

ACOUSTIC FABRIC



Why KREATE+ Acoustic Fabric?

- Noise; in general, is defined as un pleasant and disturbing sound.
- Along with its physiological and psychological effects on human health, noise causes poor performance in the working environment.
- In noisy environments; decrease in productivity is determined by 60% on the office workers and 35% on the manual workers.
- Acoustic fabrics developed by the Kreate+ R&D center contribute the increase in living comfort and productivity in working areas by reducing the causes of disturbing noise.

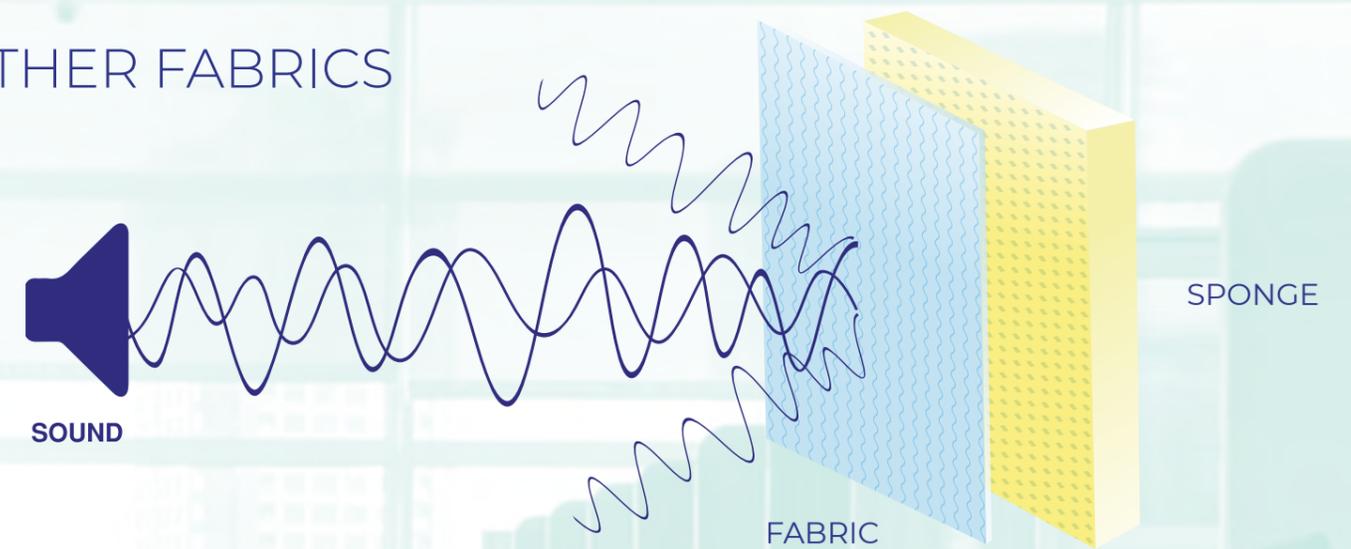


How Sound Absorption Works?

