



# ACOUSTIC SOLUTIONS

Made in Germany



//Photo: Bjarne Bergius Hermansen / Danish Radio Concert Hall – Copenhagen, Denmark / Acoustic Curtain



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# [GERRIETS SOLUTIONS]

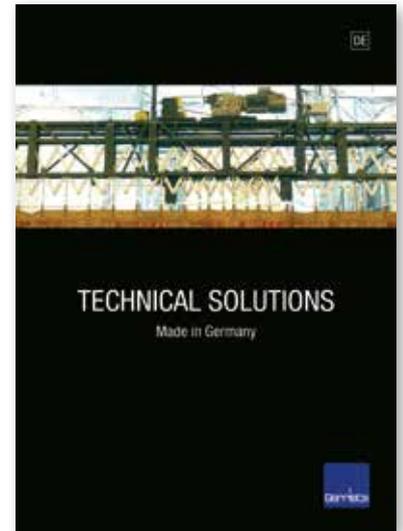
Further publications of our Gerriets Solutions series:



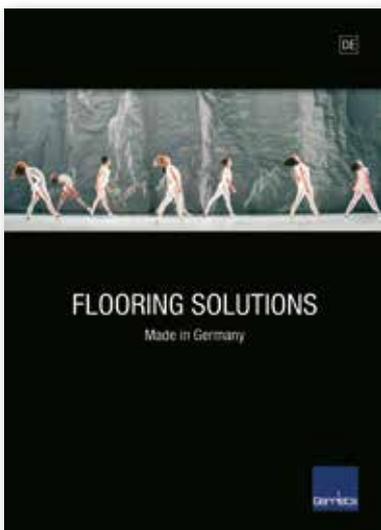
**TEXTILE SOLUTIONS**



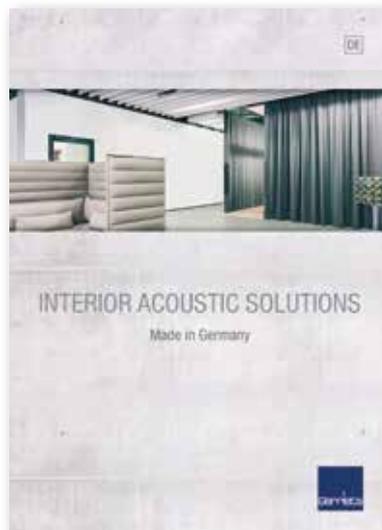
**SCREEN SOLUTIONS**



**TECHNICAL SOLUTIONS**



**FLOORING SOLUTIONS**



**INTERIOR ACOUSTIC SOLUTIONS**

Secure your personal copies of our Gerriets Solutions series today.

You can request them quickly and easily by calling +49 (0) 7665 960 0 or by emailing [info@gerriets.com](mailto:info@gerriets.com).



//Photo: ©HOCHTIEF/Schroll / Elbphilharmonie – Hamburg, Germany / Variable acoustic banners (in the big and small theatre hall)

## **[ACOUSTIC SOLUTIONS]**

Variable acoustic solutions for theatres, opera houses and civic auditoriums, as well as office spaces and meeting rooms, demand technically advanced products that meet the highest acoustic requirements.

Gerriets is the world leader in the development and manufacturing of high performance acoustic curtains and complex, highly specialised complete solutions. An example of our solutions capability was the development of the variable acoustic banners installed in the Hamburg Elbphilharmonie.

Our acoustic department is at your service to help you plan your next project as well as provide optimal support throughout the construction process.

Gerriets Acoustic Solutions – the right solution for every application.

# KINETIC ACOUSTIC SOLUTIONS

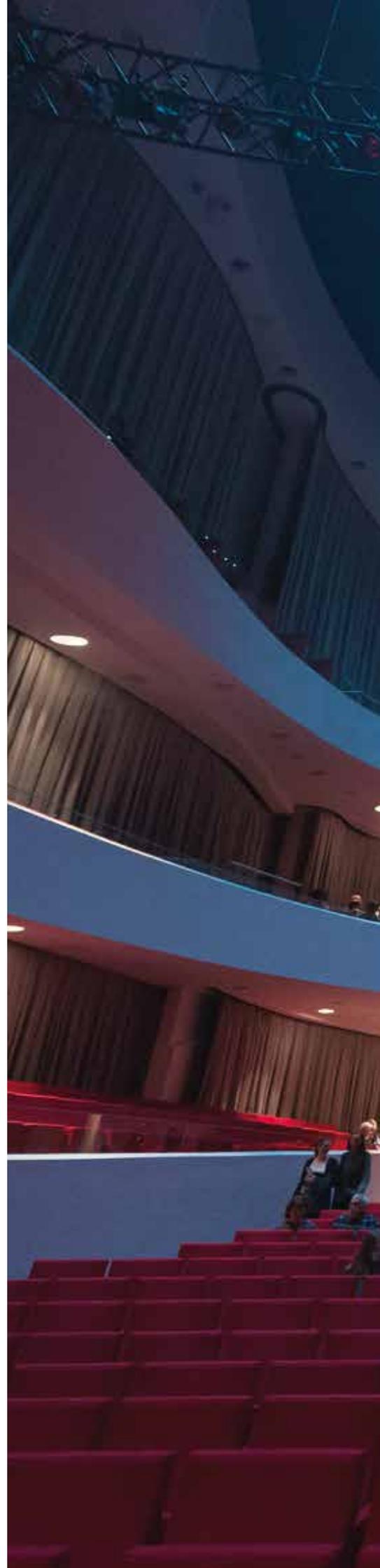
## Variable room acoustics in cultural buildings

The subject of room acoustics is not new, but it has become more important in recent years. Only a few decades ago most spaces were designed for single application performances such as opera in opera houses, concerts in a concert hall, theatre performances in a theatre, etc. But today, those same venues are faced with the challenge of being equipped for multiple applications. For example, a classic opera performed in an opera house has very different acoustic requirements than a traditional musical theatre performance.

In recent years, newly designed facilities have implemented the use of variable acoustic elements that allow a space to offer a diverse range of acoustic requirements.

A non-complicated and effective method to achieve variable room acoustics is by the use of textile absorbers. We have been manufacturing these systems for over seventy years and have been at the forefront in the development of acoustic roller banners. Due to their unique seamless width of up to 4.5 m (14'-9"), these roller banners offer architecturally and technically new possibilities for variable acoustic design.

Additionally, to vary a space as much as possible, we offer the inflatable aQflex™ bass absorbers. These bass absorbers are especially useful in venues that offer pop and rock music and round off our product portfolio.





# KINETIC ACOUSTIC SOLUTIONS

## Variable Sound Insulation

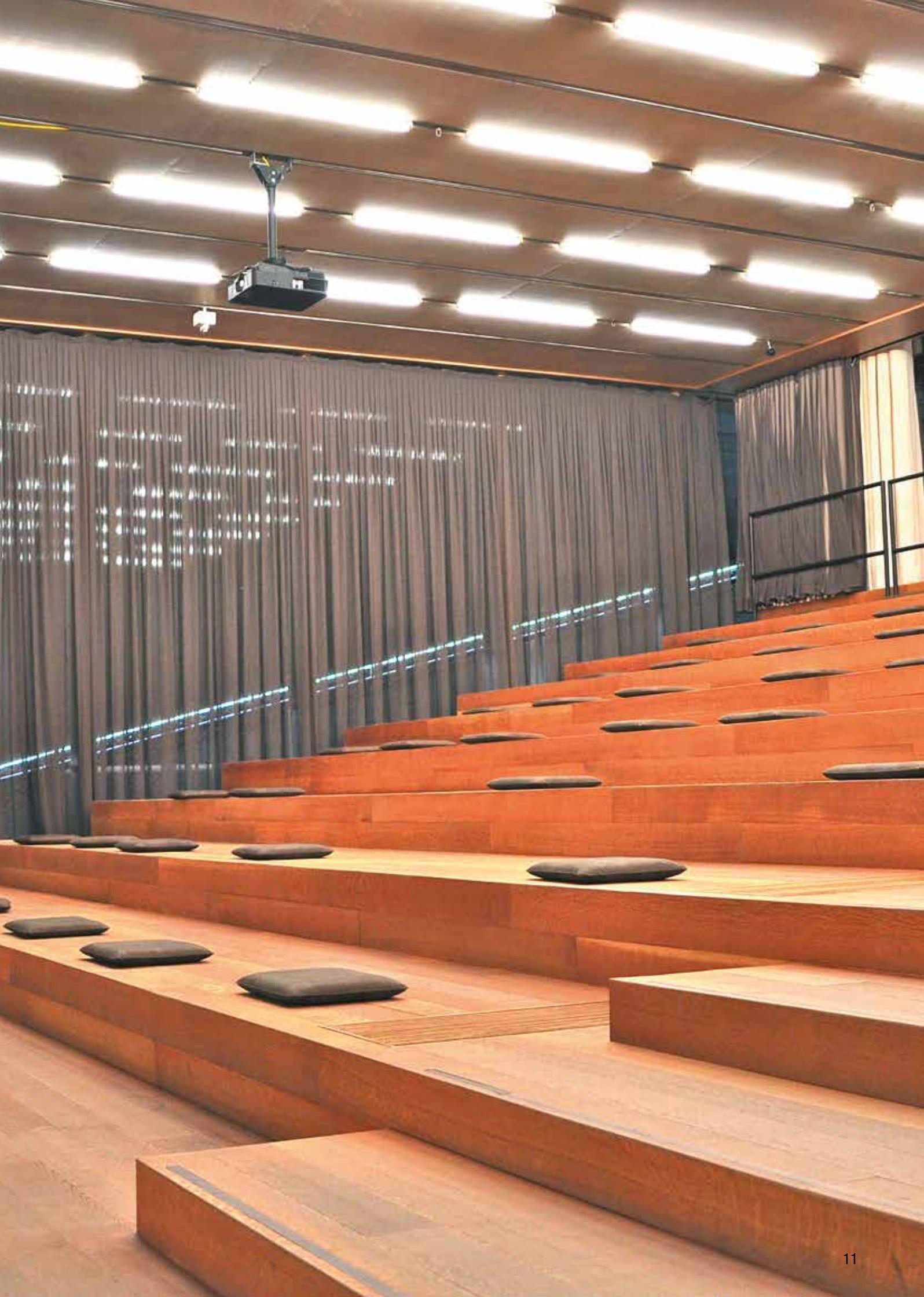
The temporary separation of room segments is a proven and tested means of creating a multifunctional space. This can be achieved with textile solutions known as sound curtains. Our sound curtains consist of several layers of different fabrics that deliver a high degree of sound insulation between two spaces. For example, in the Perez Art Museum Miami, many different sound curtains with up to 11 layers were implemented within the large main feature staircase. These curtains achieved a sound absorption coefficient RW of up to 20 dB, which allowed for the creation and necessary acoustic separation of smaller auditoriums within a large space. When the event is over, the curtains completely retract to reveal the impressive architecture.

## Acoustics and Architecture

“Bright rooms, variable acoustics, multipurpose use” are all terms we hear as requirements today in architecture. Modern rooms employ large glass surfaces that create natural light-filled environments. These large glass surfaces cause acoustic challenges due to longer reverberation times. The hard glass surface absorbs the sound waves and amplifies the room’s reverberation. However, with our unique fabric called ABSORBER LIGHT, this problem can be solved in an aesthetically appealing way. The surprisingly high absorption value of this translucent fabric impresses architects and acoustic planners alike. It has an understated and discreet design that can be integrated into any modern architecture.

In modern office design, it’s important to have both the flexibility of space and acoustics. Our Sound Curtain OFFICE does just that. This system achieves an acoustic separation of up to 26 dB, which can create attractively designed flexible meeting and resting spaces.





## PLANNING & CONSULTING

### Reliable measurements

During the planning it is important to have reliable measurements, the possibility of accompanying measurements and advice during the construction process.

All measured values published by the Gerriets Acoustics Team come from renowned measuring offices.

This allows us to adapt the measurements to each installation situation. In doing so, we make sure to adapt the measurements to the actual installation situations. All of our curtain fabrics have two separate sets of data; one with no fullness (flat curtain) and one with 100% fullness (pleated curtain).

Both the type of installation and the applied measuring method has a considerable influence on the measured values after the installation as well as the informational data about the installation. All textiles presented here are tested and classified for their effectiveness under neutral conditions.

### Optimal support in the planning process

Expert advice during the construction process and measurements in the building can be carried out by acousticians from the Gerriets GmbH. Values, such as the reverberation time or speech clarity have been recorded, because they are an important basis for the planning process.

In the further planning stages, the materials from Gerriets Acoustics will be optimally adapted to the construction projects - so that every project will become an acoustic success!





## PLANNING & CONSULTING

### Good room acoustics: added value for every room

Whether it's the stress of everyday life or working on complex projects in the office, noise pollution can cause major disturbances and add to the stress factor.

Noise is defined as unwanted sound that affects health, reduces performance, disrupts communication and has a negative effect on subjective well-being. Room acoustics should always be included in the planning, as an effort to minimise the stress levels from external factors affecting employees and to help counteract long-term health impairments.

A suitable room acoustic design can increase the speech clarity and at the same time reducing the noise level.

The proper use of acoustic solutions should be optimally prepared and assessed professionally in advance.

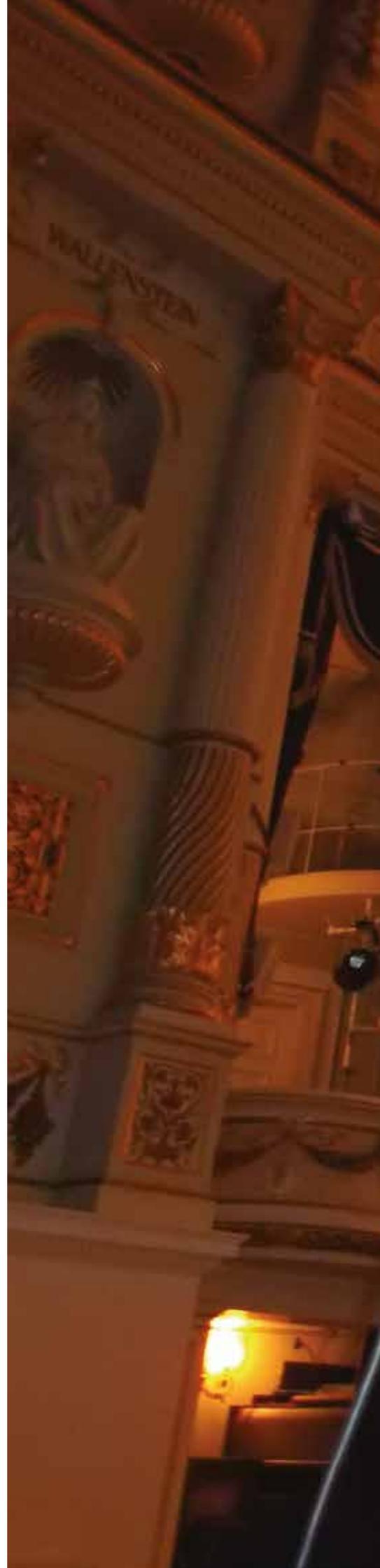
In order to optimise your support during the planning phase, we are more than happy to provide you with all the usual acoustic measured values, for instance, the degree of absorption or soundproofing.

If the needed values are not available, most commonly happens when choosing an individual material, we can easily calculate a customised acoustic measured value for you in our own measuring laboratory.

The best possible support in the planning phase is our top priority!



//Photo: Impedance tube for acoustical measurements





[ACOUSTIC SOLUTIONS]

## **GERRIETS CUSTOM SOLUTIONS**

### **We love a challenge!**

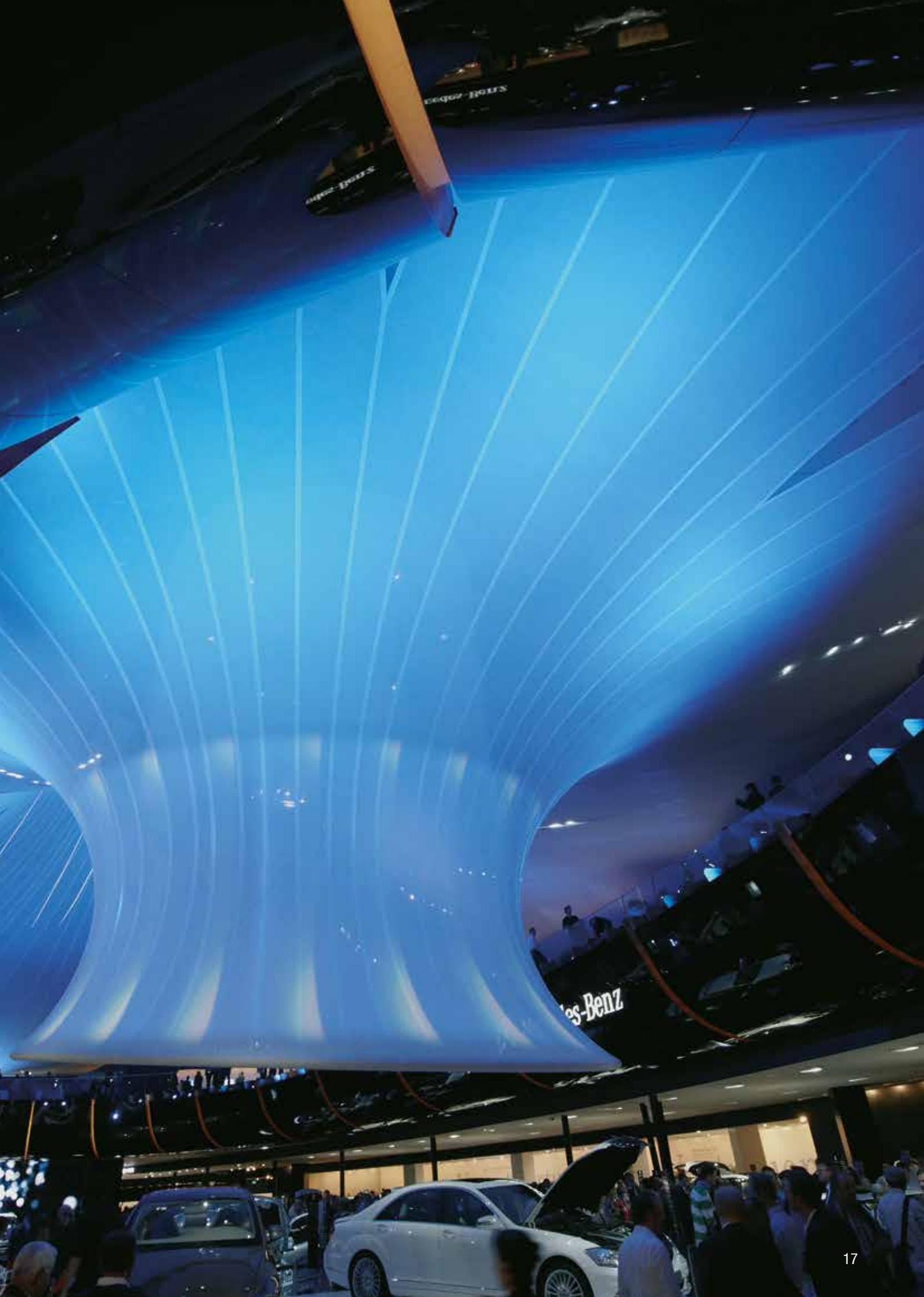
When others give up, we're just getting started. Custom solutions have been part of our company from the very beginning.

The challenge with our daily standard business is all about fast, reliable service with punctual delivery, for which the Gerriets GmbH is known for worldwide. But the real challenge for us is the custom solution. From planning to construction and all the way to assembly - all steps use our highly qualified staff, making the whole process a success from start to finish and we have demonstrated this time and again over the past 70 years. What we promise, is what we deliver.

We are happy to supply fixed acoustic panel ceilings, absorber constructions with acoustic foam, wall coverings, special constructions and modifications of our standard technology. Don't hesitate to give us a call!



//Photo: Hopermann /IAA Mercedes-Benz Trade Show Booth – Frankfurt, Germany / Customised cyclorama solution: sizes ca. 110 x 60 m (360'9" x 196'9")



# [ACOUSTIC SOLUTIONS]

## ABC ACOUSTICS (ACOUSTICS IN BRIEF)

“Good acoustics” depend on an immensely large number of parameters and always also on the intended use of the room that is to be acoustically optimised. In order to recognise and improve the acoustic properties of a room, it is not only necessary to consider the physical principles of acoustics, but also the subjective perception of sound and various acoustic phenomena.

The ABC Acoustics (“acoustics in brief”) serves to give an overview of the most important basic acoustic terms that must be taken into account when selecting the correct materials.

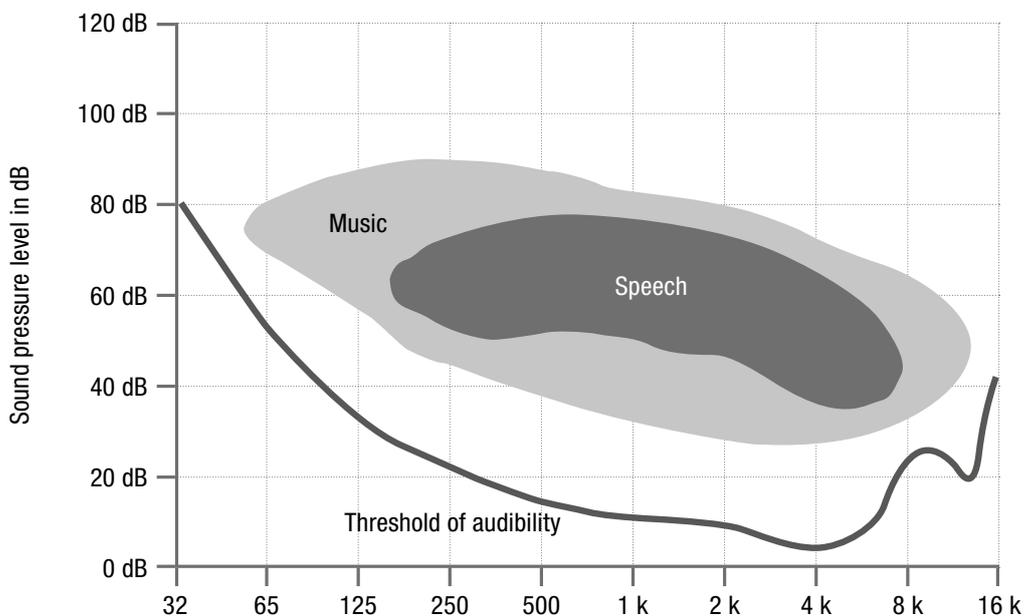
### Human Hearing

Our human ear perceives fluctuations in air pressure, which are caused by a sound event and are called sound waves. The tone pitch of a sound event is determined by the frequency of the sound  $f$ , i.e. by the number of oscillations per second, described by the SI unit Hertz [Hz]. The lower the frequency, the greater is the respective wave length of the sound wave, whereby the human ear can hear frequencies from approx. 20 Hz to 20,000 Hz.

