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GEBRÜDERMUNZERT



# FEEL THE SILENCE

with acoustic tested fabrics by Gebrüder Munzert

# NOISE – THE UNDERESTIMATED DANGER!

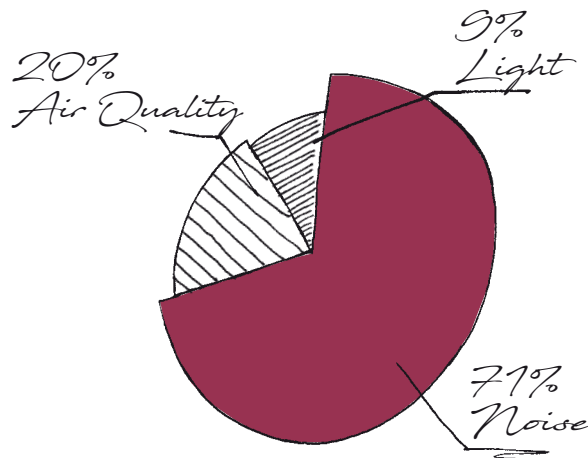


Our ears are one of the most vital senses. We sense different sounds, talk and music but also perceive **unwanted noise pollution which is the most underestimated stressor in today's society**. Noise pollution may severely affect the health in the long run.

Especially noise interference in the job **influences the productiveness significantly**. Not only the work efficiency decreases but also the motivation.



## *Stress factors at work:*



Therefore the improvement of acoustical properties is of fundamental importance for office spaces: **because noise influences** not only the **motivation and efficiency** but also the **health** of the employees.

The acoustic tested collection of Gebrüder Munzert offers intelligent constructions for many different applications. The fabrics enhance the acoustical comfort of a room noticeably which provides a much better interior climate.

*"With the development of our acoustic tested fabrics we combine the spirit of modern architecture with the inventive possibilities of a jacquard mill. The solution for an universal problem never looked as good. The noise level in private and public areas is secretly but noticeably reduced which ultimately leads to an enhancement of quality life."*

Bernd Kout,  
President



# INDICATIONS OF NOISE

In contemporary architecture the minimalist chic of large and linear rooms with firm surfaces is state of the art. The Interior is dominated by steel, glass, concrete and stone. These modern surfaces however cause a drastic aggravation of the room perception.

Sound is **rebounced by sonically hard surfaces** and is tossed back and forth. This creates unpleasant flutter echoes which result in a disturbing environment. The perceived noise interferes with body, mind and soul. **It affects the efficiency tremendously.** Recent studies suggest that the noise level impacts both, the concentration and perception skills which ultimately challenges the well-being. **The performance on the job is diminished up to 30 %.**

A bad acoustic at work affects:

*The creativity*

*The memory*

*The speed of mind*

*The concentration*

*The motivation*

*The efficiency*

Further studies show **that textiles improve the acoustical room comfort considerably.**



# WE LISTEN CLOSELY – FOR SUPERIOR ROOM ACOUSTICS

The level of noise in a room is linked closely to the perceived well-being. **With the acoustic tested fabrics by Gebrüder Munzert this perception can be modified effectively.**



## Residential

Silence never looked as good! The appealing collection of inventive fabrics blends nicely into every room concept and creates an oasis of relaxation.



## Corporate | Hospitality

A noisy surrounding reduces the concentration level, motivation and accuracy. Our fabrics alleviate noise by effective sound absorption.



## Healthcare | Education

Fabrics for individual solutions provide creative freedom. Hand-picked fabric constructions optimize not only the acoustic values but also the appearance and light transmission of the room.

DISCOVER OUR ACOUSTICAL ENGINEERED FABRIC COLLECTION! FUNCTIONALITY AND DESIGN UNITED IN THE NICEST WAY.

# WE SET THE BENCHMARK – AND WE LIVE UP TO IT.

## Reverberation Time

The time of reverberation is an acoustic indication for the noise pollution in a closed space. It is – in simple terms – the time that passes from the creation of the sound until its complete disappearance. Consequentially, **the shorter the reverberation time, the lesser noise pollution is perceived. The insertion of sound absorbing surfaces reduces the reverberation time in a room significantly.**



## Sound absorption

The level of sound absorption is measured by the weighted sound absorption coefficient  $\alpha_w$  ( $\alpha_w$ ). It reaches from 0 to 1.