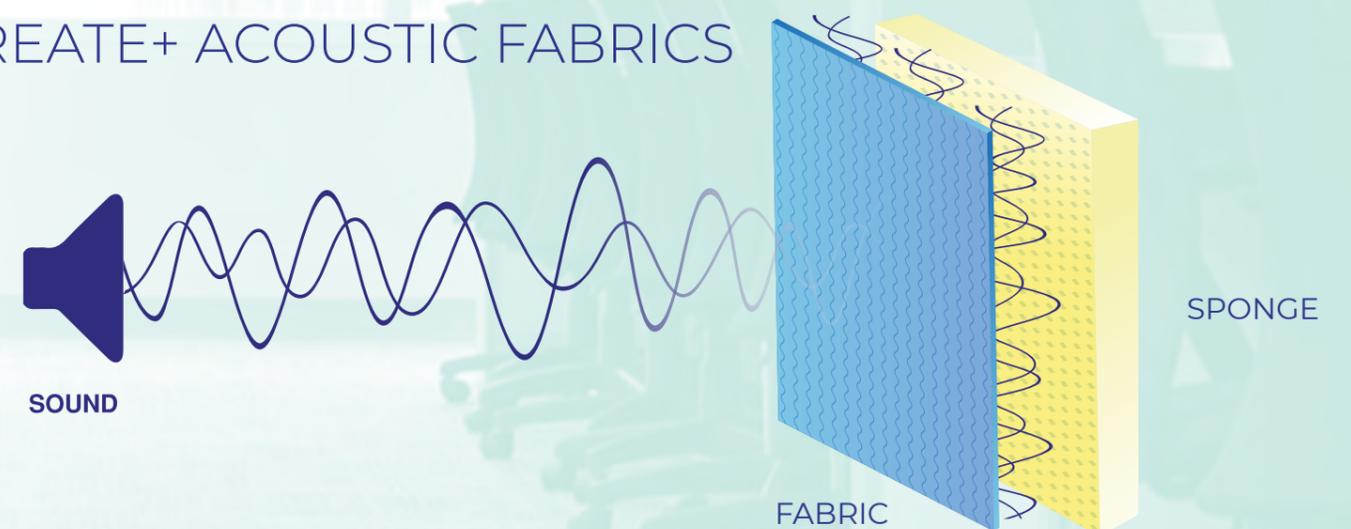
When the sound encounters an obstacle in a closed environment, some of the sound is reflected by hitting the surface, some is absorbed by the surface, and some passes to the other side of the obstacle it encounters.

Kreate+ acoustic fabrics help to eliminate sounds that cause disturbance in the environment by absorbing most of the incoming sound.

OTHER FABRICS



KREATE+ ACOUSTIC FABRICS





FREQUENCY

Frequency is usually measured in the hertz unit, abbreviated as Hz, it is the number of waves that pass by per second. For example, an “A” note on a violin string vibrates at about 440 Hz (440 vibrations per second).



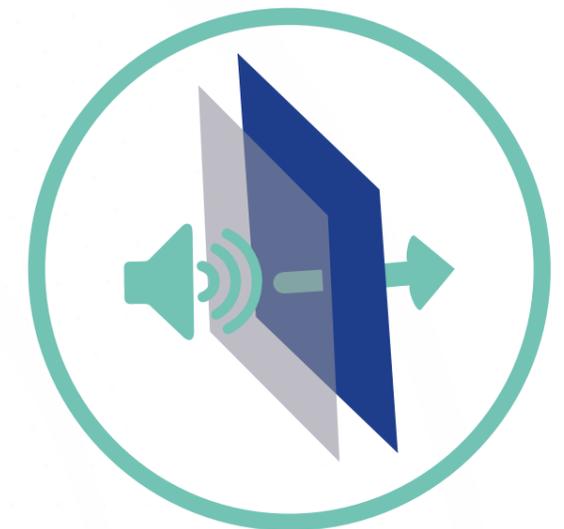
SOUND ABSORPTION

When the sound waves come into contact with a material, Sound Absorption shows the level of the sound that has been absorbed by the material within an environment. Absorption converts the sound energy into heat/mechanical energy.



REFLECTION

The bounce back of the sound wave from the surface is called the reflection of the sound. This situation negatively affects the acoustics property causing an echo effect.



TRANSPARENCY

After the sound waves hit a surface, transparency level shows how much the sound wave passes through the surface.



Areas Where Acoustic Textile Used

It is used as curtains and panels in all areas where noise should be eliminated such as open offices, social areas, call centers, cinemas, theaters, meeting rooms, work areas and restaurants.



Workspace



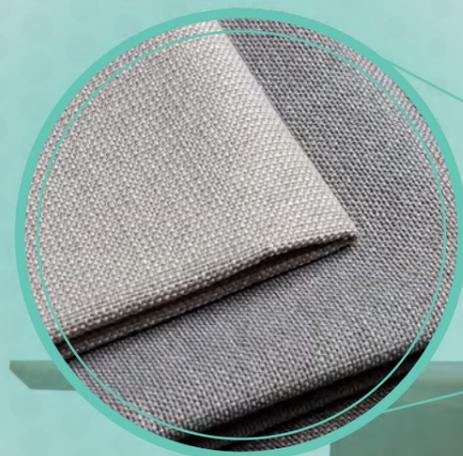
Cinema & Theaters



Call Center



Social Areas



KREATE+ ACOUSTIC FABRIC

Additional Technologies



Easy to Clean



Flame Reterdancy



Antibacterial &
Antifungal

Fabric Features



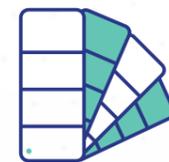
Harmless to Health



Environmentally
Friendly Production



High Resistance to
Abrasion & Deformation



Rich Color & Texture Options



Testing Standards



TÜBİTAK

intertek

There are generally two kind of standard test methods for acoustic fabrics widely used in the sector.