In acoustics planning, all parameters must always be considered in relation to the frequency in order to achieve a clean and to ensure meaningful planning.

Not all audible signals cover the entire frequency range of human hearing. Human speech for example ranges from approx. 125 Hz to 8 kHz. This range is therefore particularly important for planning room acoustics. The frequency composition of a signal results in the characteristic timbre of the signal.

A sound event must also have a certain volume in order to be perceived by the ear at all. This is referred to as the hearing threshold, which is also frequency-dependent. For tones in the range between 500 Hz and 4 kHz, the human ear is most sensitive, tones in the bass range below 100 Hz are only perceived at high volume.



## [ACOUSTIC SOLUTIONS]

### ABC ACOUSTICS (ACOUSTICS IN BRIEF)

#### Sound pressure level

The physical quantity for indicating the strength of sound events is the sound pressure, measured in Pascal [Pa].

The human ear can perceive a very large range of pressure fluctuations in the air. Between the hearing threshold (about 20  $\mu$ Pa) up to the pain threshold (20 Pa) a factor of 1:1,000,000 results. For a clear representation the sound pressure is given as a ratio to the hearing threshold, which also corresponds more to the human hearing impression. This results in the unit decibel [dB] for volume.

#### Typical sound pressure levels

Sound pressure $p$ [Pa]	Sound pressure level $L_{pA}$ [dB]	
20,0	120	Propeller plane at 100 m distance, pain barrier (threshold)
2,0	100	Jackhammer, loud rock concert
0,2	80	Main road, loud shouting
0,02	60	TV at room volume, normal conversation
0,002	40	Noise level in office rooms with fan noise, whispering
0,0002	20	Quiet bedroom, recording studio
0,00002	0	Auditory threshold at 2 kHz

#### Building acoustics vs. room acoustics

The following differences can be observed regarding the effect of sound on the people in a closed space:

Cause	Field	Solution
Intrusion of unwanted sound from the outside into an enclosed space	Building Acoustics	Sound Insulation
Unpleasant diffusion of sound inside a closed space	Room Acoustics	Sound Absorption

Among other things, the area of building acoustics deals with the question of how sound can be prevented from intruding into a closed space. Here we are looking at sound insulation. Room acoustics on the other hand is the science of sound and its propagation inside closed spaces. It therefore investigates the optimum way to control this propagation. It is often achieved through absorption, selective reflection or diffusion.

# [ACOUSTIC SOLUTIONS]

## ABC ACOUSTICS (ACOUSTICS IN BRIEF)

### Reverberation Time

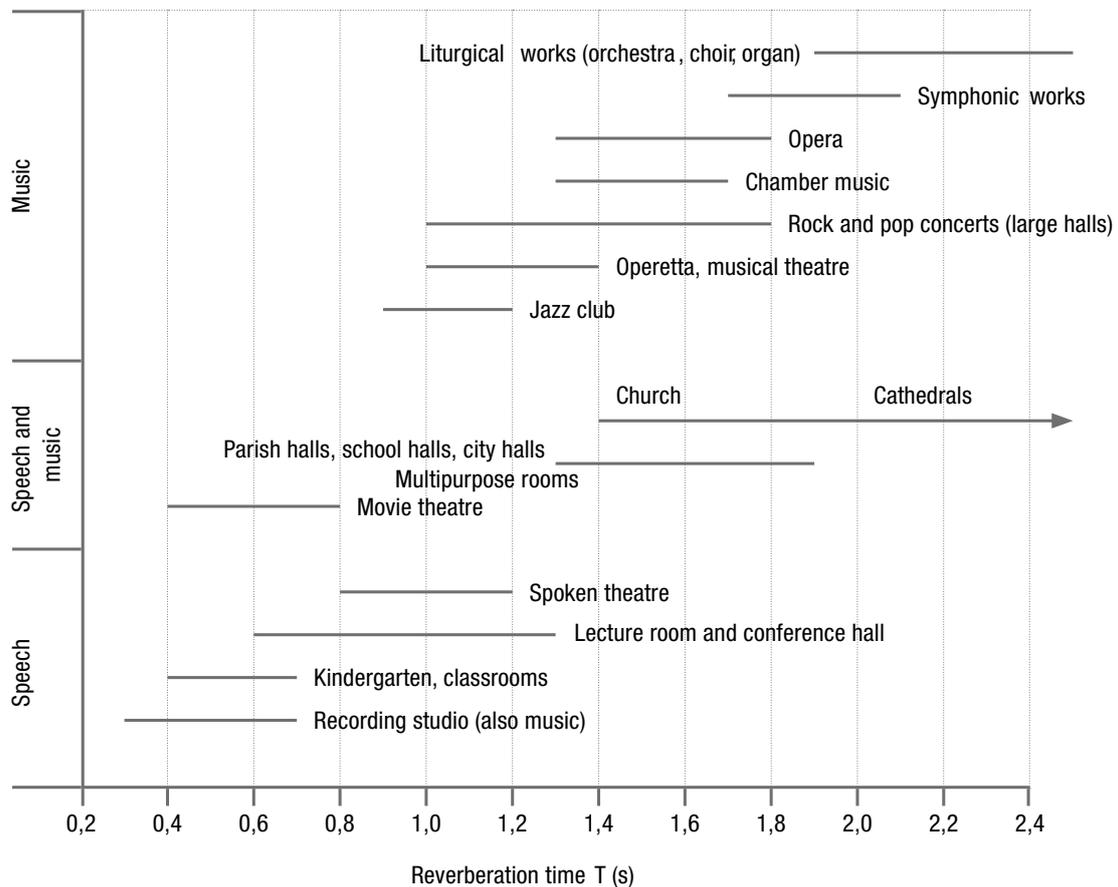
The most important measure when considering the room acoustics is the reverberation time  $T$ .

This quantity describes the duration in which a sound event has subsided to the one-millionth part of the original energy, accordingly has lost 60 dB of level.

If a sound event is produced in a room, the sound waves propagate more or less spherically throughout the room depending on the directivity of the sound source. Only part of the sound energy reaches the listener directly. A large part of the sound energy reaches the listener delayed by reflections on the room surfaces.

The more hard surfaces there are in a room, the more frequently the sound wave is reflected in the room. And the more reflections the listener receives, the longer the reverberation time. The reverberation time can thus be reduced and regulated by introducing sound-absorbing surfaces.

For different types of use, different reverberation times are sought, depending on the volume of the room:



From: E. Mommertz, Acoustics and sound insulation, Edition Detail, Munich 2008

## ABC ACOUSTICS (ACOUSTICS IN BRIEF)

### Sound Absorption

In order to reduce the reverberation in a room, sound absorbing materials must be introduced. Often so-called porous absorbers are used, so materials with a certain porosity, such as textiles or open-cell foam.

The impact sound energy is generated in such materials by friction and diffraction effects within the material converted into heat and thus "swallowed". More rarely membrane absorbers (also called plate vibrators) or Helmholtz absorbers are used that absorb the incident sound energy according to another physical principle.

The property of how well a material can absorb sound is specified according the dimensionless value  $\alpha$  (sound absorption coefficient). The following applies:

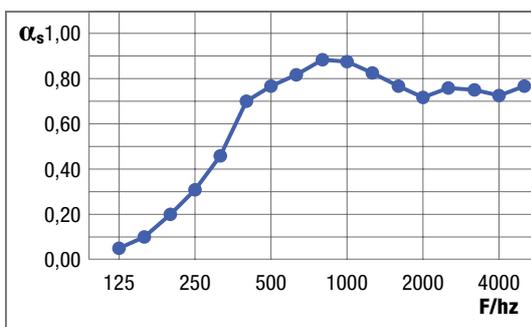
- $\alpha = 1$  corresponds to 100% absorption
- $\alpha = 0$  corresponds to 0% reflection

The ability to absorb sound from different materials is highly dependent on frequency, which is why the sound absorption in the reverberation chamber is also measured and specified depending on frequency. To simplify the classification of materials, an average can be formed from the frequency-dependent sound absorption coefficient, which then is being assigned to a sound absorption class:

Sound Absorption Class	$\alpha_w$ – Range of Values
A	0,90 – 1,00
B	0,80 – 0,85
C	0,60 – 0,75
D	0,30 – 0,55
E	0,15 – 0,25
Not classified	0,00 – 0,10

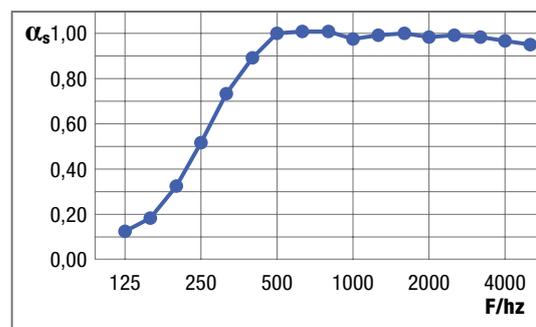
When measuring the degree of sound absorption in the reverberation room, the type of installation also determines the measured value. The measured absorption values of acoustic curtains can therefore not be specified as a flat rate, but should always be specified in connection with the respective test setup. We measure our curtains by default with 100 mm (4") wall clearance and both 0% and 100% fullness.

ABSORBER CS – 0% fullness



Acoustic absorption value =  $\alpha_w$

ABSORBER CS – 100% fullness



Acoustic absorption value =  $\alpha_w$

## ABC ACOUSTICS (ACOUSTICS IN BRIEF)

### Flow resistance

As described in the chapter on sound absorption, the incident sound found in porous absorbers, to which category also most of the curtains belong, is being achieved by friction effects in the material.

To enable such friction, the so-called flow resistance must range between 500 and 1500 Pa s/m. If the value is significantly lower, that material is to be referred to as sound-permeable; if the value is significantly higher, much of the sound energy will either reflect or pass the material without further absorption of the sound energy.

Regardless of the state of installation, the flow resistance gives a statement about the acoustic properties of a material. The actual acoustic properties of a component must however always be considered in connection with the installation on site, for which the sound absorption coefficient is measured.

Sound-permeable	Sound-absorbing	Sound-reflecting, resp. not absorbing
< 500 Pa s /m	500 s/m – 1500 Pa s/m	> 1500 Pa s/m

### Sound Insulation

In the field of building acoustics, above all the sound insulation index of a component is of great importance. This states how strong the incident sound is hindered from spreading. So here it is not about to reduce the absorption compared to the absorption reflections (and thus the reverberation time) within a closed space, but about the reduction of the volume between two parts of the room or separate rooms.

The sound insulation of a component depends heavily on its weight and composition of materials.

The sound reduction factor R is given in dB, so in the same unit of value as the sound pressure level.

For this purpose, doubling the sound pressure corresponds to a measured level increasement of 6 dB.

However, the perceived volume of the sound of a signal depends from many other factors, such the duration of action, the frequency or the spectral composition.

A subjectively perceived volume doubling corresponds to approx. 10 dB level difference.

# [ACOUSTIC SOLUTIONS]

## MATERIAL OVERVIEW AND SELECTION GUIDE

	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class	Flow resistance in Pa	Material	Grammage in g/m <sup>2</sup>	Inherently flame retardant according DIN 41 02 B1	Inherently flame retardant according 13501-1
<b>Absorbing materials</b>							
ABSORBER CS	0,85	B	1300	Trevira CS	560	✓	✓
ABSORBER LIGHT	0,80	B		Trevira CS /Polyester	149	✓	✓
WOOLSERGE OFFICE	0,90	A	565	100% Wool	360	on request	
WOOLSERGE	0,85	B	1164	100% Wool	650	✓	
WOOLSERGE 800	1,00	A	840	100% Wool	800		
ASCONA 570	0,90	A	1030	Cotton	570	✓	
ALICANTE	0,80	B	990	Trevira CS	520	✓	✓
BARCELONA	0,70	C	440	Trevira CS	380	✓	
SATIN CS	0,80	B	674	Polyester	300	✓	
SATIN PROJEKT 350	0,80	B		Trevira CS	350	✓	
Woven Glass QUALITY 96110	0,65 (H)	C		Glass Fiber Material	300	non combustible A2	
Woven Glass QUALITY 96201	0,75 (H)	C		Glass Fiber Material	435	non combustible A2	
DUVETYNE R 55	0,75 (H)	C		Cotton	330	✓	
CLIVIA 600	0,60	C	16137	Cotton	600	✓	
<b>Sound-permeable materials</b>							
BANNER MATERIALS CS			72	Trevira CS	150	✓	✓
Cyclorama Fabrics KANDEL			79	Linen	300	on request	
SHEER MUSLIN			12,5	Cotton	90	✓	✓
SUPER CANVAS CS			212,5	Trevira CS	300	✓	✓
Filled Cloth TRISTAN			107	Cotton	200	✓	
SKYLIGHT 350			23,3	Polyester	350	✓	✓
SKYLIGHT 290			37	Polyester	290	✓	✓
MEGASTRETCH 450			34,5	Polyester	95	✓	
<b>Sound-reflecting materials</b>							
CLIVIA ECHO				Cotton / acrylate backing	650	✓	
LUNAR DUO				Polyester	310	✓	
Blackout Fabrics NIGHT 300				Polyester	380	✓	
Projection Screen SCENE				PVC	450		

✓ = Certificate report available

This table only serves as selection guide for choosing the right material and does not replace a product test.

We will be pleased to send you our colour card with all technical details and various samples of the required material.

You can request the samples by calling +49 7665 960 0 or via emailing [info@gerriets.com](mailto:info@gerriets.com).



//Photo: Jamie Cullum / House of Music – Aalborg, Denmark / Sound curtains for variable room acoustics

## **[TEXTILE COLLECTION ACOUSTICS]**

Gerriets is the world's leading company for theatre textiles and technology. Acoustic fabrics make up an important part of our extensive textile collection. Here you will find a unique assortment of flame-retardant, opaque, translucent or extra wide textiles that have excellent absorption values in all frequency ranges. You will also find sound-permeable or sound-reflective fabrics in our wide product range. Of course, all featured fabrics are tested and acoustically measured according to international standards.

Our acoustic textile collection is constantly being expanded and optimised. Whatever the challenge might be, with the help of our internal Acoustics Department including the test laboratory - we will find the right fabric for every acoustic situation. This enables us to be flexible in meeting whatever your requirements and projects needs maybe.

You will find a complete overview of our textile collection in the **TEXTILE SOLUTIONS**.



//Photo: Maori / Kulturzentrum für Europäische Weltraumtechnologien – Vitanje, Slovenia / Curtains from acoustic fabric ABSORBER CS

[TEXTILE COLLECTION ACOUSTICS]

## **TEXTILES WITH HIGH SOUND ABSORPTION COEFFICIENT**

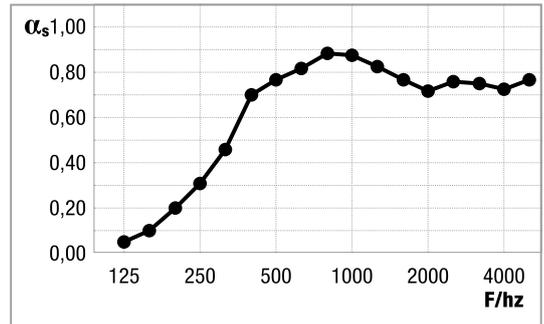
When looking to vary the acoustics of an auditorium, acoustic curtain systems made of highly absorbent textiles, offer an optimal solution. Large areas can be temporarily designed to be highly absorbent so that reverberation in the room can be reduced with comparatively little effort and price. This leads to improved speech clarity and is particularly recommended for speeches and concerts with electronically amplified music. However, for classical concerts, opera or church music, rooms with significantly longer reverberation times are more desirable. Highly absorbent textiles are often used in opera houses and concert halls to adapt the room to the respective application.

# TEXTILES WITH HIGH SOUND ABSORPTION COEFFICIENT

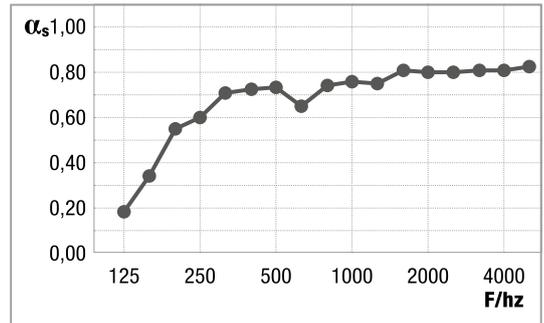
## Acoustic Fabrics ABSORBER CS

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1254 10-	100 % Trevira CS	180 cm (70")	560 g/m <sup>2</sup> (16.51 oz/yd <sup>2</sup> )	approx. 40 & 50 rm (43.7 & 54.6 yds)	Colour card	approx. 200 rm (218.7 yds)	DIN 4102 B1 / M1 / DIN EN 13501-1 / NFPA 701

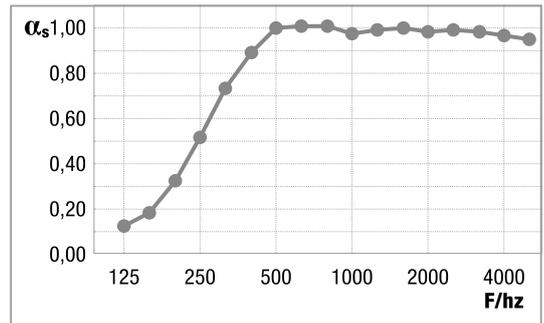
Acoustic value		Acoustic absorption value $\alpha_w$ (ISO 11654)	Acoustic absorption class
<b>Application 1</b> 	Evenly hung flat panel with no fullness, mode of installation G-290 according DIN EN ISO 354, distance from wall: 100 mm (4")	0,65	C
<b>Application 2</b> 	Evenly hung flat panel with no fullness, mode of installation G-290 according DIN EN ISO 354, distance from wall: 290 mm (11")	0,85	C
<b>Application 3</b> 	Evenly hung panel with 100 % fullness, mode of installation G-290 according DIN EN ISO 354, distance from wall: 100 mm (4")	0,85	B
<b>Application 4</b> 	Evenly hung double-sided flat panel, each with no fullness	0,90	A



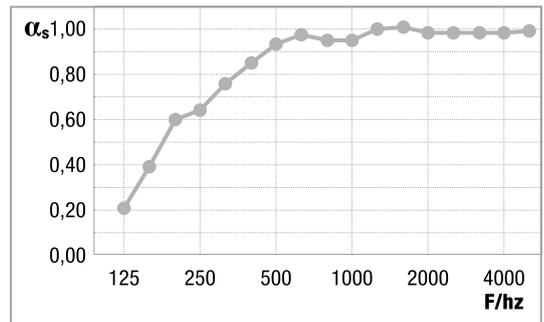
Application 1



Application 2



Application 3



Application 4

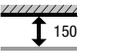
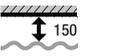
Acoustic absorption value =  $\alpha_w$

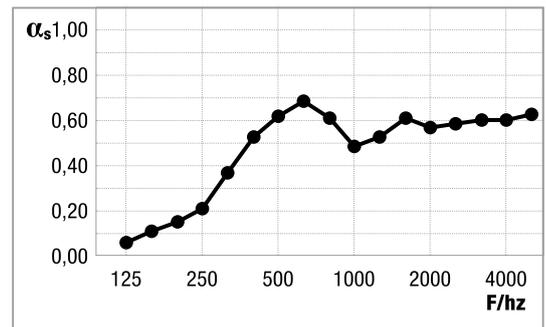
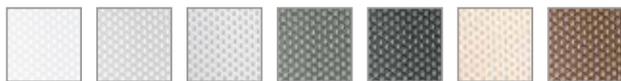
# [TEXTILE COLLECTION ACOUSTICS]

## TEXTILES WITH HIGH SOUND ABSORPTION COEFFICIENT

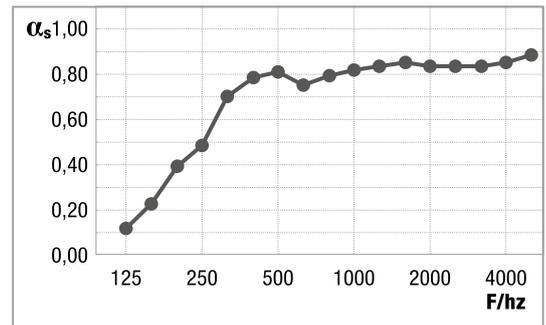
### Acoustic Fabrics ABSORBER LIGHT

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1254 210-	90 % Trevira CS, 10 % Polyester	300 cm (118")	149 g/m <sup>2</sup>	approx. 30 rm	Colour card	ab approx. 120 rm	DIN 4102 B1 / M1 / DIN EN 13501-1 / BS 5867 / NFPA 701

Acoustic value			
		Acoustic absorption value $\alpha_w$ (ISO 11654)	Acoustic absorption class
<b>Application 1</b> 	Evenly hung flat panel with no fullness, mode of installation G-150 according to DIN EN ISO 354, distance from wall: 150 mm (6")	0,55	D
<b>Application 2</b> 	Evenly hung panel with 100 % fullness, mode of installation G-150 according to DIN EN ISO 354, distance from wall: 150 mm (6")	0,80	B

