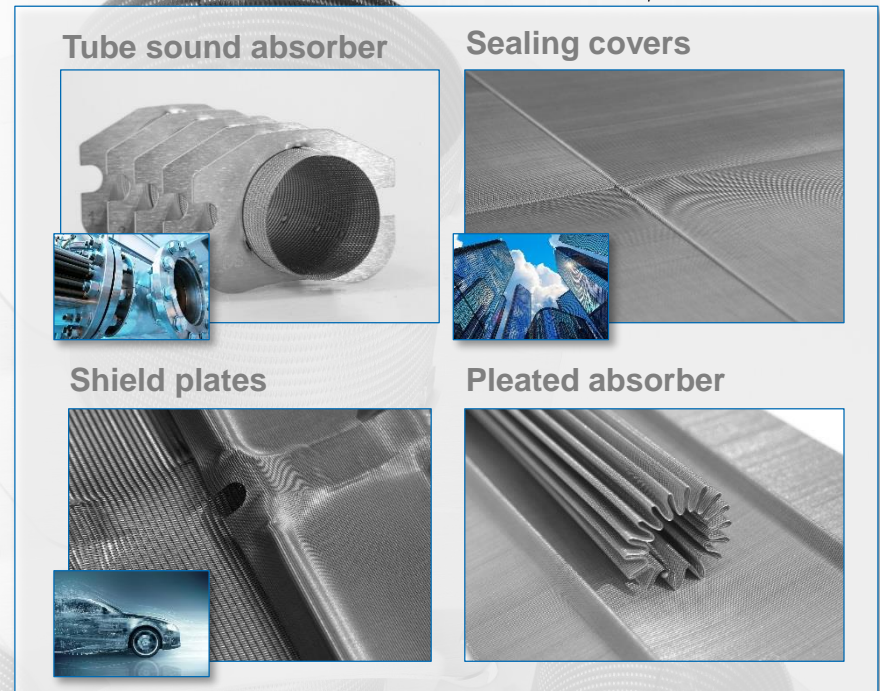
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**MASH® is used in practice –
its potentials only partially exploited**

MASH® potential

Tech. fields for increased function



Exhaust gases/high humidity

Applications with specific process conditions

Explosion prevention

Applications with high explosion risk

Hygiene

Applications with high cleanability demands (food industry, health/medical, optical)

Impure/dirty conditions

Applications with high cleanability demands (manufacturing industry)

Molded parts

Applications with defined demands regarding available/limited space

**MASH® enables
broadband sound absorption
with fibre-free function
of metallic material
in moldable shapes**

Summary

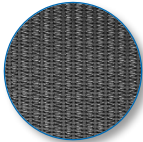
Fibre-free sound absorption MASH® fteu



Introduction
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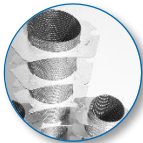
Status quo
Sound absorption for tech. applications



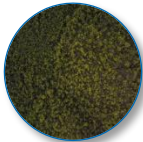
Concept
Fibre-free sound absorption



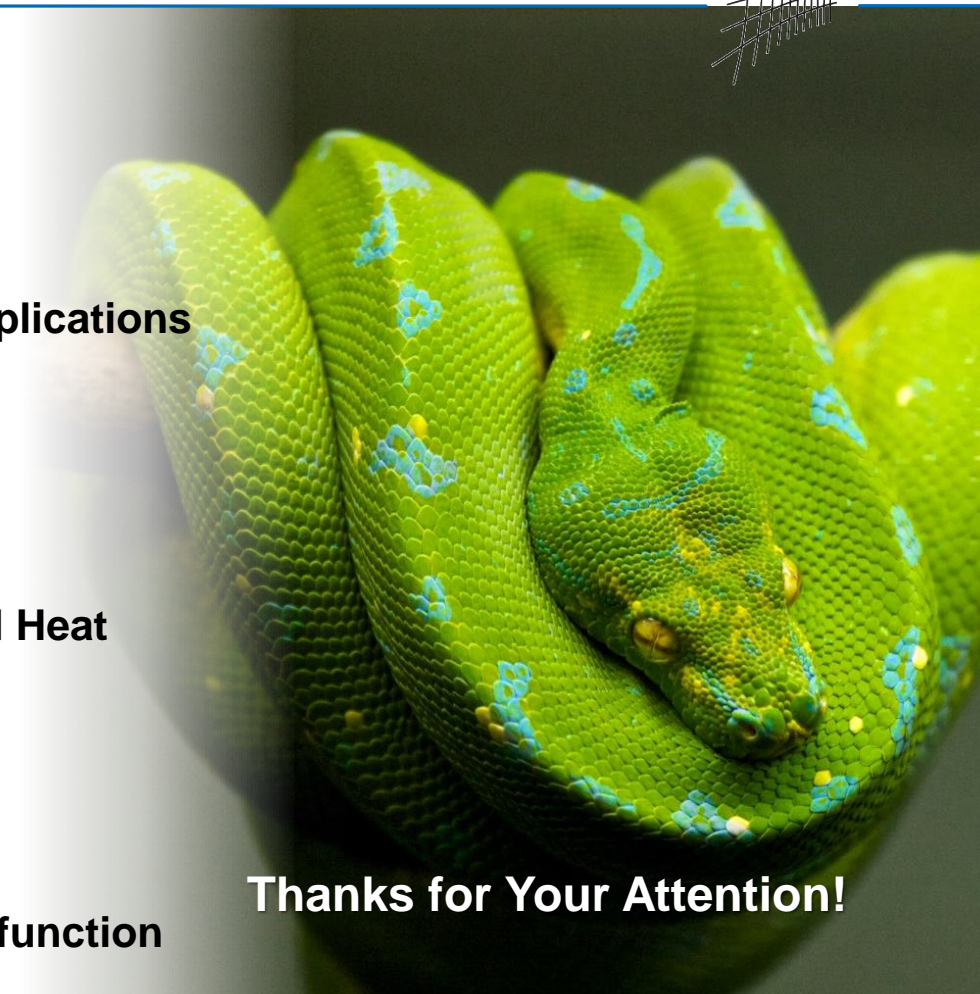
MASH®
Material Absorbing Sound and Heat



MASH® applications
Established solutions



MASH® potentials
Technical fields for increased function






Thanks for Your Attention!

Technical partner




Your contacts at fteu®



Dr. Nicolas Komorek
Managing Director





 +49-2452-97606-16
 +49-2452-97606-99
 nko@fteu.de

Sabine Dettmar
Project Lead Sales

 +49-2452-97606-23
 +49-2452-97606-98
 sde@fteu.de

filtertechnik.Europe GmbH & Co. KG

Gladbacher Str. 21
D-52525 Heinsberg
Germany

 +49-2452-97606-0
 +49-2452-97606-98
 info@fteu.de
 www.fteu.de