0 = no absorption (100 % reflection)

1 = complete absorption (0% reflection)

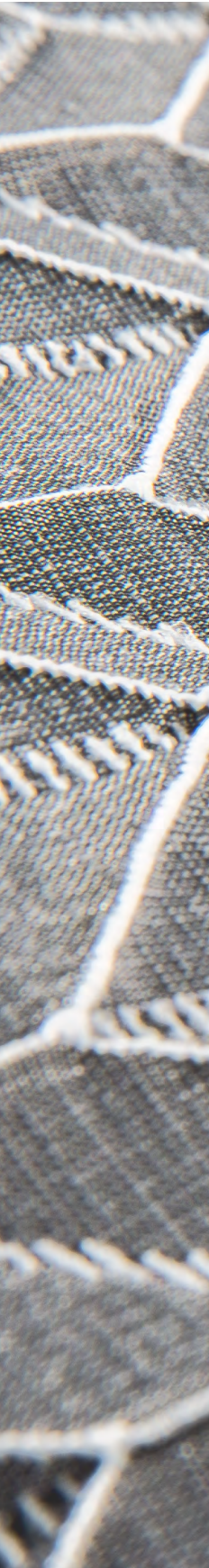
Sound is measured in hertz (hz)

Both sound absorption and reverberation time are important figures to evaluate the acoustical properties of a room. The lab tested fabrics of Gebrüder Munzert comply to DIN EN ISO 11654. **Sound absorption classes A to E are easily reached by the wide variety of different fabric constructions in this unique collection.**

The international standard DIN EN ISO 11654 differentiates five different sound absorption classes:

| $\alpha_w$  | Sound absorption classes |
|-------------|--------------------------|
| 0.90 - 1.00 | A                        |
| 0.80 - 0.85 | B                        |
| 0.60 - 0.75 | C                        |
| 0.30 - 0.55 | D                        |
| 0.15 - 0.25 | E                        |
| 0.00 - 0.10 | unrated                  |





# NRC-RATING (NOISE REDUCTION COEFFICIENT)

The NRC provides information about the average sound absorption rate between 250 hz and 2000 hz. The higher the rate, the better the sound absorption level is.

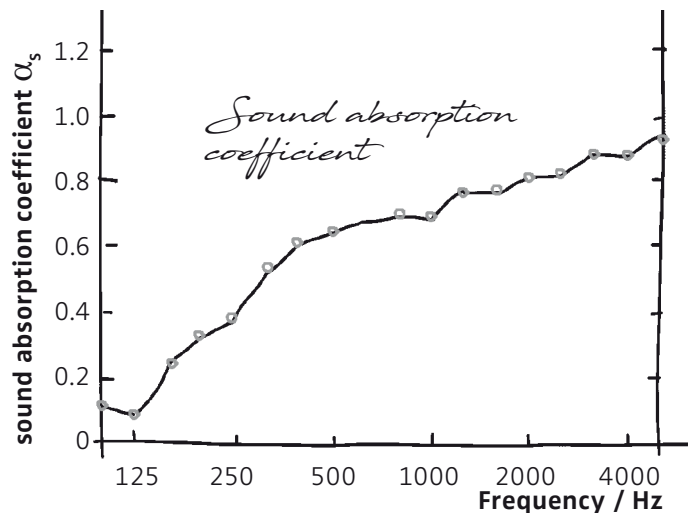
We lab test our acoustical engineered constructions according to international standards.

100 % Made in Germany – but designed cosmopolitan! For the European market the fabrics are tested according to DIN EN ISO 11654, for the international market we also test our inventive textile solutions according to NRC (Noise Reduction Coefficient) and SAA (Sound Absorption Average).