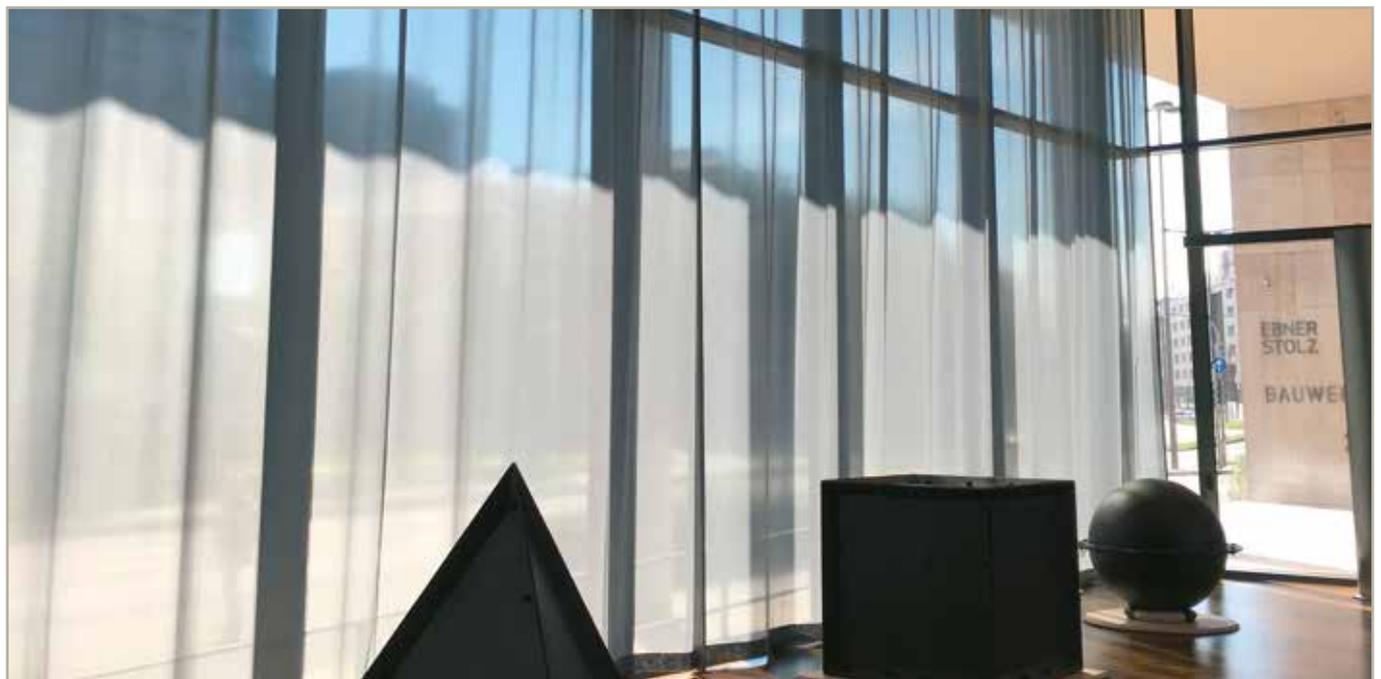


Application 1



Application 2

Acoustic absorption value =  $\alpha_w$



//Photo: Mathes GmbH, Mendez / Holzmarkt 1 – Cologne, Germany / Curtain made from Acoustic Fabrics ABSORBER LIGHT

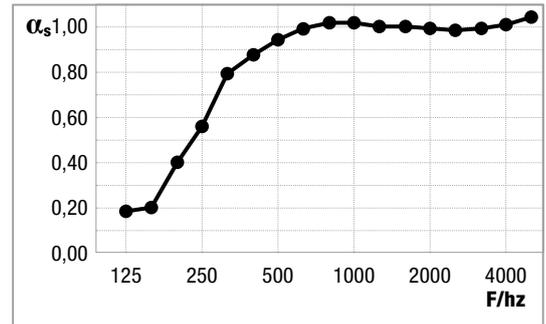
[TEXTILE COLLECTION ACOUSTICS]

**TEXTILES WITH HIGH SOUND ABSORPTION COEFFICIENT**

**WOOLSERGE OFFICE**

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1424 3-	100 % Wool	150 cm (59")	360 g/m <sup>2</sup> (10.62 oz/yd <sup>2</sup> )	approx. 30-40 m (32.8-43.7 yds)	Colour card	on request	DIN 4102 B2 / NFPA 701

Acoustic value		
	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	0,90	A

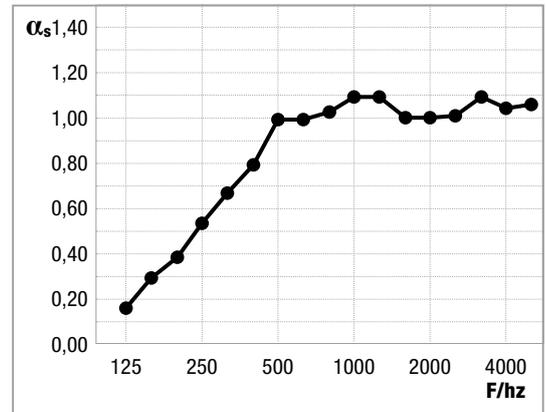


Acoustic absorption value =  $\alpha_w$

**WOOLSERGE**

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1424 1521	100 % Wool	150 cm (59")	565 g/m <sup>2</sup> (16.66 oz/yd <sup>2</sup> )	approx. 45-55 m	black	on request	DIN 4102 B1 / BS 5867 / NFPA 701
1424 1531			650 g/m <sup>2</sup> (19.17 oz/yd <sup>2</sup> )				

Acoustic value		
	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	0,85	B



Acoustic absorption value =  $\alpha_w$

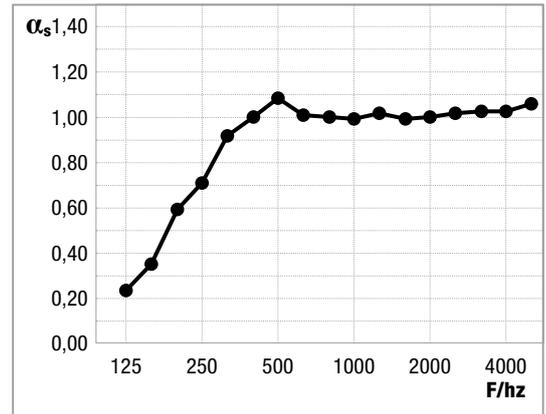
# [TEXTILE COLLECTION ACOUSTICS]

## TEXTILES WITH HIGH SOUND ABSORPTION COEFFICIENT

### WOOLSERGE 800

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1424 2521	100 % Wool	150 cm (59")	800 g/m <sup>2</sup> (23.59 oz/yd <sup>2</sup> )	approx. 40-45 m (43.7-49.2 yds)	black	approx. 500 m (546.8 yds)	BS 5867

Acoustic value		
	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	1,00	A

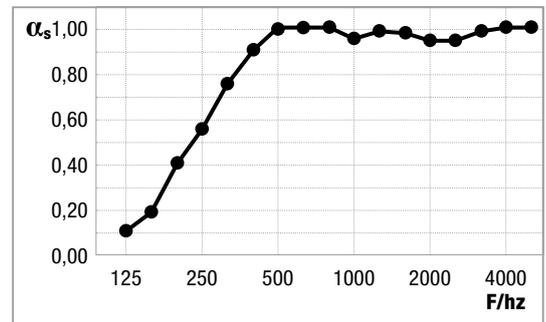


Acoustic absorption value =  $\alpha_w$

### Stage Velvet ASCONA 570

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1212-	100 % Cotton	150 cm (59")	570 g/m <sup>2</sup> (16.81 oz/yd <sup>2</sup> )	approx. 30 m (32.8 yds)	Colour card	approx. 240 m (262.5 yds)	DIN 4102 B1 / M1 / NFPA 701

Acoustic value		
	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	0,90	A



Acoustic absorption value =  $\alpha_w$

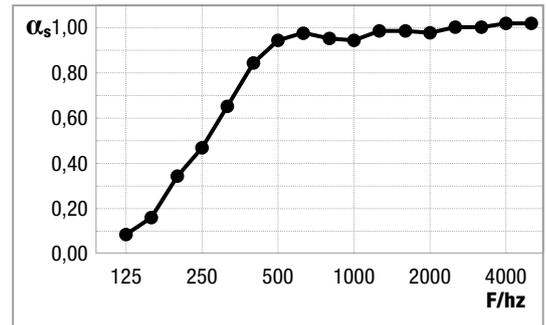
[TEXTILE COLLECTION ACOUSTICS]

**TEXTILES WITH HIGH SOUND ABSORPTION COEFFICIENT**

**Stage Velvet ALICANTE**

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1232-	100 % Trevira CS	140 cm (55")	520 g/m <sup>2</sup> (15.34 oz/yd <sup>2</sup> )	approx. 30 m (32.8 yds)	Colour card	on request	DIN 4102 B1 / M1 / DIN EN 13501-1 / DIN EN 13773 / NFPA 701

Acoustic value		
	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	0,80	B

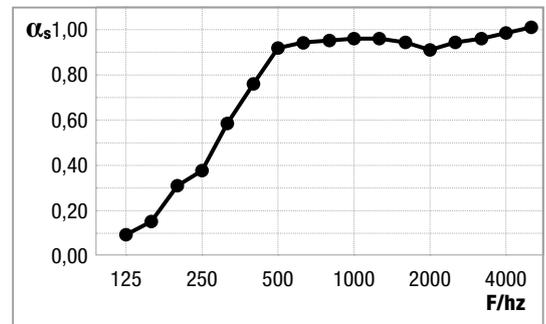


Acoustic absorption value =  $\alpha_w$

**Stage Velvet BARCELONA**

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1231-	100 % Trevira CS	140 cm (55")	380 g/m <sup>2</sup> (11.21 oz/yd <sup>2</sup> )	approx. 50 m (54.7 yds)	Colour card	on request	DIN 4102 B1 / M1 / DIN EN 13501-1 / DIN EN 13773 / NFPA 701

Acoustic value		
	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	0,70	C



Acoustic absorption value =  $\alpha_w$

[TEXTILE COLLECTION ACOUSTICS]

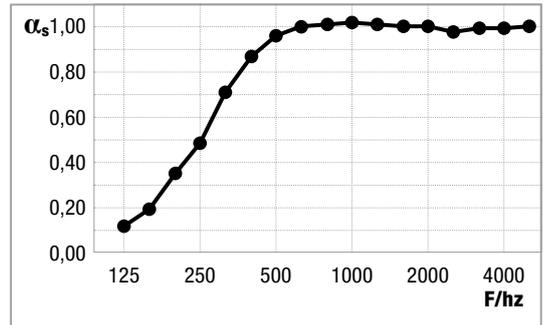
**TEXTILES WITH HIGH SOUND ABSORPTION COEFFICIENT**

**Drapery Fabrics SATIN CS**

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1521-	100 % Polyester	150 cm (59")	350 g/m <sup>2</sup> (10.32 oz/yd <sup>2</sup> )	approx. 50 rm (54.7 yds)	Colour card	approx. 600 rm (656.2 yds)	DIN 4102 B1 / M1 / NFPA 701
1522-		300 cm (118")		approx. 30 rm (32.8 yds)			

**Acoustic value**

	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	0,80	B



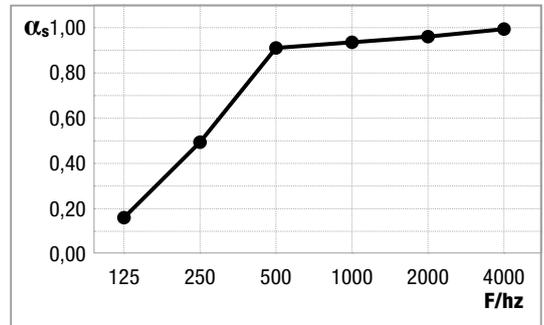
Acoustic absorption value =  $\alpha_w$

**Drapery Fabrics Satin PROJEKT 350**

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1553 1-	100 % Trevira CS	140 cm (55")	350 g/m <sup>2</sup> (10.32 oz/yd <sup>2</sup> )	approx. 50 rm (54.7 yds)	Colour card	on request	DIN 4102 B1 / M1 / DIN EN 13501-1 / DIN EN 13773 / NFPA 701
1553 3-		300 cm (118")					

**Acoustic value**

	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	0,80	B



Acoustic absorption value =  $\alpha_w$

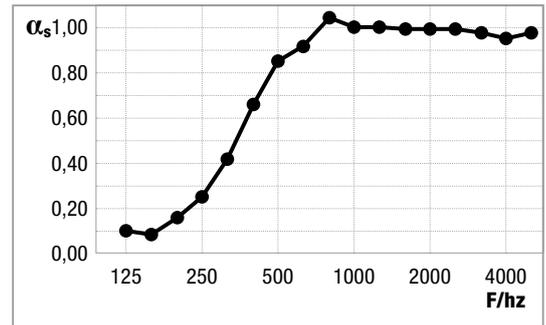
[TEXTILE COLLECTION ACOUSTICS]

**TEXTILES WITH HIGH SOUND ABSORPTION COEFFICIENT**

**Woven Glass QUALITY 96 110**

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1563-	100 % woven fibreglass	150 cm (59")	315 g/m <sup>2</sup> (9.29 oz/yd <sup>2</sup> )	approx. 15, 30 & 60 rm (16.4, 32.8 & 65.6 yds)	Colour card	approx. 500 rm (546.8 yds)	DIN 4102 A2 / DIN EN 13501-1

Acoustic value		
	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	0,65 (H)	C

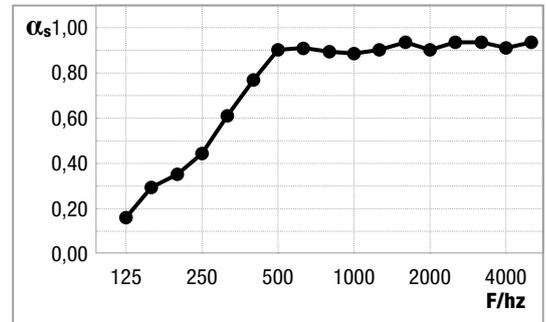


Acoustic absorption value =  $\alpha_w$

**Woven Glass QUALITY 96 201**

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1561-	100 % Woven fibreglass	150 cm (59")	435 g/m <sup>2</sup> (12.83 oz/yd <sup>2</sup> )	approx. 15, 30 & 60 rm (16.4, 32.8 & 65.6 yds)	Colour card	approx. 500 rm (546.8 yds)	DIN 4102 A2 / DIN EN 13501-1

Acoustic value		
	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	0,75 (H)	C



Acoustic absorption value =  $\alpha_w$

[TEXTILE COLLECTION ACOUSTICS]

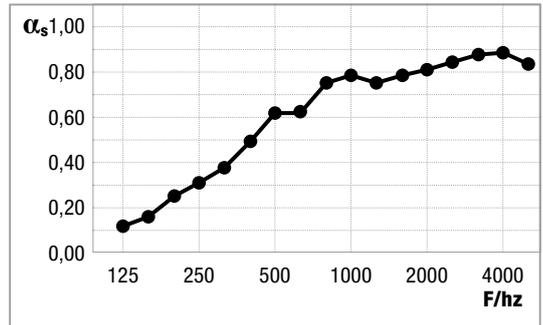
**TEXTILES WITH HIGH SOUND ABSORPTION COEFFICIENT**

**DUVETYNE R 55**

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1421 2-	100 % cotton	200 cm (78")	300-315 g/m <sup>2</sup> (8.85-9.29 oz/yd <sup>2</sup> )	approx. 60 m (65.6 yds)	Colour card	approx. 500 m (546.8 yds)	DIN 4102 B1 / M1 / DIN EN 13501-1 / DIN EN 13773 / NFPA 701
1421 3-		300 cm (118")	300-325 g/m <sup>2</sup> (8.85-9.59 oz/yd <sup>2</sup> )				

**Acoustic value**

	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	0,75 (H)	C



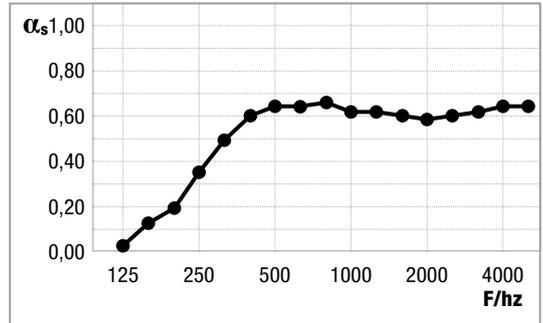
Acoustic absorption value =  $\alpha_w$

**Stage Velvet CLIVIA 600**

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1222-	100 % cotton	150 cm (59")	600 g/m <sup>2</sup> (17.70 oz/yd <sup>2</sup> )	approx. 30 m (32.8 yds)	Colour card	approx. 300 m (328.1 yds)	DIN EN 13501-1 / NFPA 701

**Acoustic value**

	Acoustic absorption value with 100 % fullness, distance from wall: 100 mm (4")	Acoustic absorption class
	0,60	C



Acoustic absorption value =  $\alpha_w$

## La Maison Symphonique du Montréal

### Description

- Motorised curtain track systems custom-built to integrate into curvilinear architecture.
- 760 m (2,500 ft) of Gerriets TRUMPF 95 track and 56 FRICTION-DRIVE motors.
- Systems deploy and retract variable acoustic drapery as needed to adjust hall acoustics and may vary reverberation times of the concert hall.

### Architect

Diamond & Schmitt

### Acoustic Concept

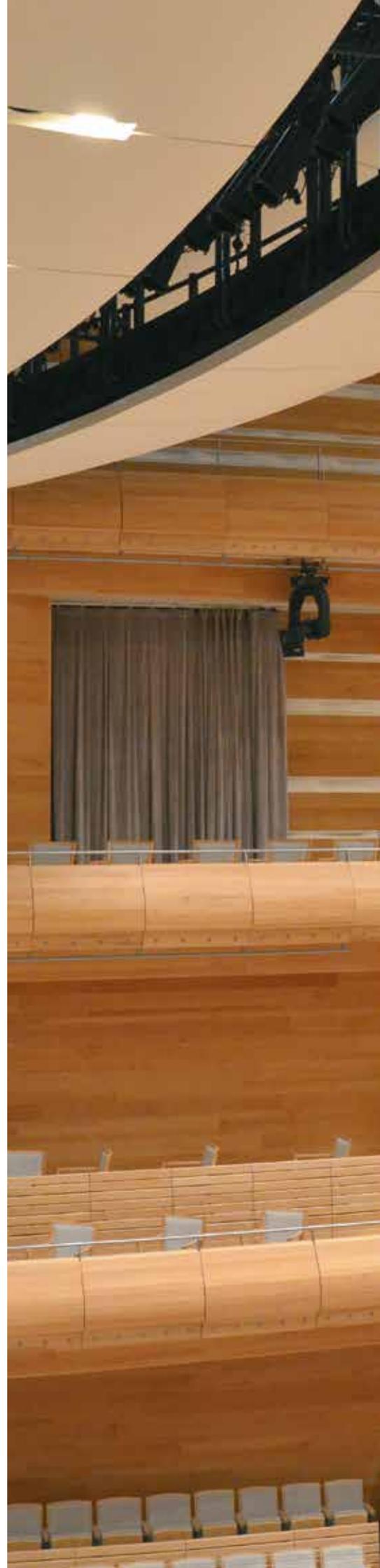
Sound Space Vision / Artec Consultants, Inc. /  
Fisher Dachs Associates

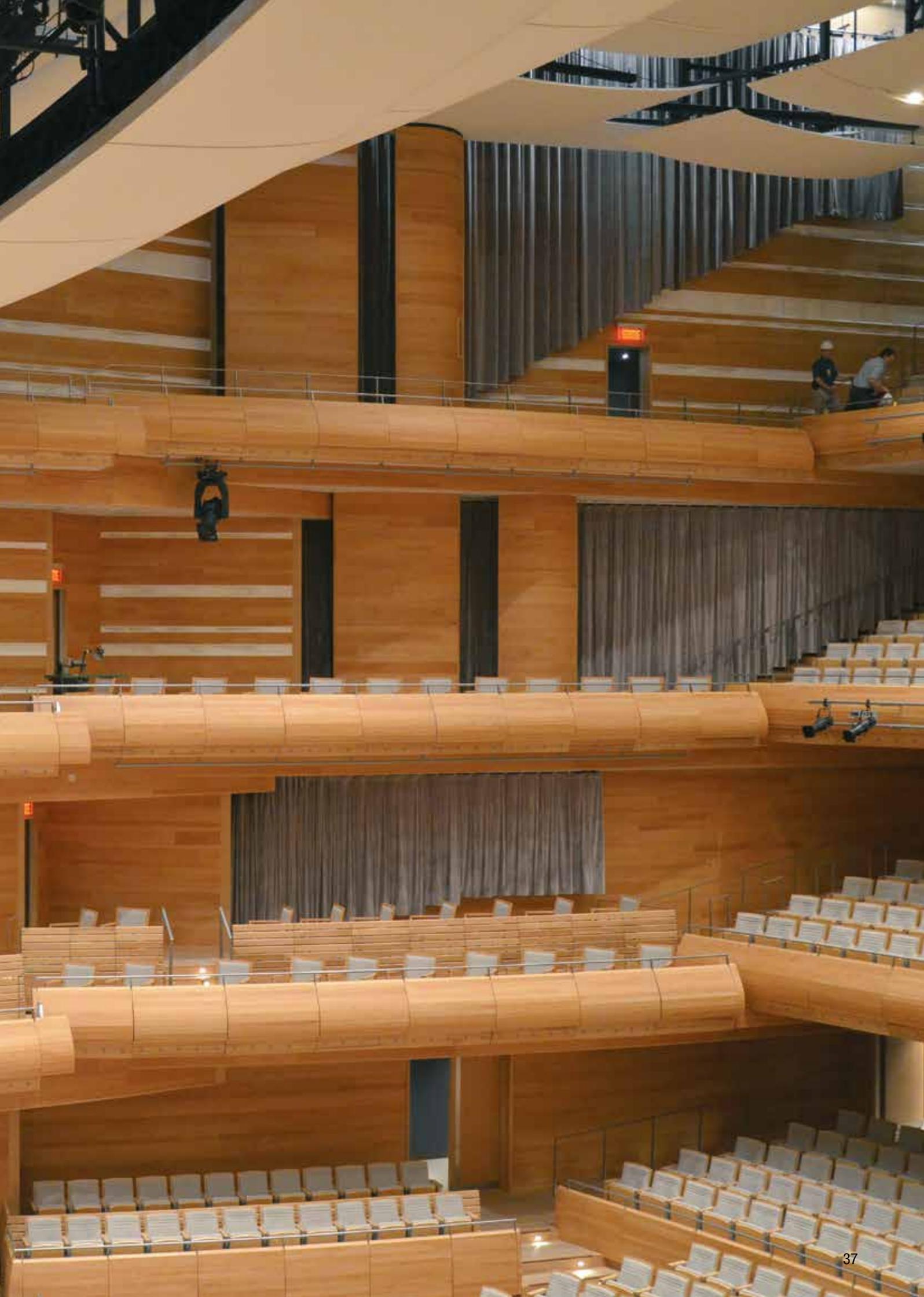
### Client

Lesna, Inc.