We tested curtains according to ISO 354 Acoustic standart in a reverberation room in order to simulate the real life environment.

ISO 10534-2 Standard however is used to measure the sound absorption coefficient and impedance of Kets Acoustics Panel fabrics in an impedance tube. This test simulates the acoustic properties by using 100mm and 29mm diameter test samples.

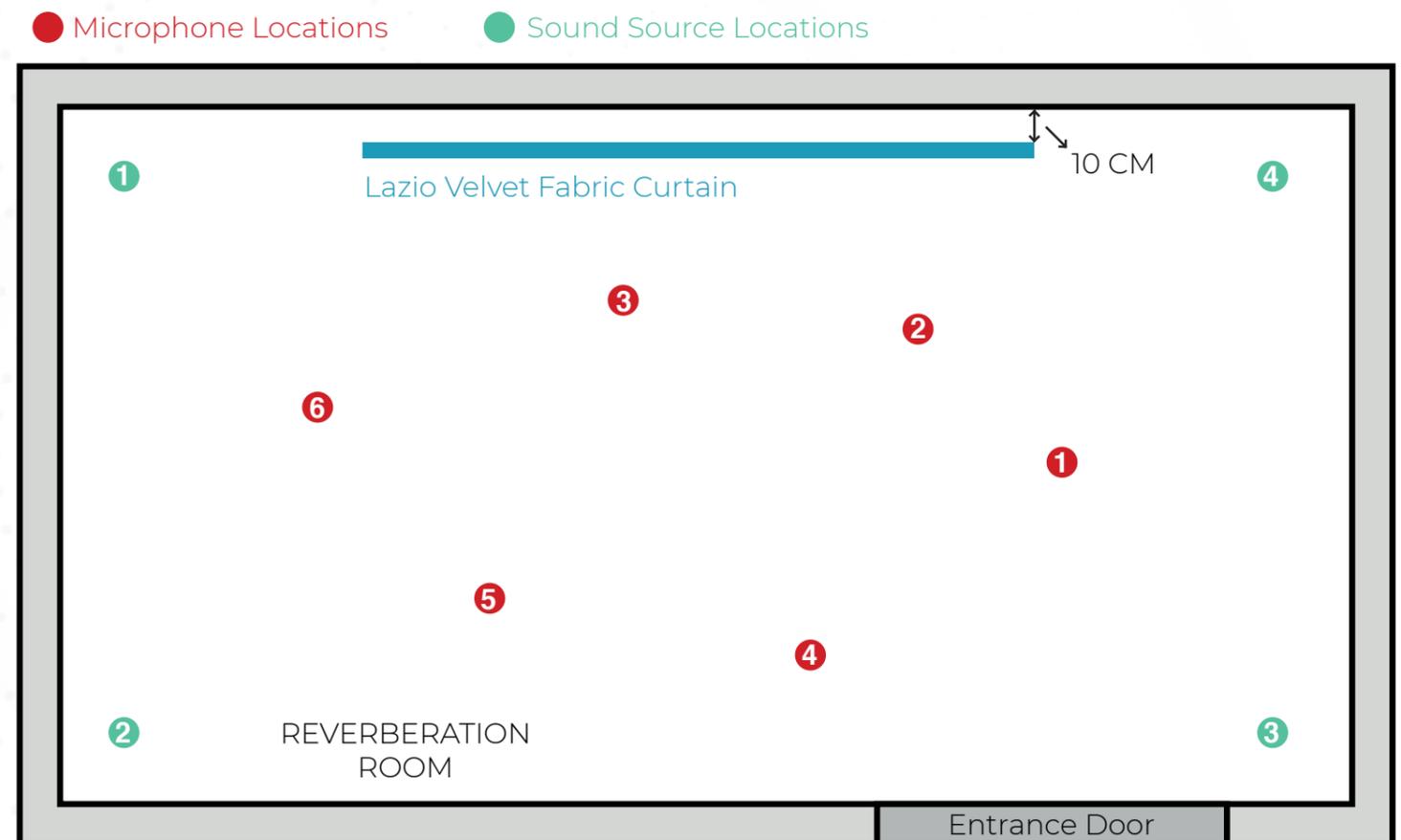


Tests

The Reverberation Room test is done as following:

ISO 354 Acoustics - Measurement of sound absorption in a reverberation room

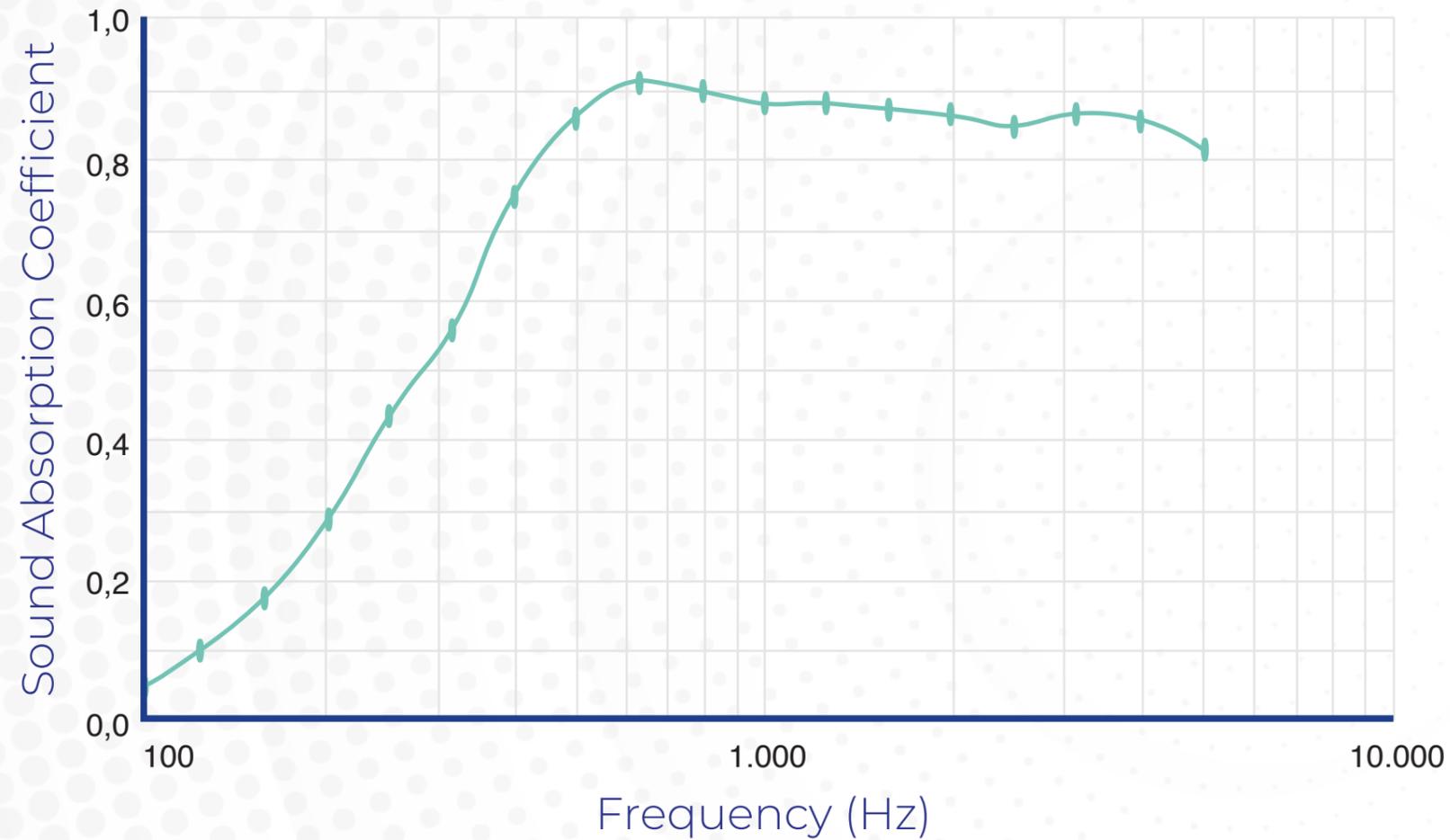
The reverberation room has length of 9.7 m, width of 6.6 m and a height of 4.1 m. It has a rectangular shape. The volume of the room is 263 M3 and total inner surface area of the walls is 262m2. The curtain made of Lazio velvet fabric which was suspended in parallel with the wall of the room as shown in Figure. The space between wall and the curtain was selected as 100 mm as designated in Type G-100 standard.