## Test results CS Origami 7.0

| Frequency [Hz]       | $\alpha_s$ 1/3 octave | $\alpha_p$ octave |
|----------------------|-----------------------|-------------------|
| 100<br>125<br>160    | 0,11<br>0,09<br>0,25  | 0,15              |
| 200<br>250<br>315    | 0,33<br>0,38<br>0,54  | 0,40              |
| 400<br>500<br>630    | 0,61<br>0,64<br>0,67  | 0,65              |
| 800<br>1000<br>1250  | 0,70<br>0,69<br>0,76  | 0,70              |
| 1600<br>2000<br>2500 | 0,77<br>0,81<br>0,82  | 0,80              |
| 3150<br>4000<br>5000 | 0,88<br>0,88<br>0,93  | 0,90              |

o Equivalent sound absorption area less than 1.0 m<sup>2</sup>  
 $\alpha_s$  Sound absorption coefficient according to ISO 354  
 $\alpha_p$  Practical sound absorption coefficient according to ISO 11654



Rating according to ISO 11654:

**Weighted sound absorption coefficient**

$$\alpha_w = 0.65 (H)$$

Sound absorption class: C

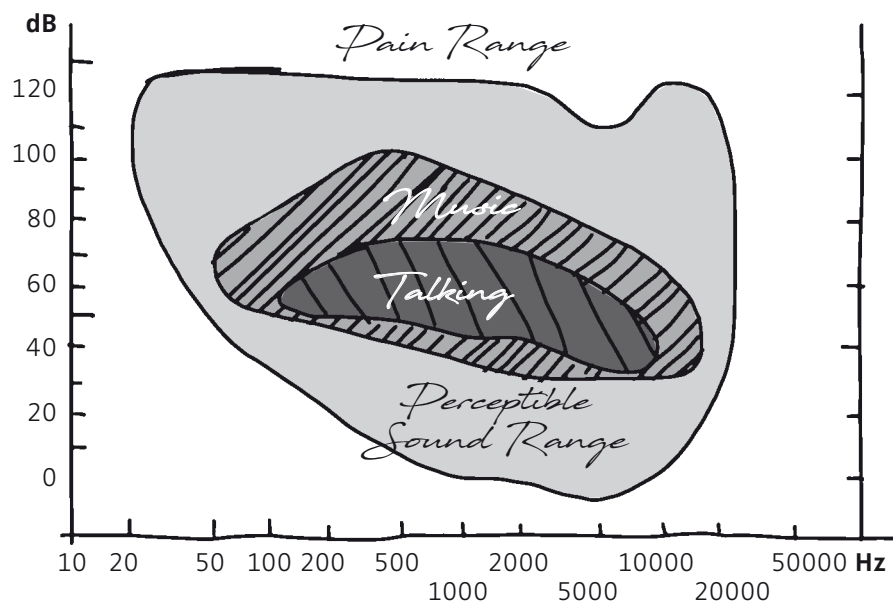
Rating according to ASTM C423:

**Noise Reduction Coefficient NRC = 0.65**

**Sound absorption Average SAA = 0.64**



## *Sound spectrum of the human ear*



Effective sound absorption combined with the unique designs of Gebrüder Munzert creates textile solutions for all different sorts of applications.

Our passion for **textile innovations, intelligent constructions and sound absorbing weaves** are the foundation of this unique collection. The selective use of a noise reducing yarn enables even sheer constructions to become severe masters of sound.



**FALL IN LOVE WITH OUR FABRICS.  
AND WITH THE SILENCE THEY CREATE.**



Our acoustic tested fabrics are marked with a distinctive signet.

**The inherently flame retardant constructions meet the highest technical requirements to ensure safe comfort.** Both, residential and corporate areas can be furnished securely.

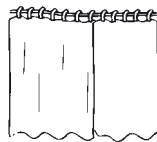
**All sheers, draperies and upholstery fabrics** in this collection impress by their high light-fastness, easy maintenance and elegant colors. A wide variety of different constructions and fabric widths allows for an individual and comfortable room setting with **sheer, opaque or dim-out looks.**



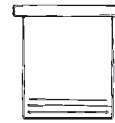
Acoustic tested constructions by Gebrüder Munzert **combine effective sound absorption with creative fabric engineering for diversified interior decorations.** The jacquard woven fabrics **blend harmoniously into every room concept and generate a relaxed atmosphere.**

*Different applications for acoustic effective fabrics:*

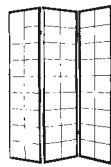
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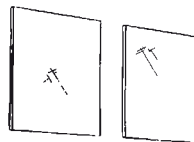
*Sheer and opaque window application*



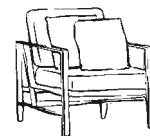
*Dim-Out*



*Privacy*



*Wall Panels*



*Furniture*



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