### Location

Montréal / Canada







//Photo: n³ Architektur, Hagen / Hotel Glockenspitze Restaurant Maracana – Altenkirchen, Germany / Printed acoustic curtains and wall and door coverings

## **SOUND-PERMEABLE FABRICS**

The lowest possible flow resistance is decisive for good sound permeability. Sound-permeable fabrics influence the dissipation of sound waves and is therefore ideal as privacy screens for speaker boxes or other acoustic signals.

When installing a curtain system, where the acoustics in a room are to be changed as little as possible, sound-permeable textiles should be used.

Textiles are often used in acoustics to cover absorber systems. The simplest type here is a broadband absorber made of glass wool or rock wool, which is then covered with a textile. The sound-permeable textiles from Gerriets are ideally suited for this purpose.

## [TEXTILE COLLECTION ACOUSTICS]

### SOUND-PERMEABLE FABRICS

In addition to the parameters, porosity and structure factor, the flow resistance has a significant influence on the sound absorption. A sound-permeable material can be described as having a very low flow resistance.

The ratio of the pressure difference  $\Delta p$  [Pa] in front and behind a layer of material to the speed of the air  $u$  [m/s] is referred to as specific flow resistance.

The specific flow resistance of an insulating material increases with each added layer of thickness. The material characteristic is therefore determined by referencing the thickness of the layer with the direction of flow  $d$  [m] of the length-related flow resistance.

The following materials have a very low flow resistance and can be used as a cover for loudspeaker boxes or as a sound-permeable screen.

#### BANNER MATERIALS CS

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1441-	100 % Trevira CS	160 cm (63")	150 g/m <sup>2</sup> (4.42 oz/yd <sup>2</sup> )	approx. 30 & 60 rm (32.8 & 65.6 yds)	Colour card	-	DIN 4102 B1 / M1 / DIN EN 13501-1 / DIN EN 13773 / NFPA 701



Acoustic value	
Flow resistance $R_s$	72 Pa s/m

#### Cyclorama Fabric KANDEL

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1134 0300	100 % linen	300 cm (118")	300 g/m <sup>2</sup> (8.85 oz/yd <sup>2</sup> )	approx. 60 rm (65.6 yds)	ecru	on request	-



Acoustic value	
Flow resistance $R_s$	79 Pa s/m

# [TEXTILE COLLECTION ACOUSTICS]

## SOUND-PERMEABLE FABRICS

### SHEER MUSLIN

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1122-	100 % cotton	300-1.225 cm (118"-40'2")	75-90 g/m <sup>2</sup> (2.21-2.65 oz/yd <sup>2</sup> )	approx. 48, 50 & 60 rm (52.5, 54.7 & 65.6 yds)	ecru / white / black	on request	DIN 4102 B1 / DIN EN 13501-1 / DIN EN 13773 / NFPA 701



Acoustic value	
Flow resistance R <sub>s</sub>	12,5 Pa s/m

### SUPER CANVAS CS

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1113-	100 % Trevira CS	310-1.225 cm (122"-40'2")	300-310 g/m <sup>2</sup> (8.85-9.14 oz/yd <sup>2</sup> )	approx. 60 rm (65.6 yds)	ecru / white / black	on request	DIN 4102 B1 / M1 / DIN EN 13501-1 / DIN EN 13773 / NFPA 701



Acoustic value	
Flow resistance R <sub>s</sub>	212,5 Pa s/m

### FILLED CLOTH TRISTAN

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1324-	100 % cotton	1.150 cm (37'7")	200 g/m <sup>2</sup> (5.90 oz/yd <sup>2</sup> )	approx. 45 rm (49.2 yds)	white / black / grey	on request	DIN 4102 B1 / M1 / BS 5867 / DIN EN 13773 / NFPA 701



Acoustic value	
Flow resistance R <sub>s</sub>	107 Pa s/m

# [TEXTILE COLLECTION ACOUSTICS]

## SOUND-PERMEABLE FABRICS

### Outdoor Fabrics SKYLIGHT 350

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1581 3-	100 % Polyester	300 cm (118")	350 g/m <sup>2</sup> (10.32 oz/yd <sup>2</sup> )	approx. 40 rm (43.7 yds)	Colour card	approx. 200 rm (218.7 yds)	DIN 4102 B1



Acoustic value	
Flow resistance R <sub>s</sub>	23,3 Pa s/m

### Outdoor Fabrics SKYLIGHT 290

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1581 2-	100 % Polyester	300 cm (118")	290 g/m <sup>2</sup> (8.55 oz/yd <sup>2</sup> )	approx. 40 rm (43.7 yds)	Colour card	approx. 200 rm (218.7 yds)	DIN 4102 B1



Acoustic value	
Flow resistance R <sub>s</sub>	37 Pa s/m

### Stretch Fabrics MEGASTRETCH 450

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1624 4-	100 % Polyester	450 cm (14'9")	95 g/m <sup>2</sup> (2.80 oz/yd <sup>2</sup> )	approx. 50 rm (54.6 yds)	signal white / jet black / stone grey	-	DIN 4102 B1 / NFPA 701



Acoustic value	
Flow resistance R <sub>s</sub>	34,5 Pa s/m

# [TEXTILE COLLECTION ACOUSTICS]

## SOUND-PERMEABLE FABRICS

### Sound-permeable Screens

The micro-perforation of the projection screens serves the sound transmission especially in the medium and high frequency ranges. In deeper frequencies, the sound also passes almost untouched through a closed PVC screen. The OPERA® screen is mentioned here as an example, yet all other projection screens from our extensive range can also be perforated and micro-perforated. And then have a very low flow resistance.

#### Attention:

Depending on the distance between the projection screens and the type of projection, digital projectors can cause the "Moiré effect".

### Front Projection Screen OPERA® WHITE MICRO PERFORATED

Technical Data								
Art.-No.	Material	Width	Weight	Rollenlängen	Colours	Perforation area	Perforation count	Flame Retardant Classifications
2115 2000	100 % PVC	200 cm (79")	400 g/m <sup>2</sup> (11.80 oz/yd <sup>2</sup> )	approx. 300 m (328.1 yds)	white	6 %	300.000/m <sup>2</sup> (195/in <sup>2</sup> )	EN 13501-1 C-s3, d0 / DIN 4102 B1 / Norm NFPA 701



Acoustic value	
Flow resistance R <sub>s</sub>	21 Pa s/m

## Ludwig-Maximilians University, Munich

### Description

- Large canvas made of sound-permeable material.
- Simultaneous use as screen and facing of loudspeaker boxes and technology.
- Made from Super Canvas CS, stretched on an aluminum frame with piping pipe.

### Architect

Koller Singhof Architekten

### Acoustic Concept

Müller BBM

### Client

Staatliches Bauamt München II

### Location

Munich / Germany







[TEXTILE COLLECTION ACOUSTICS]

## **SOUND-REFLECTIVE MATERIALS**

In order to transport the sound energy ideally from the stage to the audience, reflecting surfaces are necessary.

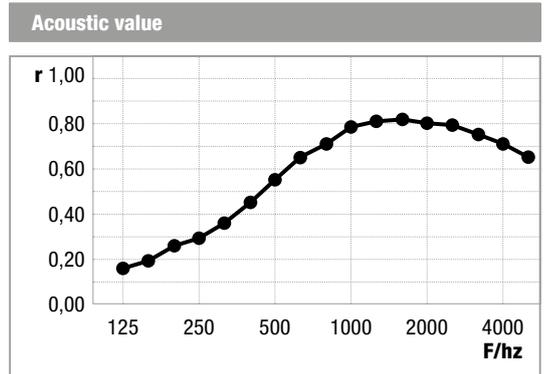
For this reason, Gerriets developed sound-reflecting textiles decades ago, which have been used successfully in many projects since then. To create a mobile reflection surface that is optimal sound distribution, these materials can be used in many different situations.

# [TEXTILE COLLECTION ACOUSTICS]

## SOUND-REFLECTIVE MATERIALS

### Acoustic Fabrics CLIVIA ECHO

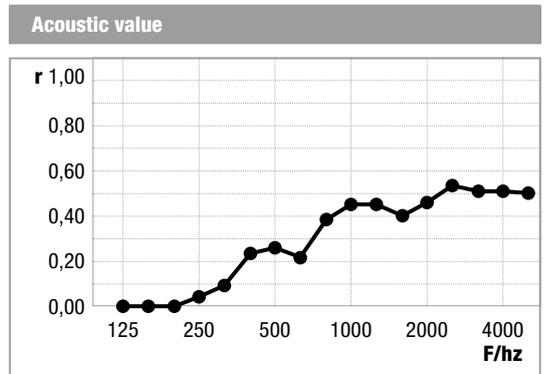
Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1251 5141	Cotton / acrylate backing	150 cm (59")	650 g/m <sup>2</sup> (19.17 oz/yd <sup>2</sup> )	approx. 30 rm (32.8 yds)	black	-	DIN EN 13501-1 / NFPA 701



Degree of reflection = r\*

### Functional Textile LUNAR DUO

Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1651 5321	100 % Polyester	310 cm (122")	310 g/m <sup>2</sup> (9.15 oz/yd <sup>2</sup> )	approx. 50 rm (54.6 yds)	black-white	-	DIN 4102 B1 / M1 / NFPA 701



Degree of reflection = r

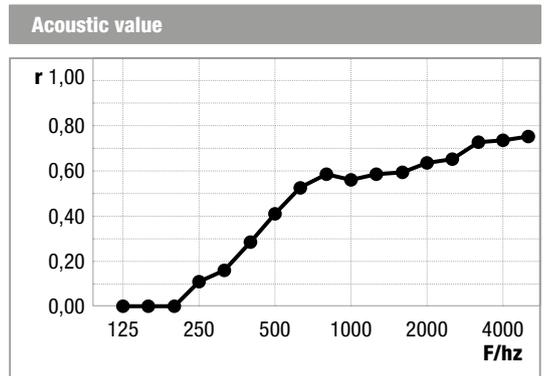
\*Calculation of the degree of reflection from the sound absorption coefficient and mathematical estimation of the sound insulation.

# [TEXTILE COLLECTION ACOUSTICS]

## SOUND-REFLECTIVE MATERIALS

### Blackout Fabrics NIGHT 300

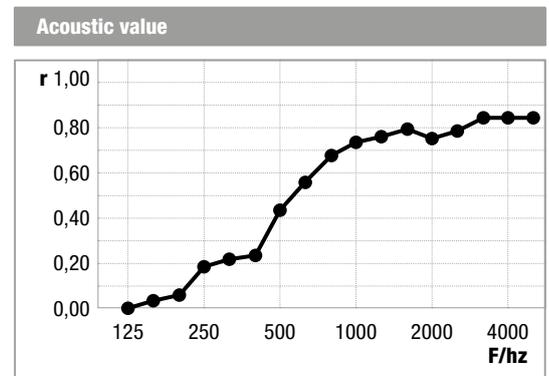
Technical Data							
Art.-No.	Material	Width	Weight	Piece lengths	Colours	Custom dyed colours	Flame Retardant Classifications
1533-	100 % Polyester	300 cm (118")	330-430 g/m <sup>2</sup> (9.73-12.68 oz/yd <sup>2</sup> )	approx. 40 rm (43.7 yds)	Colour card	approx. 500 rm (546.8 yds)	DIN 4102 B1 / M1 / NFPA 701



Degree of reflection = r

### Front Projection Screen SCENE

Technical Data							
Art.-No.	Material	Width	Weight	Rollenlängen	Colours	Custom dyed colours	Flame Retardant Classifications
2113 0000	100 % PVC	210 cm (83")	581 g/m <sup>2</sup> (17.14 oz/yd <sup>2</sup> )	approx. 200 rm (218.7 yds)	white, rear: black	-	EN 13501-1 C-s3, d0 / DIN 4102 B1 / Norm NFPA 701



Degree of reflection = r

# Den Norske Opera Oslo

## Description

- Large portal covering with CLIVIA ECHO.
- 12,100 m<sup>2</sup> (14,471 yd<sup>2</sup>) of backdrops and sound-absorbing curtains.
- Decorative curtain in aluminum design, size: 22.65 m x 11.00 m (74'3" x 36'1").
- Two scissor track systems with main curtain.
- 4,000 m<sup>2</sup> (4,783 yd<sup>2</sup>) projection screens for the stage spaces.
- 400 m (1,312'3") motorised TRUMPF 95 track system.

## Architect

Snøhetta

## Project Director / Designer

Pae White

## Client

Staatsbygg

## Location

Oslo / Norway







//Photo: Endress+Hauser Messtechnik – Weil am Rhein, Germany / Sound Curtain OFFICE with outer layer from SATIN CS

## **[INTERIOR ACOUSTIC SOLUTIONS]**

Interior - Office - Open Space!

For years, our acoustics have also been used in interior design, especially in the office sector.

Perfect sound absorption, impressive workmanship, permanently flame retardant, seamless up to 4.50 m (14'9") wide and an attractive price. This is the character of our Acoustic Collection, because only the very best quality counts on the opera stage or in the office.

In combination with our track systems, originally developed for the demanding theatre market, that are exceptionally quiet and easy-running, can create acoustically variable spaces at the touch of a button, which can be situated for any purpose.

Through the superior support during the planning process, including acoustic consultation and on-site measurement ensures that the compatible acoustic material will be used in every project.

Both of the textiles ABSORBER LIGHT and ABSORBER CS, as well as our Sound Curtain OFFICE have been awarded several prizes and awarded, among others with the "Innovation Award ARCHITECTURE + OFFICE 2016".

Gerriets Interior Acoustic Solutions - Rooms at the touch of a button.



//Photo: Photography Eduardo Perez / Vitra Services GmbH – Weil am Rhein, Germany / Sound Curtain OFFICE

## **[SOUND CURTAIN OFFICE]**

"Touch and Divide." With the assistance of our Sound Curtain OFFICE, separate rooms and work spaces can be created at the touch of a button.

Numerous options are available. Ranging from 3- to 7-layer curtains with varying degrees of sound transmission, as well as a number of fabrics and colour options ranging from solids to patterns and even custom printing.

Choice of manual or fully automated operation is available. All Sound Curtain OFFICE systems are expertly tailored to your individual requirements.

# CURTAIN SYSTEM

Our Sound Curtain OFFICE is available in three standard versions: 3, 5 and 7-layers (individual sound certificates available). To increase the sound absorption and reduce the sound transmission of the standard versions, additional layers of fabric can be added later.

For the outside layers of the curtain, we offer several fabric choices. Our stage velvet ALICANTE and WOOLSERGE OFFICE are two of the most popular fabrics. Stage velvet ALICANTE is made from Trevira CS which is inherently flame retardant, sound absorbent, odourless and washable. WOOLSERGE OFFICE, available in several colours, is a popular choice in office environments as it offers a modern clean appearance with the added benefit of excellent sound absorbency. For a more custom look or art inspired curtain, a variety of other sound curtain fabrics suitable for digital printing are available. The outer layers are typically made with an extra 5-10% of fullness to produce a visual undulation we call "wave optic." Not only does the wave optic add to its aesthetic appeal, it also enhances sound absorbency of the curtain.

The inner layers consist of inherently flame retardant, sound absorbent, odourless and washable materials.

Our Sound Curtain OFFICE is used in conjunction with our TRUMPF 95 OFFICE track system. It can be operated manually or automatically.

**Advantages of the System**

- Effective and flexible
- Separation of work areas
- Conference islands
- Think tanks
- Quiet zones
- Sound isolation up to 26 dB
- 3-7 layered design
- Number of layers can be increased
- Sound certificates available
- Flame retardant
- Custom designed outer layer according to client requirements
- Automated if required
- Remote control available



## Sound reduction factor according to test certificate:

- 3-layer version up to ~11 dB.
- 5-layer version up to ~13 dB.
- 7-layer version up to ~16 dB.
- 12-layer version up to ~26 dB.\*

Fabrication method:

### 3-layer version:

Front side with wave optic.

Middle layer: 1 x sound reflecting.

Back side with wave optic.

### 5-layer version:

Front side with wave optic.

Middle layer:

2 x sound absorbing, 1 x sound reflecting.

Back side with wave optic.

### 7-layer version:

Front side with wave optic.

Middle layer:

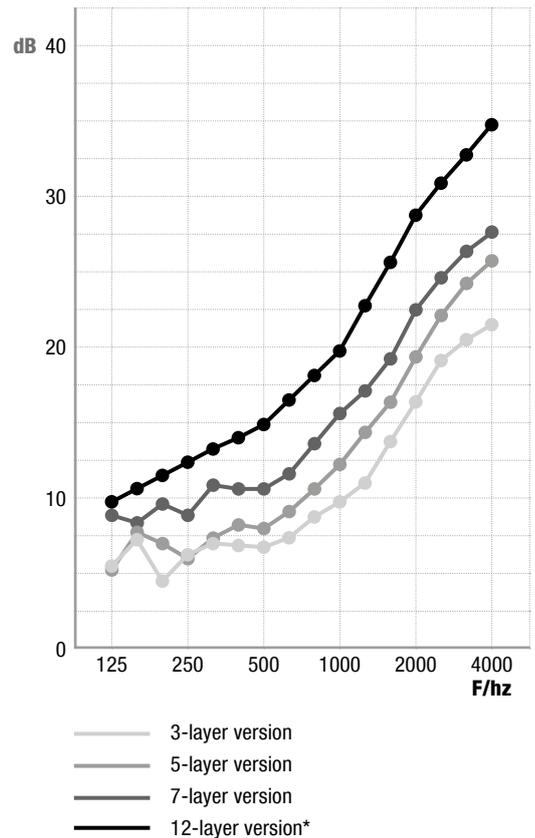
3 x sound absorbing, 2 x sound reflecting.

Back side with wave optic.

### Additional layers upon request:

To increase the sound absorbency, additional middle layers can be added. For example, a 12-layer Sound Curtain achieves an on-site measured sound reduction of 26 dB (see p. 60 for more details).

Sound reduction factor



Values tested at independent lab in accordance to DIN EN ISO 140

Sound reduction values tested in accordance to DIN ISO 717-1

\*On-site measured

## Miller Thomson LLP

### Description

- Visual and acoustic separation of meeting room within an open plan office.
- Manufacture of a 3-layer Sound Curtain OFFICE drape with wave optic; made in four separate sections.
- Outer layers of sound curtains were made from ALICANTE CS in light grey.
- Installed on a TRUMPF 95 OFFICE walk along track system.

### Installer

Stagefab Custom Manufacturing Inc.

### Architect

BVN Architecture

### Client

Miller Thomson LLP

### Location

Vancouver, BC / Canada





## Häfele GmbH & Co. KG

-26 dB

### Description

- Visual and acoustic separation of conference and training rooms.
- Manufacture and installation of one 12-layer Sound Curtain OFFICE drape with wave optic; achieves an on-site measured sound reduction factor of 26 dB; additional volume of layers according to client requirements.
- Installation of the 12-layer curtain on TRUMPF 95 OFFICE track system with FRICTION-DRIVE.
- Manufacture and installation of four 5-layer Sound Curtains OFFICE drapes with wave optic.
- Installation of 5-layer curtains on TRUMPF 95 OFFICE walk along tracks.
- All outer layers are made from WOOLSERGE OFFICE sound absorbent wool fabric; in different colours.

### Architect

w | Architekten

### Client

Häfele GmbH & Co. KG

### Location

Nagold / Germany







//Photo: Müller + Huber Architecturbüro – Oberkirch, Germany / Sound Curtain OFFICE with outer layer from ALICANTE CS

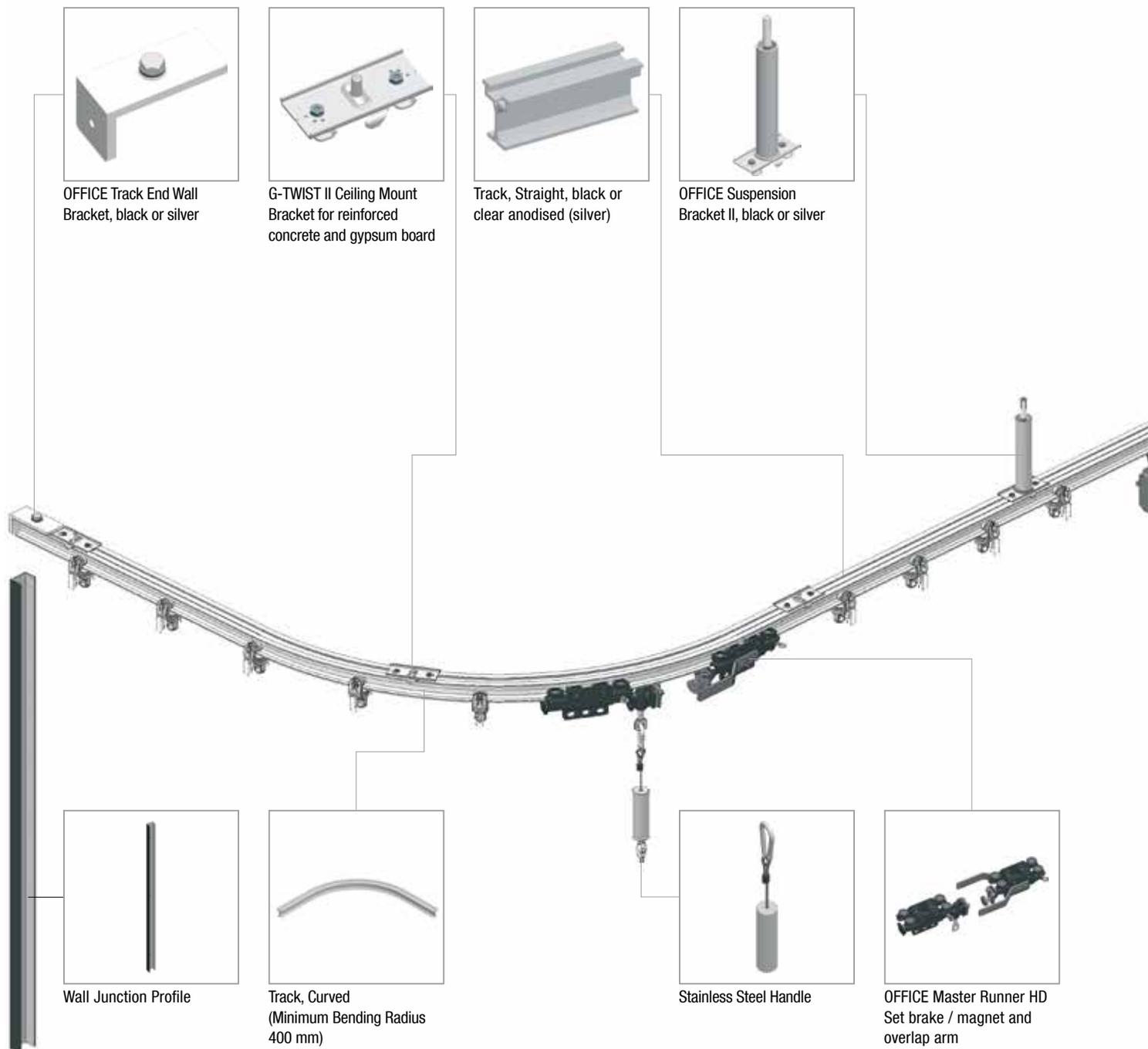
## **[TRUMPF 95 OFFICE]**

The TRUMPF 95 OFFICE track system is specifically created for use with Sound Curtain OFFICE drapes. Its small profile, elegant design, and smooth operation are the perfect complement to the curtain system.

# TRACK SYSTEM

The Sound Curtain OFFICE can be operated by hand or motorised with the virtually silent FRICTION-DRIVE motor.

Continuous loop systems, remote control and integration into third-party automation systems are possible.





OFFICE Track Splice



OFFICE Suspension Bracket, black or silver



G-TWIST Ceiling Mount Bracket for board mounting (wood)



OFFICE Master Runner HD with eye screws, magnet and counterplate



OFFICE Master Runner HD with eye screws and brake



2-Wheel runner, black or white



OFFICE Master Runner HD Set with double overlap arm and coupling hook



OFFICE FRICTION-DRIVE



Wooden Handle



Close up of the Sound Curtain OFFICE running along the track

## Architekturbüro Schmelzle & Partner

### Description

- Visual and acoustic separation of conference room.
- Manufacture and installation of two 3-layer Sound Curtain OFFICE drapes with wave optic.
- Outer layer made from WOOLSERGE OFFICE sound absorbent wool fabric in grey.
- Installed on curved TRUMPF 95 OFFICE track system with FRICTION-DRIVE; connected with the existing building control system.

### Client

Architekturbüro Schmelzle & Partner mbB

### Location

Hallwangen / Germany





## Sikla GmbH

### Description

- Visual and acoustic separation of conference islands and think tanks.
- Manufacture and installation of several 3-layer and 7-layer Sound Curtain OFFICE drapes with wave optic.
- Outer layer made from WOOLSERGE OFFICE sound absorbent wool fabric in anthracite and blue.
- Installed on TRUMPF 95 OFFICE walk along track.

### Planner

Streit Service & Solution GmbH & Co. KG

### Architect

Schlenker-Architekten

### Client

Sikla GmbH

### Location

Villingen-Schwenningen / Germany





## Ottobock HealthCare LP

### Description

- Visual and acoustic separation of conference rooms.
- Manufacture and installation of two 7-layer Sound Curtain OFFICE drapes with wave optic. Additionally, three single layer privacy curtains were made to match the outer layer of the sound curtains for other conference rooms.
- Outer layers of Sound Curtains OFFICE and privacy curtains were made from WOOLSERGE OFFICE custom dyed in brown-grey.
- Installed on a combination of TRUMPF and suspended TRUMPF 95 OFFICE walk along track systems.

### Architect

Page Southerland Page, Inc.

### Client

Ottobock HealthCare LP

### Location

Austin, TX / USA







//Photo: Martin Rzepka / ORGATEC Messe – Cologne, Germany / Sound Curtain OFFICE WINDOW

## **[SOUND CURTAIN OFFICE WINDOW]**

The flexible sound curtain with perspective (viewing window) is worldwide unique!

The window element can be integrated interchangeably into the sound curtain system without affecting the acoustic effect.

Creating customisable textile spaces giving you the ability to both see inside as well as outside.

[SOUND CURTAIN OFFICE WINDOW]

## THE PATENTED CURTAIN TRACK SYSTEM – ALLOWS YOU TO SEE THROUGH!

This flexible sound curtain with window is worldwide unique.

The window element can be interchangeably integrated into the sound curtain system without having an effect on the acoustics.

Our engineers have developed this worldwide unique flexible Sound Curtain solution OFFICE Window: allowing for visual reference to the outside as well providing daylight for the inside. The floor-to-ceiling polycarbonate substrate insert enables a line of sight without impairing the soundproofing properties.

In addition, the window offers exciting optics, which can be seamlessly integrated into any modern design.

This results in customisable textile spaces, that not only opens up the view to the inside, while allowing for a view to the outside.

The Gerriets company is keeping an eye on fire protection requirements, which in many federal states includes the direct visual reference to the outside.

### **Technical Data:**

- Window Width: 19 cm (7.5 in)
- View Width: 13 cm (5 in)
- Window Height: variable

**Toni Piskač // Head of Workplace Consulting & Space Planning // Vitra International AG**

"The big challenge of planners of contemporary offices today is to create spaces for ever-changing organisations. It is the need for openness and interaction as well as demarcation and focusing.

It is possible to create variable and individual rooms with proven technology from the theatre and acoustic curtains with very high sound insulation by Gerriets. "



//Photo: Martin Rzepka / ORGATEC Messe – Cologne, Germany / Sound Curtain OFFICE WINDOW

# [TOUCH AND DIVIDE]



Take a look  
and be inspired!







//Photo: Annette Douglas / Curtains from ABSORBER LIGHT

## **[ABSORBER LIGHT]**

Achieving high quality acoustics in a naturally lit environment has posed a challenge throughout the years – until now. This award winning, innovative, semi-sheer translucent fabric allows bright, naturally lit rooms to coexist with perfect acoustics.

[ABSORBER LIGHT]

# TRANSLUCENT ACOUSTIC FABRIC

Most acoustically absorbent fabrics are thick, heavy and room-darkening. Our ABSORBER LIGHT is different. The translucent yet highly absorbent fabric uses thousands of micro perforations within the weave to absorb sound. On the market, it currently has the best absorption class in the field of translucent acoustic textiles. ABSORBER LIGHT combines three elements that no other fabric has achieved thus far: a visually appealing design, brightly lit rooms and perfect acoustics.

At a width of 3.0 m (118") this acoustic fabric can be used to manufacture seamless drapery for office environments at average ceiling height. Besides our standard colours – light beige, sand brown, anthracite, grey silver and white – custom dyed colours are available upon request.

Tested in two standard applications (see next page). Customised applications available upon request.

## Material description

- 90 % Trevira CS, 10 % Polyester.
- Flame retardant standards: DIN 4102 B1, M1, DIN EN 13501-1, DIN EN 13773, NFPA 701.
- Colours: sand brown, light beige, anthracite, grey silver & white.
- Minimum quantity for custom dyed colours approx. 120 m (130 yds).
- Width: 300 cm (118 in).
- Weight: 149 g/m<sup>2</sup> (4.39 oz/yd<sup>2</sup>).
- Piece lengths approx. 30 m (32 yds).
- Acoustic absorption values per certificate according to DIN EN ISO 354:  $\alpha_w = 0,80$  with 100 % fullness and 150 mm (6 in) distance to wall.
- Acoustic absorption class: B.



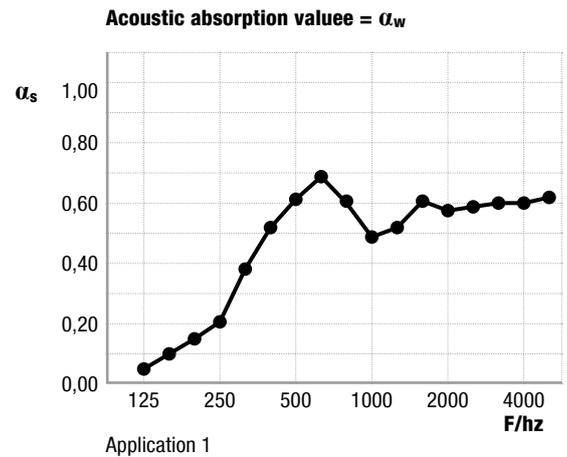
## Acoustic absorption as measured in reverberation chamber

### Application 1

- Evenly hung flat panel with no fullness.
- Mode of installation: G-150 according DIN EN ISO 354.
- Distance from wall: 150 mm (6 in).

Acoustic absorption value:  $\alpha_w = 0,55$

Acoustic absorption class: D

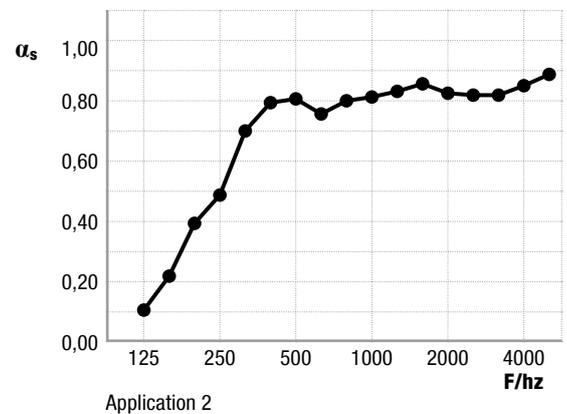


### Application 2

- Evenly hung panel with 100% fullness.
- Mode of installation: G-150 according DIN EN ISO 354.
- Distance from wall: 150 mm (6 in).

Acoustic absorption value: 11654:  $\alpha_w = 0,80$

Acoustic absorption class: B





//Photo: Gerriets GmbH – Umkirch, Germany / Bicolour curtain from ABSORBER LIGHT

[ABSORBER LIGHT]

## **REFERENCES**

Our ABSORBER LIGHT fabric can be used in many ways. Whether in art galleries, museums, lobbies, offices or rehearsal rooms, with the help of our ABSORBER LIGHT you can create a modern, open and comfortable atmosphere.

## gap. Quartier GbR

### Description

- Acoustic optimisation of an event room with the aid of several acoustic curtains.
- Manufacture and installation of a multi-part curtain made from acoustic textile ABSORBER LIGHT in sand brown; dimensions of the curtain: 66,0 x 3,3 m (217 x 11 ft).
- Manufacture and installation of a multi-part, 7-layer Sound Curtain OFFICE drape with wave optic; outer layer made from WOOLSERGE OFFICE sound absorbing wool fabric in anthracite; dimensions of the curtain: 10,0 x 3,2 m (33 x 10 ft).
- All curtains installed on TRUMPF 95 OFFICE walk along tracks.

### Client

gap. Quartier GbR

### Location

Garmisch-Partenkirchen / Germany





## Open Systems AG

### Description

- Project study: Open space-in-space concept which is acoustically optimised and allows a panoramic view of the Alps.
- Manufacture and installation of 90 m<sup>2</sup> (970 ft<sup>2</sup>) of ABSORBER LIGHT in white as wall covering for the interior.
- Manufacture and installation of 100 m<sup>2</sup> (1075 ft<sup>2</sup>) of bleached muslin SHIRTING, in white; as ceiling of the test set-up.

### Architect

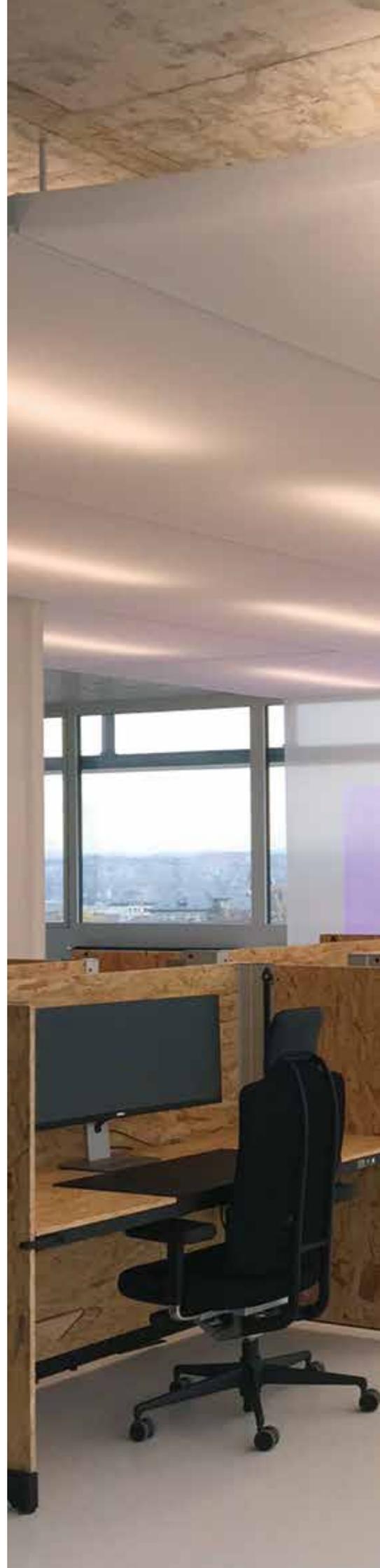
Meury Architectur GmbH

### Client

Open Systems AG

### Location

Zurich / Switzerland





ets

opfdruck!



//Photo: Orgatec - Gerriets Trade Show Booth – Cologne, Germany / Sound Curtain OFFICE with outer layer from ABSORBER CS

## **[ABSORBER CS]**

Looking for a curtain that acoustically optimises, darkens and visually enhances your rooms?

Then we recommend the use of our awarded and highly absorbent fabric ABSORBER CS.

The textile was developed from us in collaboration with musicians, theatre managers and an acoustics institute.

[ABSORBER CS]

# BLACK OUT ACOUSTIC FABRIC

Its exceptionally high density and weight of approx. 560 g/m<sup>2</sup> (16.51 oz/yd<sup>2</sup>) earned ABSORBER CS a class C acoustic absorption rating, which distinguishes this fabric as highly sound absorbent. The heavy fabric is extremely robust and stable, yet hangs soft and drapes beautifully.

ABSORBER CS is an inherently flame retardant alternative to classic wool fabrics and is recommended for rooms that need to be acoustically optimised and darkened.

ABSORBER CS has been acoustically tested in four standard applications (see next page). Customised options are available upon request.

Material Description	
<ul style="list-style-type: none"><li>• 100 % Trevira CS.</li><li>• Inherently flame retardant.</li><li>• Flame retardant standards: DIN 4102 B1, M1, DIN EN 13501-1, NFPA 701.</li><li>• Colour: black.</li><li>• Minimum quantity for custom dyed colours approx. 200 m (220 yds).</li><li>• Width: 180 cm (71 in).</li><li>• Weight: 560 g/m<sup>2</sup> (16.51 oz/yd<sup>2</sup>).</li></ul>	<ul style="list-style-type: none"><li>• Piece lengths approx. 40 and 50 m (43 and 54 yds).</li><li>• Acoustic absorption values per certificate according to DIN EN ISO 354: <math>\alpha_w = 0,65-0,90</math>.</li><li>• Acoustic absorption class: A-C.</li><li>• Flow resistance according to DIN EN 29053: <math>R_s = \text{approx. } 1.380 \text{ Pa s/m}</math>.</li></ul>



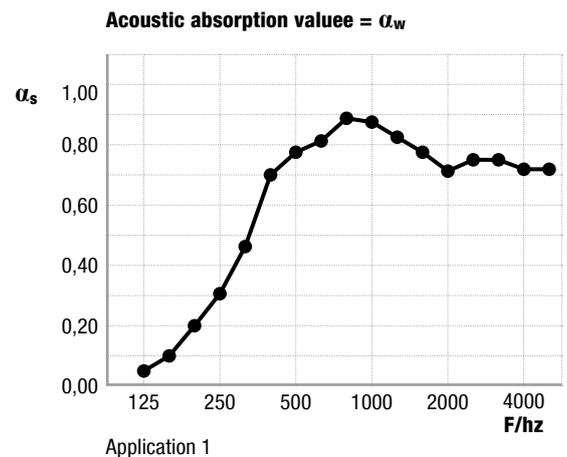
## Acoustic absorption as measured in reverberation chamber

### Application 1

- Evenly hung flat panel with no fullness.
- Mode of installation G-290 according DIN EN ISO 354.
- Distance from wall: 100 mm (4").

Acoustic absorption value:  $\alpha_w = 0,65$

Acoustic absorption class: C

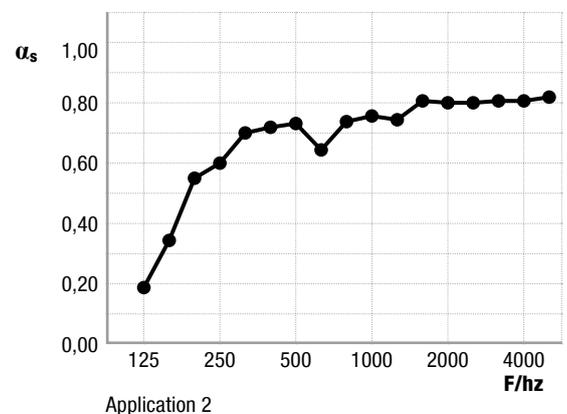


### Application 2

- Evenly hung flat panel with no fullness.
- Mode of installation G-290 according DIN EN ISO 354.
- Distance from wall: 290 mm (11").

Acoustic absorption value:  $\alpha_w = 0,75$

Acoustic absorption class: C

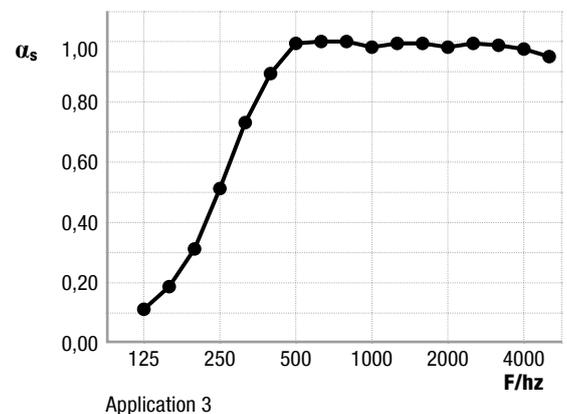


### Application 3

- Evenly hung panel with 100 % fullness.
- Mode of installation G-290 according DIN EN ISO 354.
- Distance from wall: 100 mm (4").

Acoustic absorption value:  $\alpha_w = 0,85$

Acoustic absorption class: B

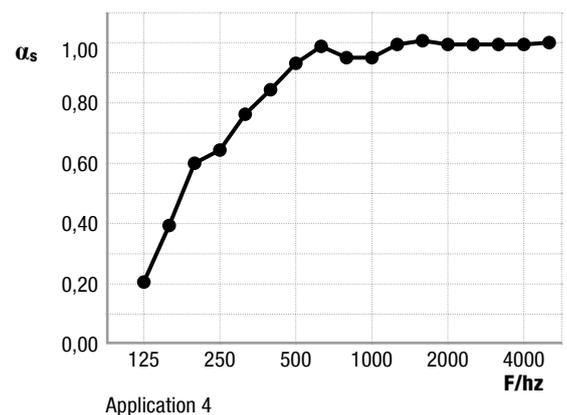


### Application 4

- Evenly hung double-sided flat panel, each with no fullness.
- Distance from wall: 100 mm (4").

Acoustic absorption value:  $\alpha_w = 0,90$

Acoustic absorption class: A



## Bösers Spargelrestaurant

### Description

- Acoustic improvement in the guest room of the restaurant and event location "Bösers Spargelrestaurant".
- Manufacture and installation of 16 ceiling elements and two gable coverings made from sound absorbing acoustic textile ABSORBER CS in white.
- Dimensions of the ceiling elements: approx. 4.8 x 5.0 m (16 x 16 ft).
- Dimensions of the gable coverings: approx. 4.5 x 1.5 m (15 x 5 ft).

### Client

Bösers Spargelrestaurant

### Location

Forst / Germany





## Cultural Centre for European Space Technologies

### Description

- The lower hall used to stage cultural events provided quite a challenge due to the varied heights of walls within the space. Curtains and tracks were used to improve both the visual and acoustic properties of the hall.
- Manufacture and installation of an ABSORBER CS curtain; in black; approx. 69.00 m (226 ft) wide x 3.30-6.60 m (11-22 ft) high.
- Installed on TRUMPF 95 track system.

### Architects

Matija Bevk, Aljoša Dekleva, Tina Gregorič, Rok Oman, Vasa J. Perović, Jurij Sadar, Špela Videčnik, Boštjan Vuga

### Client

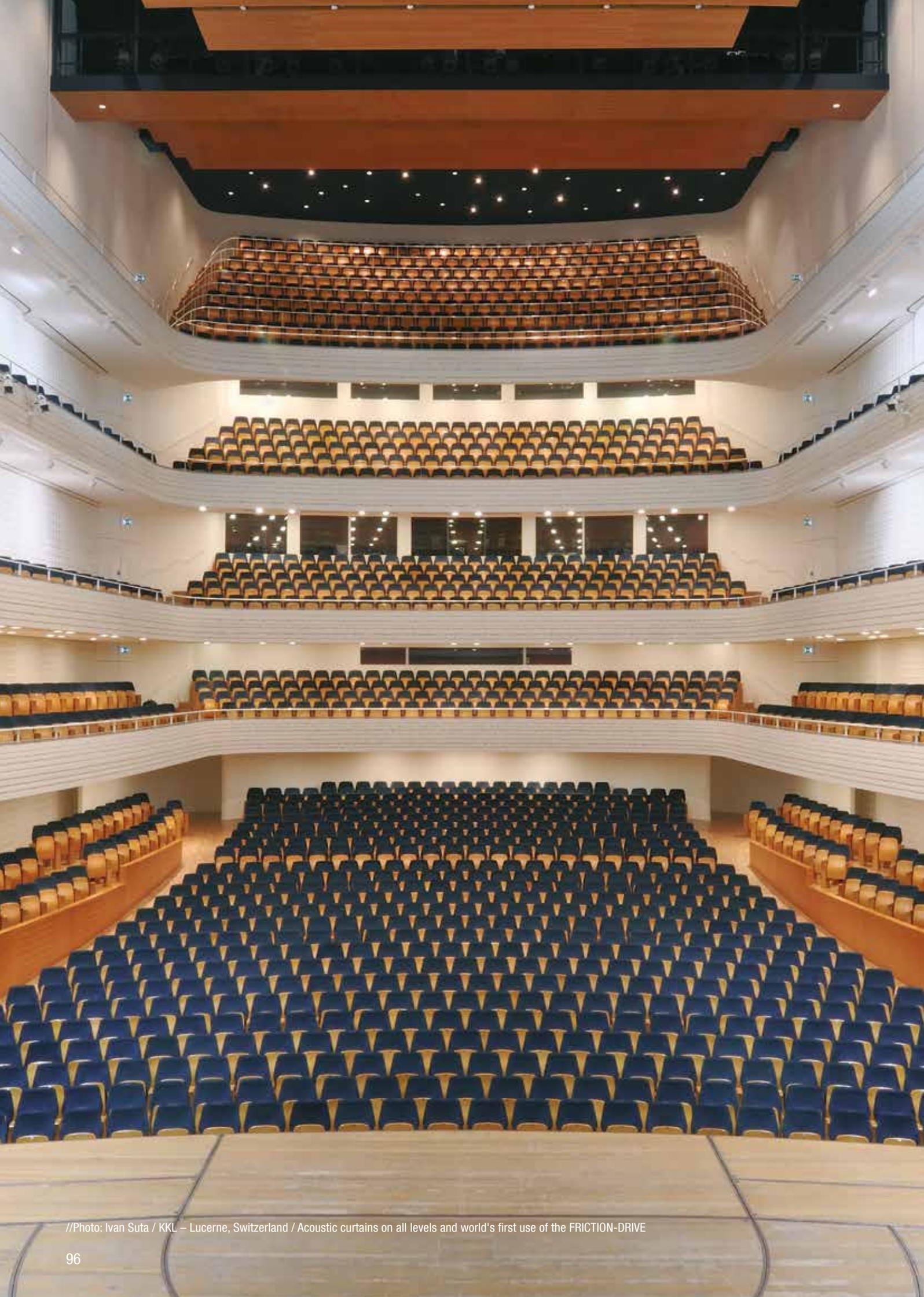
Community of Vitanje

### Location

Vitanje / Slovenia







//Photo: Ivan Suta / KKL – Lucerne, Switzerland / Acoustic curtains on all levels and world's first use of the FRICTION-DRIVE

## **[AUDITORIUM ACOUSTIC SOLUTIONS]**

Nowadays auditoriums are no longer designed for one single purpose, but should be designed enabling multifunctional use. In many cases, it is necessary to adjust the reverberation time of a venue due to different events taking place in the same room.

Gerriets acoustic solutions allow for flexible room design, meeting the highest technical demands. Absorbing curtain systems installed on extremely quiet track systems, oversized roller banners, acoustic banners emerging from the parquet, or inflatable membrane absorbers for the bass range offer an extensive portfolio of acoustic and technical possibilities.

Gerriets Auditorium Acoustic Solutions - making every room acoustically successful!



//Photo: Jens Baumgart / Bürgerhaus – Unterföhring, Germany / Acoustic Roller Banner G-SORBER with double-layer drape from ABSOBER CS

[AUDITORIUM ACOUSTIC SOLUTIONS]

## **[G-SORBER]**

### **Acoustic Roller Banner!**

The G-SORBER system is the latest product in our line of variable acoustics.

Reverberation time can be adjusted between different music styles such as chamber music, choir, electro-beats or meetings and conferences.

With our G-SORBER system we can realise a perfect sound experience.

## Maximum acoustical flexibility

The highly absorbing roller banners allow any event space to be acoustically adapted for almost any application. An even distribution of acoustic roller banners ensures maximum flexibility, since the necessary absorption surfaces are available at every point in the room. In comparison to classical curtain systems, a variety of scenarios can be recalled with roller banners at the touch of a button. An adaptation of the absorber surfaces to variable auditorium stands is also easily possible.

## Sound Absorption Measure

### Application A & B

- Distance from wall: A = 100 mm (4") / B = 200 mm (8").
- Distance of layers: 150 mm (6").
- Enclosed: no.

#### Application A:

Acoustic absorption value:  $\alpha_w = 0,80$ .

Acoustic absorption class: B.

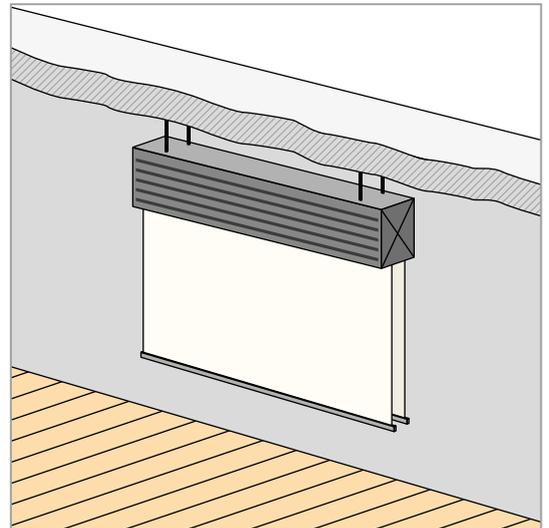
Valuation according to ASTM 423: NRC = 0.85, SAA = 0.82.

#### Application B:

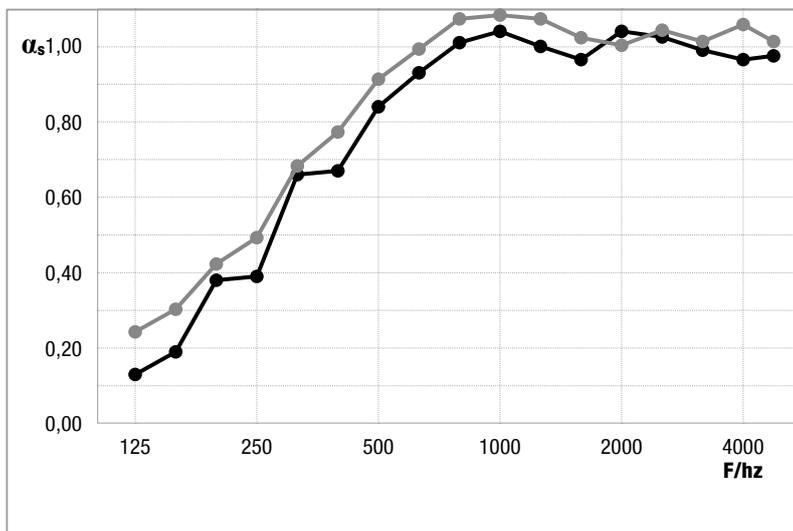
Acoustic absorption value:  $\alpha_w = 0,85$ .

Acoustic absorption class: B.

Valuation according to ASTM 423: NRC = 0.90, SAA = 0.88.

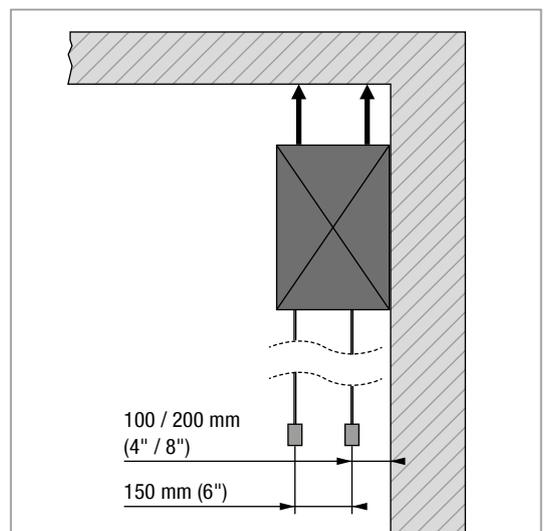


Application A & B: Front View



Acoustic absorption value =  $\alpha_w$

- Application A
- Application B



Application A & B: Side view

# [G-SORBER]

## Application C & D

- Distance from wall: C = 100 mm (4") / D = 200 mm (8").
- Distance between layers: 150 mm (6").
- Enclosed: yes.

### Application C:

Acoustic absorption value:  $\alpha_w = 0,90$ .

Acoustic absorption class: A.

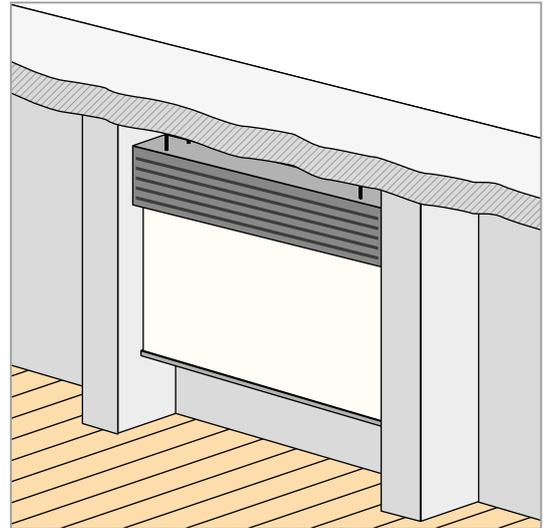
Valuation according to ASTM 423: NRC = 0.85, SAA = 0.83.

### Application D:

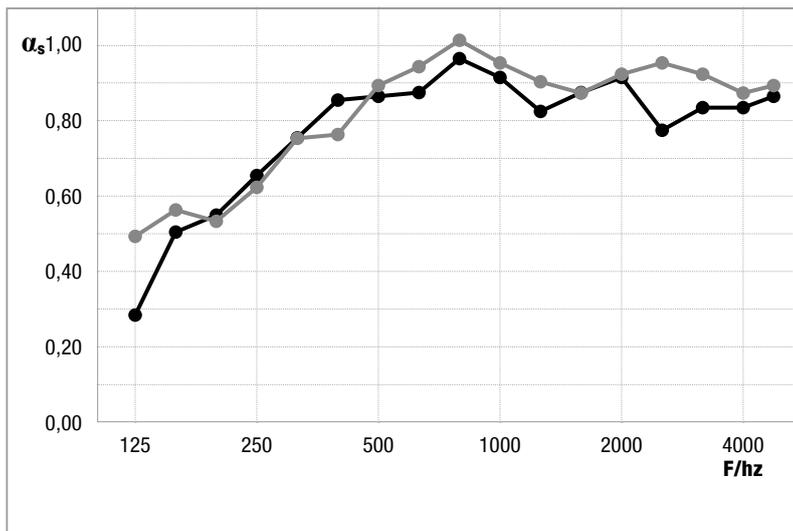
Acoustic absorption value:  $\alpha_w = 0,90$ .

Acoustic absorption class: A.

Valuation according to ASTM 423: NRC = 0.85, SAA = 0.84.

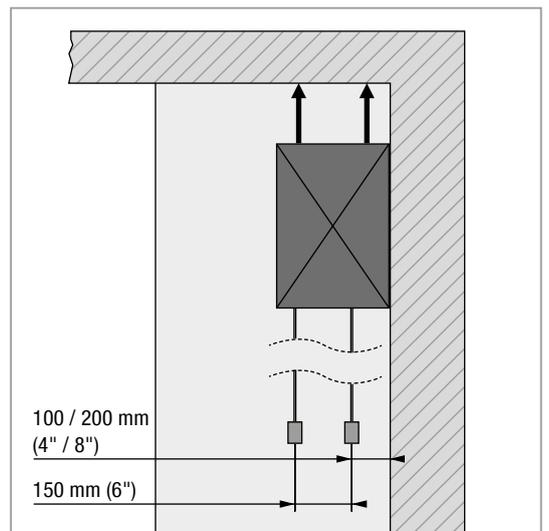


Application C & D: Front View



Acoustic absorption value =  $\alpha_w$

- Application C
- Application D



Application C & D: Side View

[G-SORBER]

## **Special Edition: G-SORBER BOX**

(Patent pending)

To increase the sound absorption in the bass frequencies, the G-SORBER acoustic banner can be integrated into a box. In this case the absorption coefficient at 125 Hz increases significantly, so the system can be used to optimise the room also for rock and pop music events.

The box made of flame-retardant poplar wood is covered with an acoustically transparent fabric, so that a visually appealing product is created, which can easily be integrated into classical and modern architecture.

Depending on the colour, the G-SORBER BOX also blends in perfectly with already existing rooms.



//Photo: Dirk Schneider / Handel Hall of the Handel School Berlin / Variable acoustic banners

[G-SORBER]

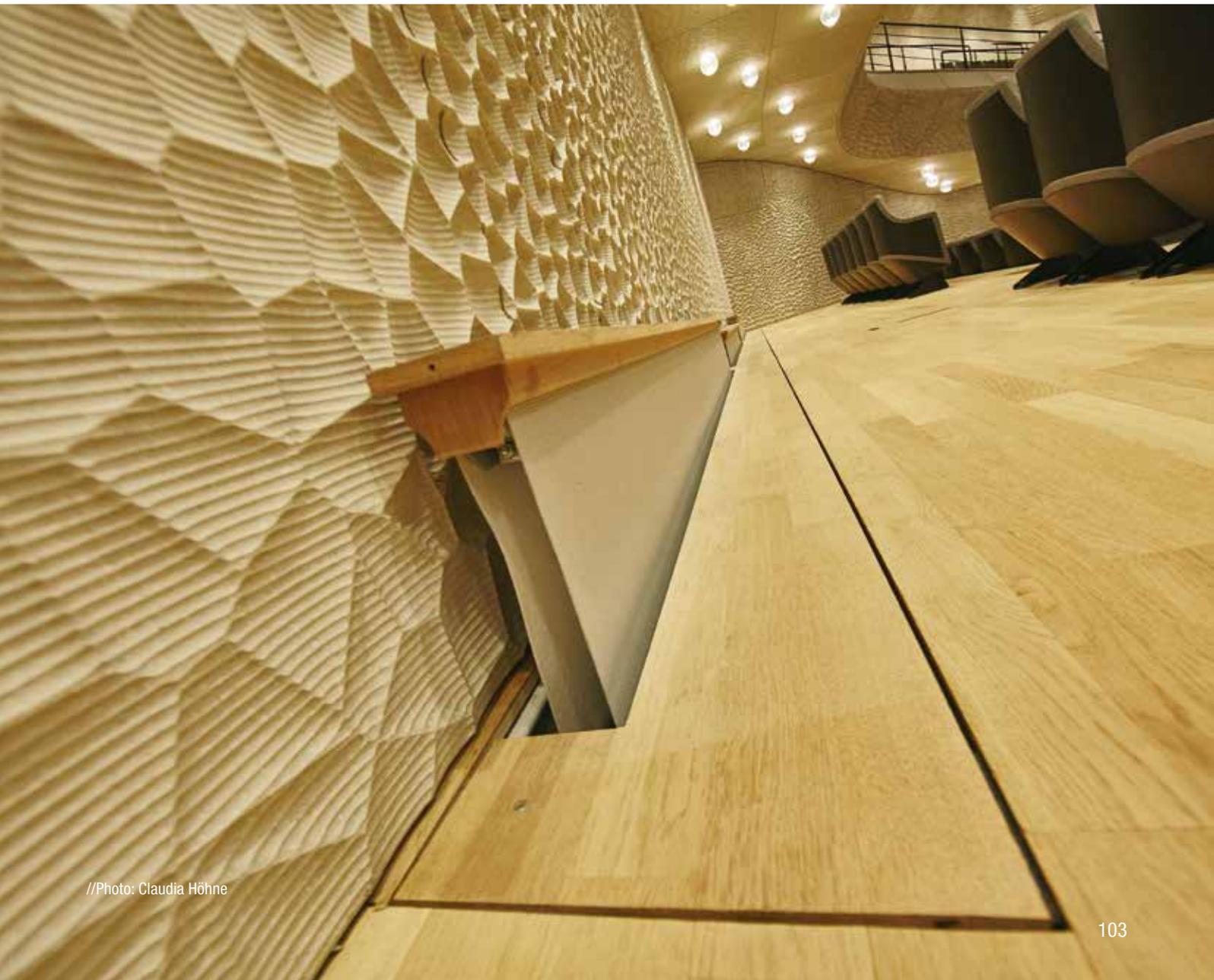
## **Special shape: G-SORBER BASE**

(Patented)

In some projects neither curtain systems nor classic G-SORBER roller banners can be fixed to the ceiling - be it for static, architectural or design reasons.

In this case, we supply the perfect solution with the G-SORBER BASE: a scissor track mechanic deploys the highly absorbing fabric out of the ground. When not in use, the acoustic banner disappears completely in the floor, finishing flush with the parquet flooring.

This system was developed especially for the variable acoustics in the large hall of the Elbphilharmonie in Hamburg and provides for variable absorption without affecting the ceiling and wall surfaces.



## St Georgen Church Wismar

### Description

- Allow for the multipurpose use of the venue without spoiling the aesthetic appearance of St Georgen Church.
- Manufacture and installation of six acoustic roller banner systems G-SORBER with banners made from the acoustic fabric ABSORBER CS in order to control the reverberation times in the church.
- Dimensions: 4 roller banners each 4.5 m (14'8") wide x 8.5 m (27'9") high and 2 roller banners each 8.8 m (28'9") wide x 8.5 m (27'9") high.

### Client

City of Wismar

### Location

Wismar / Germany





# Elbphilharmonie Hamburg

## Description

- Small Hall: Manufacture and installation of 52 G-SORBER acoustic roller banner systems with the banners made from the acoustic fabric ABSORBER CS. The banners are lowered from the ceiling and can be driven completely into the ceiling when not in use with the largest being up to 1.70 m (5'6") wide and 6.50 m (21'3") high.
- Great Hall: Manufacture and installation of a brand new acoustic technology consisting of 81 acoustic roller banners made 3.00 m (9'8") wide and 2.6 m (8'5") high from a highly absorbent and extremely hard-wearing textile. These banners are not lowered from the ceiling like the G-SORBER, but rise out of the parquet floor and can be completely retracted into the floor, creating a smooth, flush surface when not in use.

## General contractor

HOCHTIEF Aktiengesellschaft

## Architect

Herzog & de Meuron

## Client

Elbphilharmonie Hamburg

## Location

Hamburg / Germany





Project video





[AUDITORIUM ACOUSTIC SOLUTIONS]

## **[aQflex™/aQtube™]**

Variable room acoustics can be efficiently and effectively implemented using textiles in the medium and high frequency ranges.

For the low frequency range, which is especially important for rock and pop music, this task is much more difficult.

Gerriets produces and sells the unique aQflex™/aQtube™ product line, in cooperation with the Danish acoustic company Flex Acoustics.

## Variable Bass Absorption

The patented aQflex™/aQtube™ absorber system allows for changing the acoustics of a room to fit any purpose. The aQflex™ has three advantages over normal acoustic treatment:

- It can alter the acoustics of a room.
- It adjusts also the acoustics at low frequencies scientifically proven to be important most notably at amplified music concerts. It is most active in the 63-1,000 Hz domain at the fundamental frequencies of musical instruments.
- For the first time the reverberation time can be adjusted to the multifunctional use between classical, unplugged or electronic music.

### Technical Data

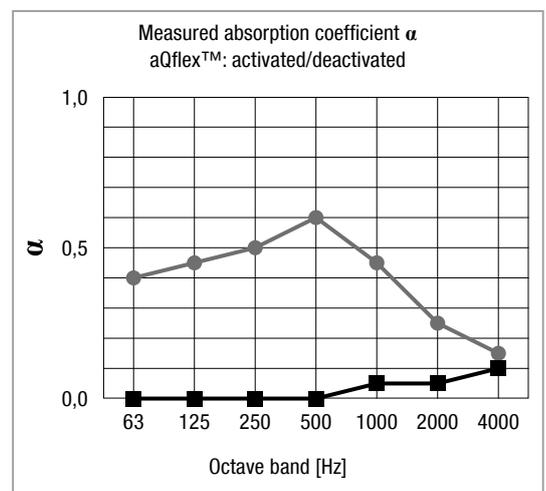
- The absorbers can be temporarily mounted (aQtube™) on wires or permanently installed (aQflex™) on Gerriets tracks.
- For stationary installation the variable ON/OFF system is recommended, for temporary installation the preinflated version is preferred.
- The system is CE certified.
- Meets the flame retardent classification DIN EN 1350-1 in the class B,s1-d0 and the US standard NFPA 701.
- The system is very lightweighted and therefore suitable to be retrofitted onto existing ceiling constructions.
- The system for permanent installation includes absorbers, tracks, air supply system and control box.
- Simple, wall mounted ON/OFF switch panel used for operation of system.
- Air supply requires a 230 V single phase circuit.
- The consumption of electricity is about 50 to 100 Watt while de-inflating.
- Low power use of 10 Watt once absorbers are inflated.

### aQflex™

- Flexible absorption membrane for use in permanent installations. Control system included.
- The aQflex™ system consists of inflatable absorption membranes for low frequency range, air pump ventilation system and is permanently installed on a TRUMPF 95 track system. The system can be turned on or off at a press of a button.

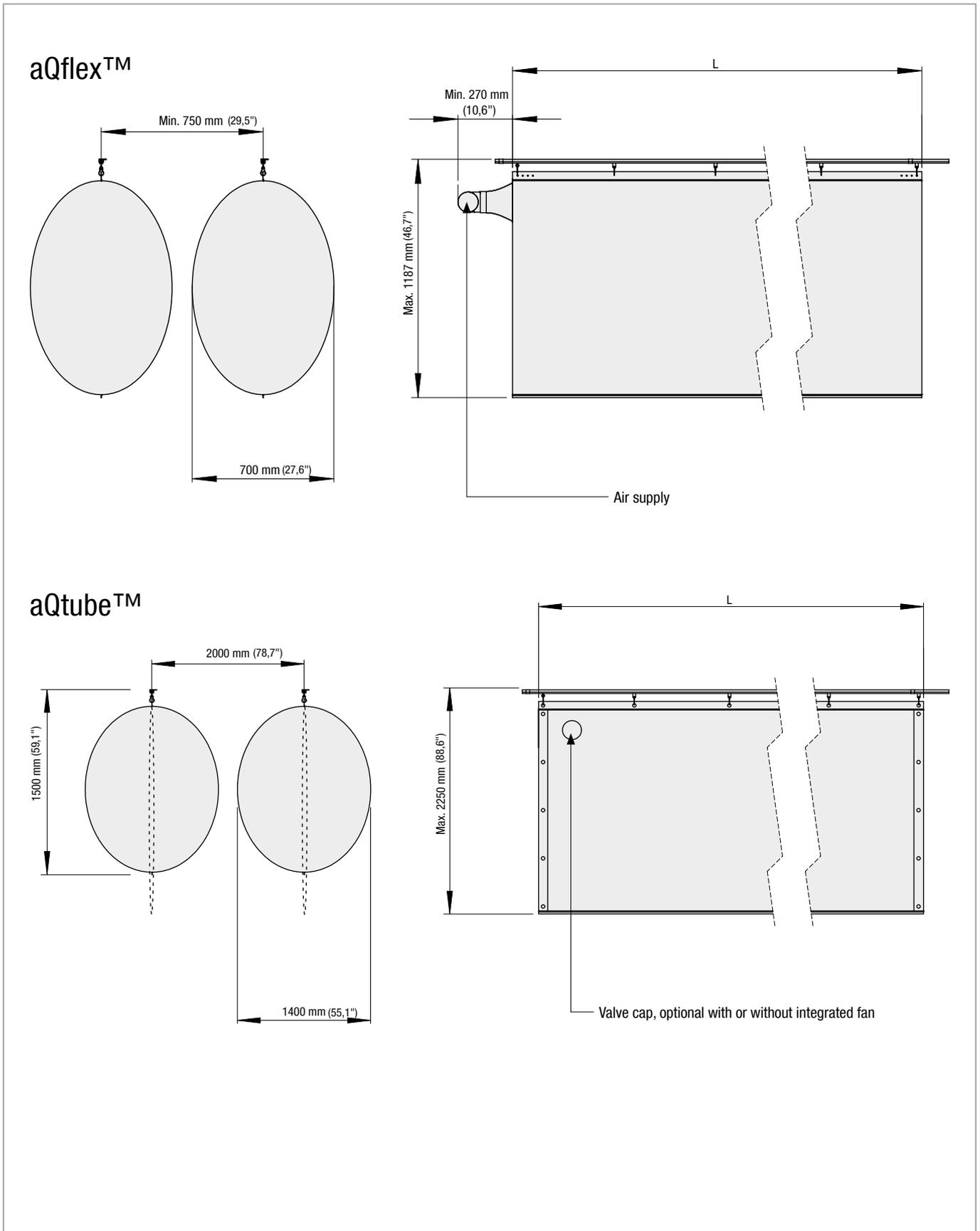
### aQtube™

- Flexible absorption membrane for temporary use.
- In contrast to the aQflex™ system, the aQtubes™ are attached to a portable blower unit, not a permanent ventilation system. The ultra-light absorption membranes can be installed quickly and easily onto truss or other hanging points and are ideal for portable, temporary use.



Measured absorption coefficients of the aQflex™ system in its ON and OFF positions.

## Dimensioning



Schematic representation of the permanently installed system; the activated absorber (left) and track, air supply and deactivated absorber (right).

## Eurovision Song Contest 2014

### Description

- Modification of the venue acoustics for the Eurovision Song Contest 2014 in Copenhagen.
- Tailoring of the acoustics to suit amplified electronic music.
- Specific absorption of the bass range of frequencies.
- Reduction of the reverberation time from 13 sec. to less than 4 sec. in the bass range below 250Hz.
- About 8,000 m<sup>2</sup> (9,568 yd<sup>2</sup>) Gerriets aQflex™ absorbers used.

### Acoustic Concept

Eddie B. Brixen / EBB-consult

### Client

Projektselskabet ESC / Flex Acoustics

### Location

Copenhagen / Denmark





**EUROVISION**  
SONG CONTEST  
COPENHAGEN 2014

## Staatsoperette Dresden

### Description

- Reduction of the reverberation time for the display of "electronically amplified music", especially for musicals.
- Specific absorption in the low frequency range.
- Combination of retractable aQflex™ system and flexible acoustic panels made from ABSORBER CS, installed between the lighting bridges.

### Acoustic Concept

ISRW Klapdor

### Client

State capital Dresden / Staatsoperette Dresden

### Location

Dresden / Germany







//Photo: Klaus Zinser / Musée du quai Branly – Paris, France

## [ACOUSTIC CURTAIN SYSTEMS]

Maximum acoustical flexibility can be guaranteed if the acoustic curtains move along individually adjustable track systems. The weight of the textiles, the demands on the track layout, the motorisation and the condition of the substructure are decisive for choosing the right track.

Gerriets has been successful as a specialist in curtain technology for over 70 years – including the installation of complex track and curtain systems. There is hardly any technical requirement that we cannot meet.

We combine safety, longevity, stability and smoothness to create a product which fulfills our very high claim to the **QUALITY** of our systems. For a complete overview of our technical systems, please see the **TECHNICAL SOLUTIONS**.

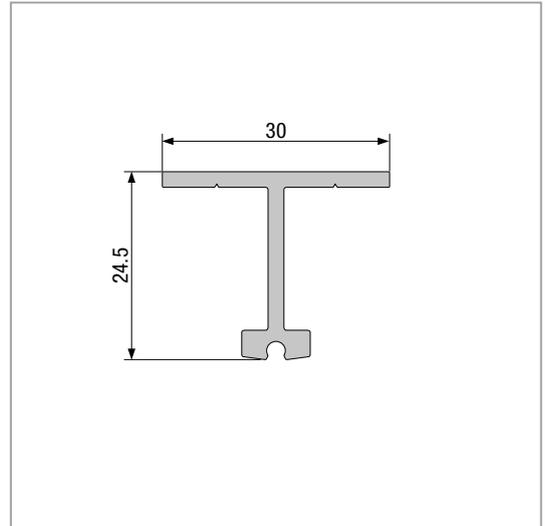
# [ACOUSTIC TRACK SYSTEMS]

## Track Systems Overview

### ACE – Light and Small!

ACE is a track system for lightweight curtains up to 4.00 m (13'1") high. It is solid track system recommended for permanent installations only.

The track system can be installed with the aid of ceiling mounting plates or by direct mounting of predrilled track.



#### Technical Data

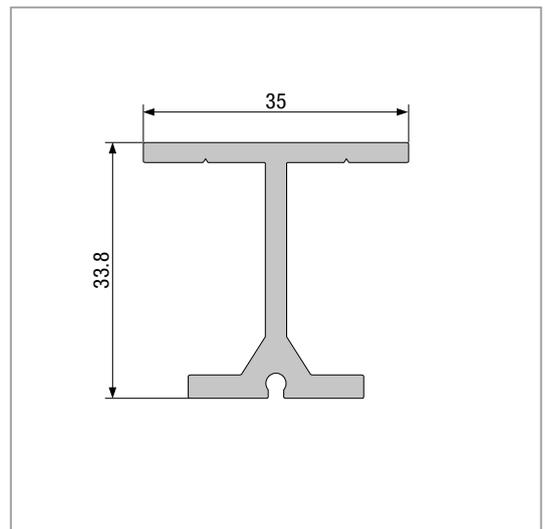
Track		Safe Working Load	
Weight	340 g/m (3.6 oz/ft)	Master Runner	4 kg (8.8 lbs)
Length of Section	6.00 m (19'8")	2-Wheel Runner	2 kg (4.4 lbs)
Distance Between Hanging Points	1.00 m (3'3")		
Min. Curve Radius	0.25 m (9.8")		

### TRUMPF – Clean and Simple!

TRUMPF is a curtain track for medium duty applications such as curtains and lightweight scenery.

Curved track layouts are easily manufactured.

TRUMPF shares many components, including runners with the TRUMPF 95 and STUDIO / E systems.



#### Technical Data

Track		Safe Working Load	
Weight	660 g/m (7.0 oz/ft)	Master Runner	20 kg (44 lbs)
Length of Section	6.00 m (19'8")	2-Wheel Runner	10 kg (22 lbs)
Distance Between Hanging Points	2.00 m (6'7")	4-Wheel Runner	20 kg (44 lbs)
Min. Curve Radius	0.30 m (11.8")		

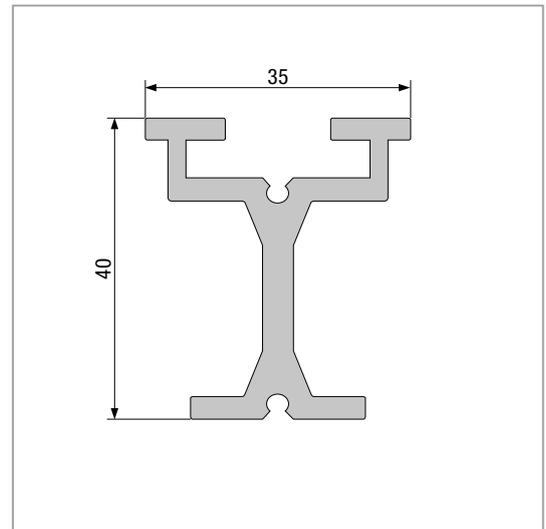
# [ACOUSTIC TRACK SYSTEMS]

## Track Systems Overview

### TRUMPF 95 – Economical and Versatile!

TRUMPF 95 is a compact I-beam style track for medium-duty applications and backdrops. The track system is multifunctional, reliable, light and quiet.

TRUMPF 95 has a groove channel for a wide range of fastening solutions. The system is used on stage, in TV studios and in architectural installations, as well as for complex track systems with curves and switch points.

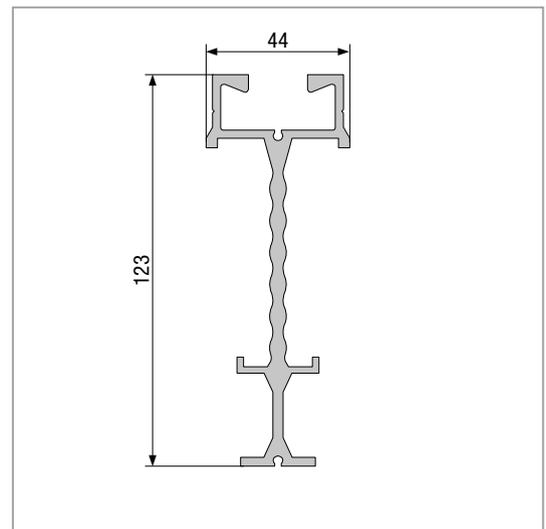


Technical Data			
Track		Safe Working Load	
Weight	900 g/m (9.6 oz/ft)	Master Runner	35 kg (77 lbs)
Length of Section	6.00 m (19'8")	2-Wheel Runner	10 kg (22 lbs)
Distance Between Hanging Points	2.00 m (6'7")	4-Wheel Runner	20 kg (44 lbs)
Min. Curve Radius	0.50 m (19.6")		

### STUDIO / E – Electrified and Rigid!

STUDIO / E is a curtain track suitable for medium to heavy applications and for moving scenery and light studio and AV equipment. This system's curves and switching points make this track particularly suitable for studio applications. The track is also perfect for large hanging distances, which are possible due to its high profile.

By combining the STUDIO track with up to six conductor rails STUDIO becomes STUDIO E.



Technical Data			
Track		Safe Working Load	
Weight	2,200 g/m (1.4 lbs/ft)	2-Wheel Runner	10 kg (22 lbs)
Length of Section	6.00 m (19'8")	4-Wheel Runner	20 kg (44 lbs)
Distance Between Hanging Points	4.00 m (13'1")		
Min. Curve Radius	2.00 m (6'7")		

# [ACOUSTIC TRACK SYSTEMS]

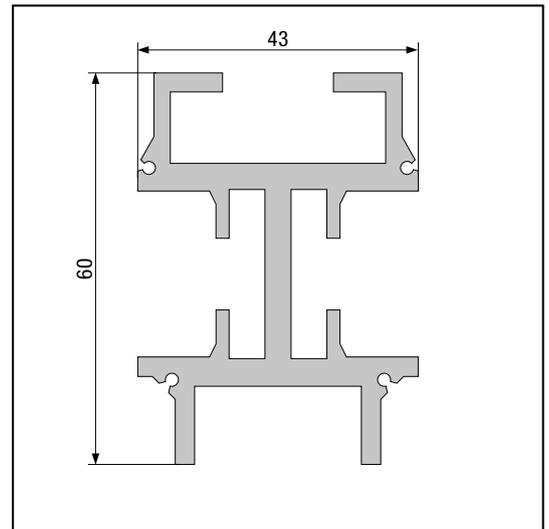
## Track Systems Overview

### BELT-TRACK – Compact and Exact!

BELT-TRACK, the motorised curtain track for medium to heavy-weight curtains and scenery. The system is our advanced, new track system for exact positioning of the intended load.

BELT-TRACK is ideal for precise scenic movement.

An advantage of the track system is the 'multi curtain track' feature. This means that several curtain sheets can be moved synchronously along the track.



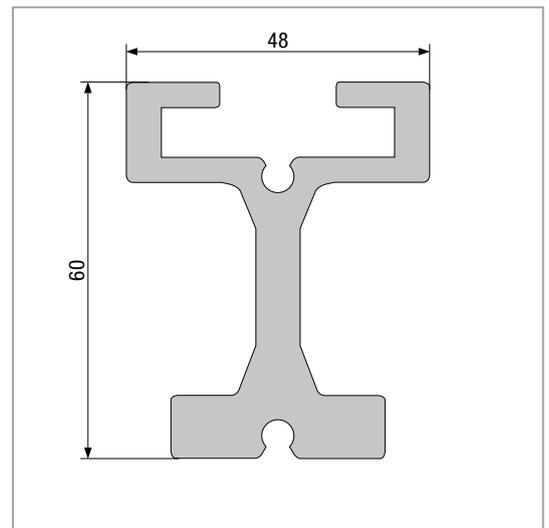
#### Technical Data

Track		Safe Working Load	
Weight	1,920 g/m (1.2 lbs/ft)	Master Runner	35 kg (77 lbs)
Length of Section	6.00 m (19'8")	2-Wheel Runner	15 kg (33 lbs)
Distance Between Hanging Points	2.00 m (6'7")		
Min. Curve Radius	0.50 m (19.6")		

### JOKER 95 – Strength and Flexibility!

JOKER 95 is the larger version of TRUMPF 95, suitable for heavy curtains and scenic applications. It has a large, grooved channel on top to provide for a wide variety of accessories and mounting options.

JOKER 95 is load-bearing, reliable, quiet and has an extremely low rolling resistance. The system can be used with quick connectors for rapid assembly and disassembly for touring use.



#### Technical Data

Track		Safe Working Load	
Weight	2,520 g/m (1.6 lbs/ft)	Master Runner	30 kg (66 lbs)
Length of Section	6.00 m (19'8")	2-Wheel Runner	20 kg (44 lbs)
Distance Between Hanging Points	3.00 m (9'10")	4-Wheel Runner	30 kg (66 lbs)
Min. Curve Radius	2.00 m (6'7")		

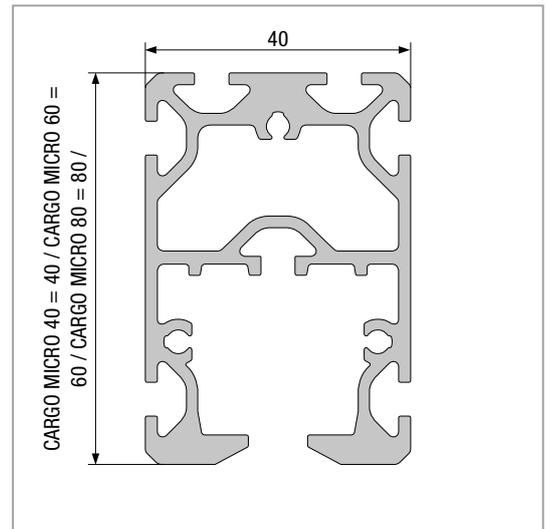
# [ACOUSTIC TRACK SYSTEMS]

## Track Systems Overview

### CARGO MICRO – Small and Versatile!

CARGO MICRO is a medium-duty track for scenic elements and applications. Due to its external mounting channels this small and compact walk-along track is adaptable to many different situations.

This adaptability ensures an integration into architectural applications such as ceilings or other decorative elements with only a small visual slit seen by the viewer. The hanging brackets are made from reinforced fiber glass that allows for a secure load connection both vertically hanging down and upwards in a floor mount installation.

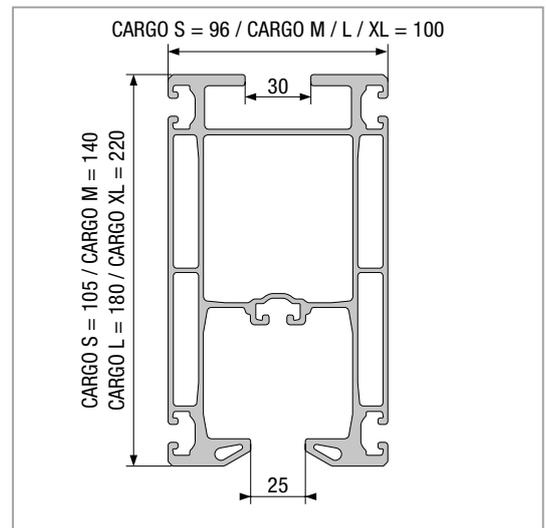


#### Technical Data

Track	CARGO MICRO 40	CARGO MICRO 60	CARGO MICRO 80	Safe Working Load	
Weight	1,400 g/m (.9 lbs/ft)	1,900 g/m (1.3 lbs/ft)	2,100 g/m (1.4 lbs/ft)	Heavy-Duty Carrier	75 kg (165 lbs)
Length	up to 6.00 m (19'8")				
Min. Curve Radius	0.75 m (2'5")				

### CARGO S / M / L / XL – Strong and Powerful!

The applications for CARGO track systems are many: In addition to the traditional use as a heavy-duty track system (e.g. moving heavy scenery or LED walls) it also can be used as flybars, battens in stage rigging or as a lighting track to easily mount and move lighting or projection equipment securely. Optionally available as a powered raceway for lighting equipment.



#### Technical Data

Track	CARGO S	CARGO M	CARGO L	CARGO XL	Safe Working Load	
Weight	5,000 g/m (3.4 lbs/ft)	7,000 g/m (4.7 lbs/ft)	8,500 g/m (5.7 lbs/ft)	10,000 g/m (6.7 lbs/ft)	Heavy-Duty Carrier	600 kg (1,320 lbs)
Length	up to 8.00 m (26'3")		up to 14.00 m (45'11")			
Min. Curve Radius	0.95 m (3'1")	1.40 m (4'6")	1.95 m (6'4")	-	2-Wheel Runner	20 kg (44 lbs)
Suitable for Loads up to	250 kg (550 lbs)	500 kg (1,100 lbs)	750 kg (1,650 lbs)	1,200 kg (2,640 lbs)		

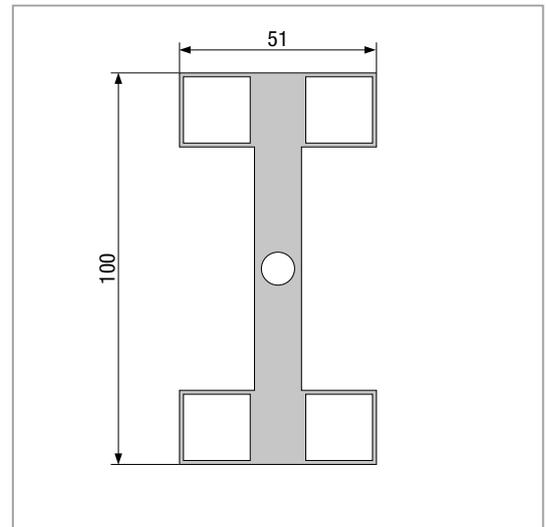
# [ACOUSTIC TRACK SYSTEMS]

## Track Systems Overview

### KING – Modular and Durable!

KING is a versatile track system, which is multifunctional and modular, perfect for touring. The system is primarily used for curtains, scenery and lighting systems.

KING was conceived from the beginning as a touring system, with compact dimensions as well as fast set-up and dismantling times. The track system has an open design, so parts are simply bolted to the track and accessories are easy to install.

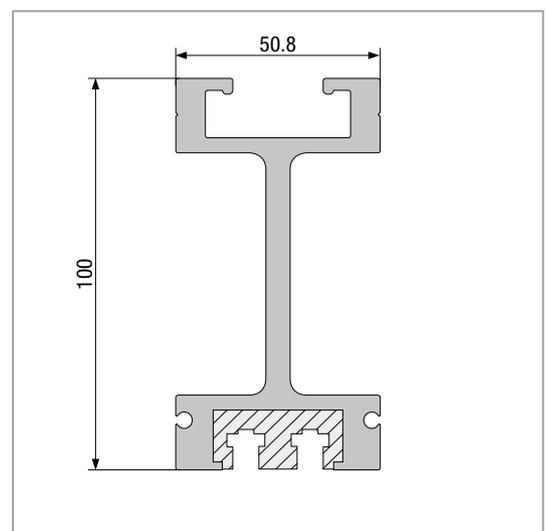


Technical Data			
Track		Safe Working Load	
Weight	3,000 g/m (2.0 lbs/ft)	Master Runner	30 kg (66 lbs)
Length of Section	0.25 m (9.8") / 0.50 m (19.6") / 1.00 m (3'3") / 2.00 m (6'7")	2-Wheel Runner	15 kg (33 lbs)
Distance Between Hanging Points	3.00 m (9'10")	4-Wheel Runner	30 kg (66 lbs)
Min. Curve Radius	1.00 m (3'3")		

### CHAINBEAM – Strong and Precise!

CHAINBEAM can be motorised to move extremely heavy weights, such as scenic elements, with the integrated roller chain on the bottom side of the track profile.

Precise positioning can be accomplished due to the positive, 'no-slip' advantages of using chain as the drive mechanism.



Technical Data			
Track		Safe Working Load	
Weight	3,500 g/m (2.36 lbs/ft)	Master Runner	60 kg (132 lbs)
Length of Section	6.00 m (19'8")	2-Wheel Runner	15 kg (33 lbs)
Min. Curve Radius	2.00 m (6'7")	4-Wheel Runner	30 kg (66 lbs)

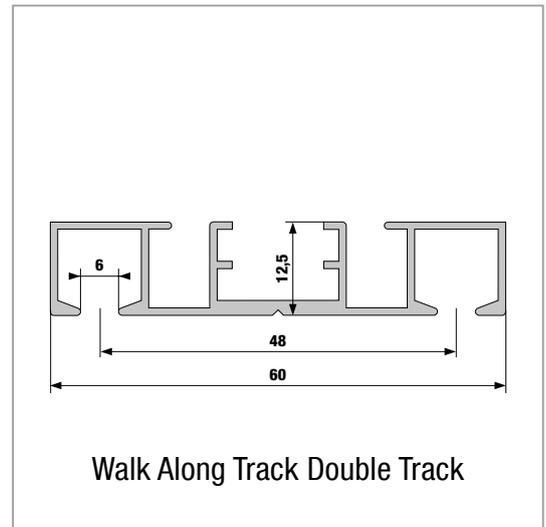
# [ACOUSTIC TRACK SYSTEMS]

## Track Systems Overview

### ELEGANCE – Sophisticated and Smart!

ELEGANCE is an inconspicuous, low profile curtain track. It is a clean, simple solution for light weight curtains in an architectural environment.

Available as single or double track system with internal runner and rope.

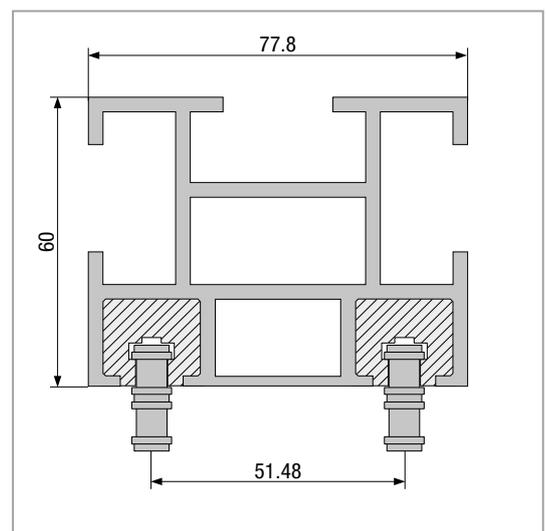


### Technical Data

Track	Walk Along Track Single Track	Walk Along Track Single Track with Overlap	Walk Along Track Double Track	Internal Rope Drawn Track	Single Motor Operation Track
Weight	207 g/m (2.2 oz/ft)	380 g/m (4.1 oz/ft)	516 g/m (5.5 oz/ft)	898 g/m (9.6 oz/ft)	898 g/m (9.6 oz/ft)
Profile Height	17 mm (.67")	12.5 mm (.49")	12.5 mm (.49")	27 mm (1.06")	27 mm (1.06")
Standard Lengths	6.00 m (19'8")	6.00 m (19'8")	6.00 m (19'8")	6.00 m (19'8")	6.00 m (19'8")
Min. Curve Radius	0.15 m (5.3")	0.50 m (19.7")	-	0.35 m (13.7")	0.35 m (13.7")

### Continuous Chain System CUE-TRACK 2 – Tight and Robust!

CUE-TRACK 2 is a curtain system with an internal endless chain. The system is distinguished by its powerful and uniform pull, its fine speed gradations and its high positioning accuracy. CUE-TRACK 2 is mainly used in the context of curtains with minimal stacking area, side masking systems in the cinema, room divider curtains, and backdrops. The track's tight 90 degree radii allow for screens and curtains to stack flat by having the system double back on itself.



### Technical Data

Track	Single Chain Profile	Double Chain Profile	Safe Working Load
Weight	2,950 g/m (2.0 lbs/ft)	4,450 g/m (3.0 lbs/ft)	max. 20 kg/m (13.4 lbs/ft)
Power Consumption	Depending on Application up to 4.0 kW		
Dist. between Hang Points in Duplex Chain	variable		
Chain Speed	max. 0.60 m/s (24 in/sec)		

## [ACOUSTIC TRACK SYSTEMS]

### Manual Operation Overview

#### Floor Pulley

Floor pulley used to divert the rope from track to floor and back to track again. Manually tensioned.



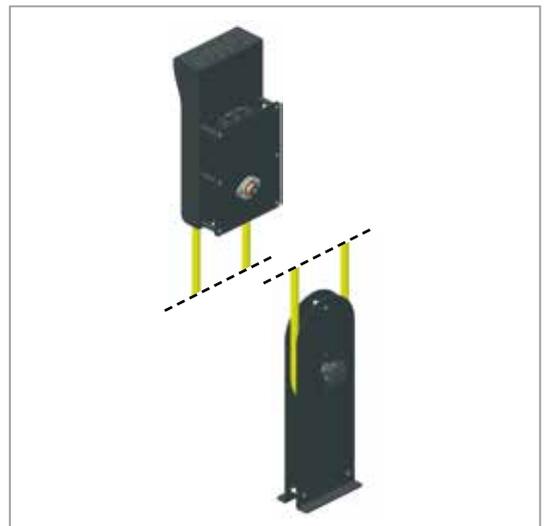
#### HAND-DRIVE

Works like the floor pulley, but operated with a hand crank mounted to the wall. Automatic tensioning.



#### Hemp Rope Adapter Pulley

Continuous loop pulley used to move the curtain via 22 mm (0.86") hemp rope. Power transmission between pull rope and operating line takes place on track level at the end of the track.



# [ACOUSTIC TRACK SYSTEMS]

## Motorised Operation Overview

### TRAC-DRIVE

A continuous loop track mounted motor with either 2 or 3 grooved pulleys (depending on curtain weight and speed) available with fixed or variable speed motors.

For use on track systems:  
TRUMPF 95 // JOKER 95 // CARGO // KING

Curtain track options:

-  Side Cord Operation
-  Top Cord Operation
-  Bottom Cord Operation



Technical Data			
TRAC-DRIVE Motor	TD 12	TD 20	TD 30
Weight	16,490 g (36 lbs)	14,500 g (32 lbs)	23,680 g (52 lbs)
Duty Cycle	40 %	15 %	40 %
Pull Speed and Load Capacity	30 cm/s (12 in/s) - 450 60 cm/s (24 in/s) - 400 N 120 cm/s (47 in/s) - 200 N	22 cm/s (8.7 in/s) - 450 N	25 cm/s (10 in/s) - 1,000 N 50 cm/s (20 in/s) - 800 N 100 cm/s (39 in/s) - 600 N

### FRICITION-DRIVE

With the FRICTION-DRIVE curtain sections move without the use of ropes or pulleys. The motor moves silently along the track and receives its power from a trailing festoon cable or from integrated, track mounted conductor rails. Curtains/scenery are directly attached to motor and are "pushed" and "pulled" along track. This allows long, complex track configurations, including endless loops. The motor is either fixed or variable speed.

Curtain track options:  
TRUMPF 95 // STUDIO / E // JOKER 95 // CARGO

Technical Data	
Weight	7,800 g (17 lbs)
Duty Cycle	100 %
Pull Speed and Load Capacity	10 cm/s (4 in/s) - 350 N 25 cm/s (10 in/s) - 150 N 30 cm/s (12 in/s) - 100 N



## Danish Radio Concert Hall

### Description

- Acoustical drapery made from WOOLSERGE 500.
- JOKER 95 track system with FRICTION-DRIVE motors: CNC bending ensures that 3-dimensional curves fit precisely along organically curved wall and ceiling architectural elements.

### Architect

Jean Nouvel

### Project Director / Designer

Jean Nouvel

### Acoustics Planner

Nagata Acoustics / Japan

### Client

Priebe

### Location

Copenhagen / Denmark





## O.T. Theatre

### Description

- TRUMPF 95 curtain track.
- Complex configuration maximises the versatility of the avant-garde, ultra-simple performance space.
- Curtains made from acoustic textile ABSORBER CS in white.

### Designer

Gerrit Timmers

### Project Director

Frans v. Oekel

### Client

Onafhankelijk Toneel / Opera O.T.

### Location

Rotterdam / Netherlands





## Clark Music Center – Lawrenceville School

### Description

- Replacement of previous semi-sheer curtains in two recital halls to create an acoustically optimised space while maintaining the sunlit nature of the rooms.
- Manufacture and installation of 16 ABSORBER LIGHT curtains in light beige with 100% fullness to create maximum sound absorbency.
- Installed on eight TRUMPF manual bi-part track systems.

### Client

The Lawrenceville School

### Location

Lawrenceville, NJ / USA







//Photo: Roland Borgmann / Library of Architecture, Art & Design – Fachhochschule Münster, Germany  
Sound curtains with track system TRUMPF 95 OFFICE

## **[SOUND CURTAIN CLASSIC]**

In theatres the classic sound curtain often is mounted directly behind the main curtain. During conversions, it is shut down after closing the main curtain to separate the sounds on the stage from the auditorium and thus to maintain the illusion.

For years we had been developing the 5- or 7-layer acoustic curtain for this application, which significantly reduces these occurring sound emission. A similar design is provided by our OFFICE Sound Curtains, which elegantly separate offices, meeting rooms and other areas with electrically powered track systems.

[SOUND CURTAIN CLASSIC]

## THE CURTAIN SYSTEM

Our Sound Curtain CLASSIC is available in the standard versions of 5- and 7-layer with the respective sound certificate. In order to increase the sound insulation, the system is extendable by adding inner layers at any time.

In theatrical use, the front layer consists of a back and heavy velour, supplemented by a UNISATIN on the back. Therefore the sound curtain can also be used as a main curtain; the robust back protects the curtain from damage and can be easily cleaned. Of course, you can also choose other individual outer layers.

The inner layers consist of highly absorbing cotton fabrics paired with acoustically insulating layers of PVC. This combination offers a high sound insulation at a relatively low weight.

### Advantages of the System

- Effective and flexible
- Acoustic separation of stage and auditorium
- Can also be used as a separation in tradeshow and industrial halls
- Soundproofing up to 18 dB, subsequently expandable
- Sound certificates available
- All layers are flame-retardant
- Custom designed outer layers according to client requirements
- Automated if required

## Sound reduction factor according to test certificate:

- 7-layer version up to ~18 dB.
- 5-layer version up to ~16 dB.

Fabrication method:

### 5-layer version:

Front side:

Stage velvet CLIVIA 600, flat.

Middle layers:

2 x CALMUC, ecru.

1 x PVC film.

Back side: lining fabric.

### 7-layer version:

Front side:

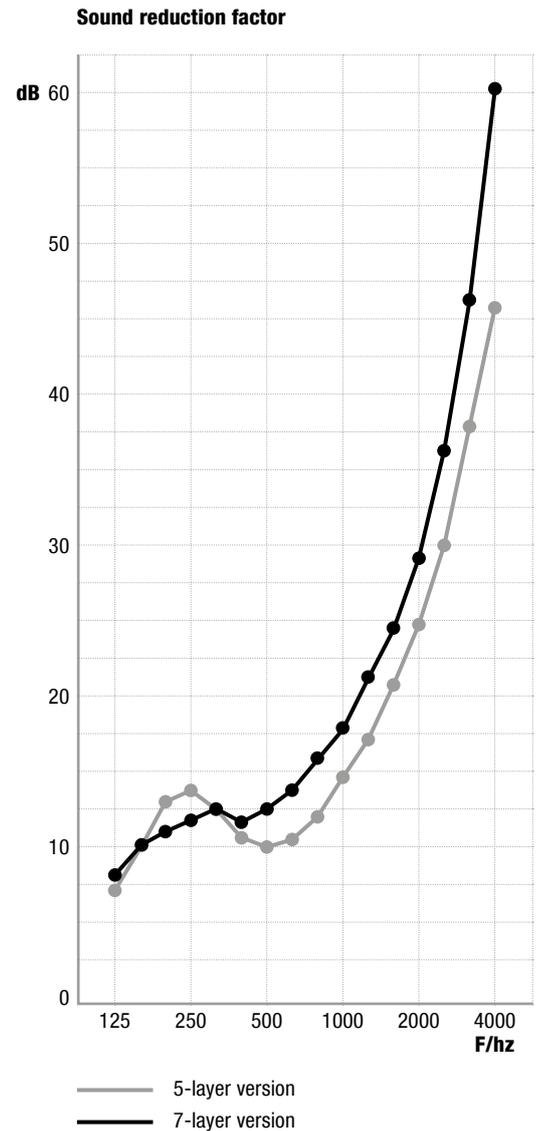
Stage velvet CLIVIA 600, flat.

Middle layers:

3 x CALMUC, ecru.

2 x PVC film.

Back side: lining fabric.



Values tested at independent lab in accordance to DIN EN ISO 140

Sound reduction values tested in accordance to DIN ISO 15186-1

## Perez Art Museum (PAMM)

### Description

- Visual and acoustic separation of auditoriums and the museum lobby.
- Manufacture and installation of a complex layout of nine acoustic curtains with up to nine layers of fabric with an acoustic reduction of 18 dB.
- Outer layers of acoustic curtains made from a custom printed sheer chiffon.
- Installed on a combination of automated TRUMPF 95 and JOKER 95 motorised track systems, configured to seven different preset positions.

### Design Architect

Herzog & de Meuron, Stefan Hoerner

### Executive Architect

Handel Architects, Ryan Cole

### A/V Berater

HMBA, David Harvey

### Client

Miami Art Museum Foundation

### Location

Miami, FL / USA





## Blue Box Faculty of Architecture

### Description

- Manufacture and installation of two 42 m (137'8") powder coated, remote controlled, KING track systems.
- Each system included a 180° and a 90° curved section. The installation supported directly from a Mero-ceiling truss.
- Each system was equipped with four 3-layer acoustic curtains.
- Designed to provide both visual and acoustic separation for a series of separate room units in the Faculty of Architecture at Bochum University.
- Each of the eight curtains measured 8.60 m x 3.80 m (28'2" x 12 '5").

### Client

Bochum University

### Location

Bochum / Germany







## **[SOUND CURTAIN EXPO]**

Tradeshow and exhibition halls must offer maximum flexibility for a wide variety of events. This often results in the need of an acoustic separation in addition to the optical division.

With the simple but effective Gerriets Sound Curtain EXPO we offer you an easy solution to divide your space acoustically as well as visibly!

[SOUND CURTAIN EXPO]

## THE TRADESHOW SYSTEM

Tradeshow and exhibition halls must offer maximum flexibility for a wide variety of events. This often results in the need of an acoustic separation in addition to the optical division.

With the simple but effective installation of a Gerriets Sound Curtain EXPO we offer you an easy way for an acoustically and visually flexible division of your space!

Also available including a special case with an integrated three-point truss for an extremely simple installation and fast changeover times.

All layers are flame retardant according to DIN 4102 B1 and EN 1 3501-1 with excellent sound absorption properties, in addition to the high sound insulation of the system.

This allows you to not only divide the hall in two parts, but also improve the reverberation time and speech intelligibility in the individual parts of the hall.

The special acoustic membrane, serving as the middle layer, ensures excellent insulation at an attractive price.

The system can also be extended with additional inner layers to achieve even higher sound insulation values.

Tested sound insulation value: **R<sub>w</sub> (C; Ctr) = 17 dB (-1; -5)** with three layers.

### Advantages of the system at a glance

- Excellent sound insulation
- Easy to use
- Extremely fast assembly and disassembly times thanks to integrated case system
- Modular system, adaptable to any hall size
- Favourable price compared to classic sound curtains
- Colours of the outer layers according to colour card of Duvetyn R 55
- Including acoustic certificate

## Sound reduction factor according to test certificate:

- ~17 dB.

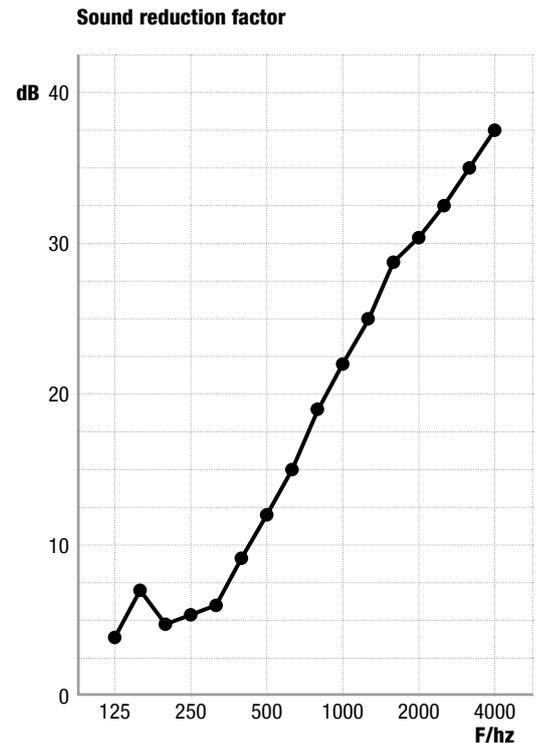
Fabrication method:

Front and back side:

DUVETYNE R 55 with 100 % fullness, heavy duty brushed cotton with 325 g/m<sup>2</sup> (9.59 oz/yd<sup>2</sup>).

Middle layer:

Acoustic membrane HD.



Values tested at independent lab in accordance to DIN EN ISO 140

Sound reduction values tested in accordance to DIN EN ISO 717-1

## What customers say about our new system

### **Michael Biwer (Technical Manager PROLIGHT & SOUND, Messe Frankfurt)**

"The acoustic separation of individual product groups at Musikmesse 2018 worked fantastically. The soundproofing effect of the three-layer curtains was excellent. We were thus able to plan and create "halls within halls". The volume level decreased noticeably - this enhancement of business quality was well received by exhibitors and visitors alike."

### **Kerstin Kopf (Head of Event Technology Entertainment Europapark)**

"The EXPO Sound Curtain enables us to use our EP Arena with maximum flexibility! The excellent soundproofing effect of the curtains enables us to use the hall for various events and divide it acoustically and optically. Hereby we achieve a significantly higher utilisation of the area."

### **Ralf Schafstall (PRODUCTION OFFICE engineering office for Entertainment)**

"For large events, we were looking for an effective and inexpensive way to acoustically separate the event hall. The sound curtain from Gerriets perfectly meets our requirements and the customer is highly satisfied! As an additional side effect, the reverberation time in the room has been significantly reduced."

## Messe Frankfurt / Musikmesse

### Description

- Production of over 1,600 m<sup>2</sup> (1,913 yd<sup>2</sup>) of sound curtains as flexible hall dividers
- Mounted on three-point trusses.
- Including transport cases for easy assembly, disassembly and optimal storage.
- Colours: black and dark grey.

### Client

Fair Frankfurt

### Location

Frankfurt / Germany



Electric guitars    Electric basses  
Guitar Camp 9.0 B20

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BAYS  
10 - 13.4.2016

Acoustic Stage

8.0

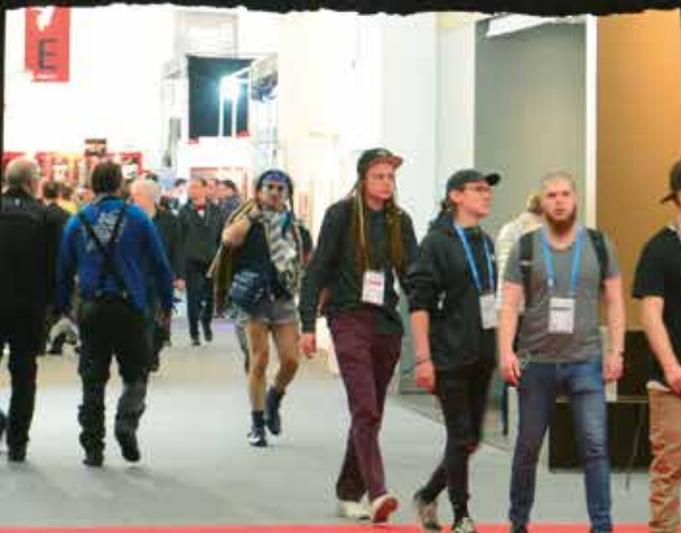
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Discover  
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