The locations of the curtain made of Lazio Velvet Fabric hanged in parallel with the wall, microphones and sound sources in Reverberation Room.



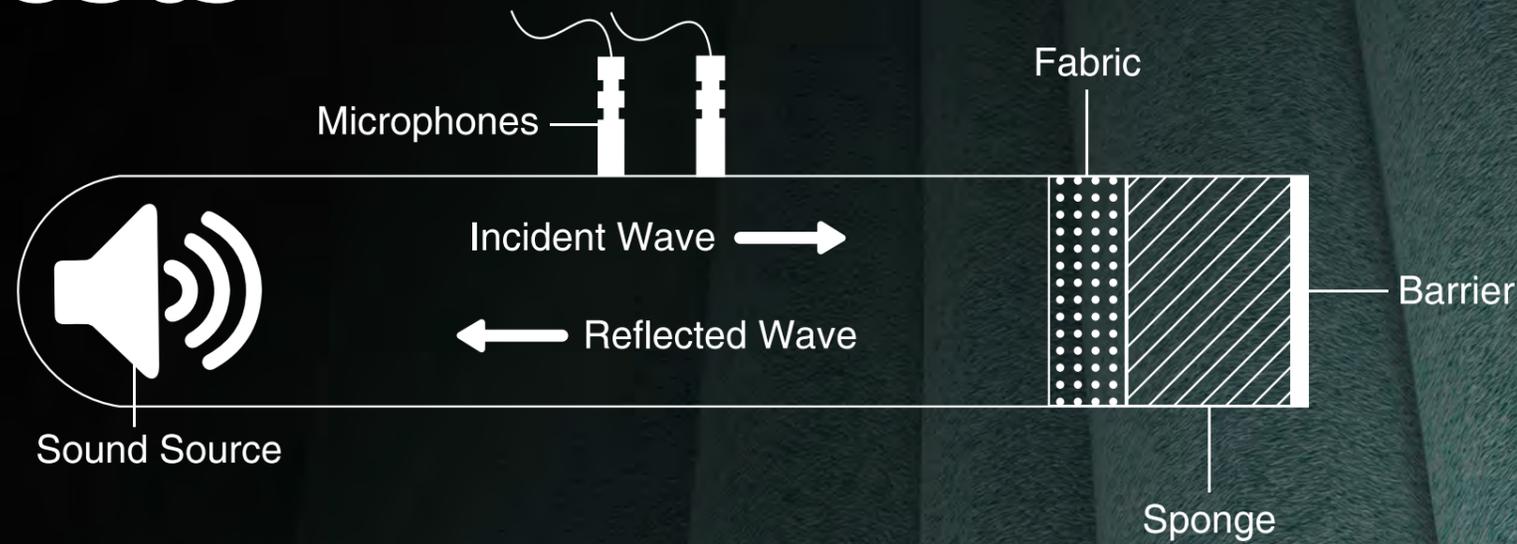
Tests Results



Weighted Sound Absorption Coefficient, α_w	0,75
Sound Absorption Class	C



Tests



ISO 10534-2 Acoustics Determination of sound absorption coefficient and impedance in impedances tubes

The aim of these impedance tube tests is to determine the sound absorption coefficient at normal incidence (α) of the test sample, which is defined as the ratio of sound power entering the surface of the test object, and not returning, to the incident sound power of a plane wave reflected by the same surface at normal incidence.

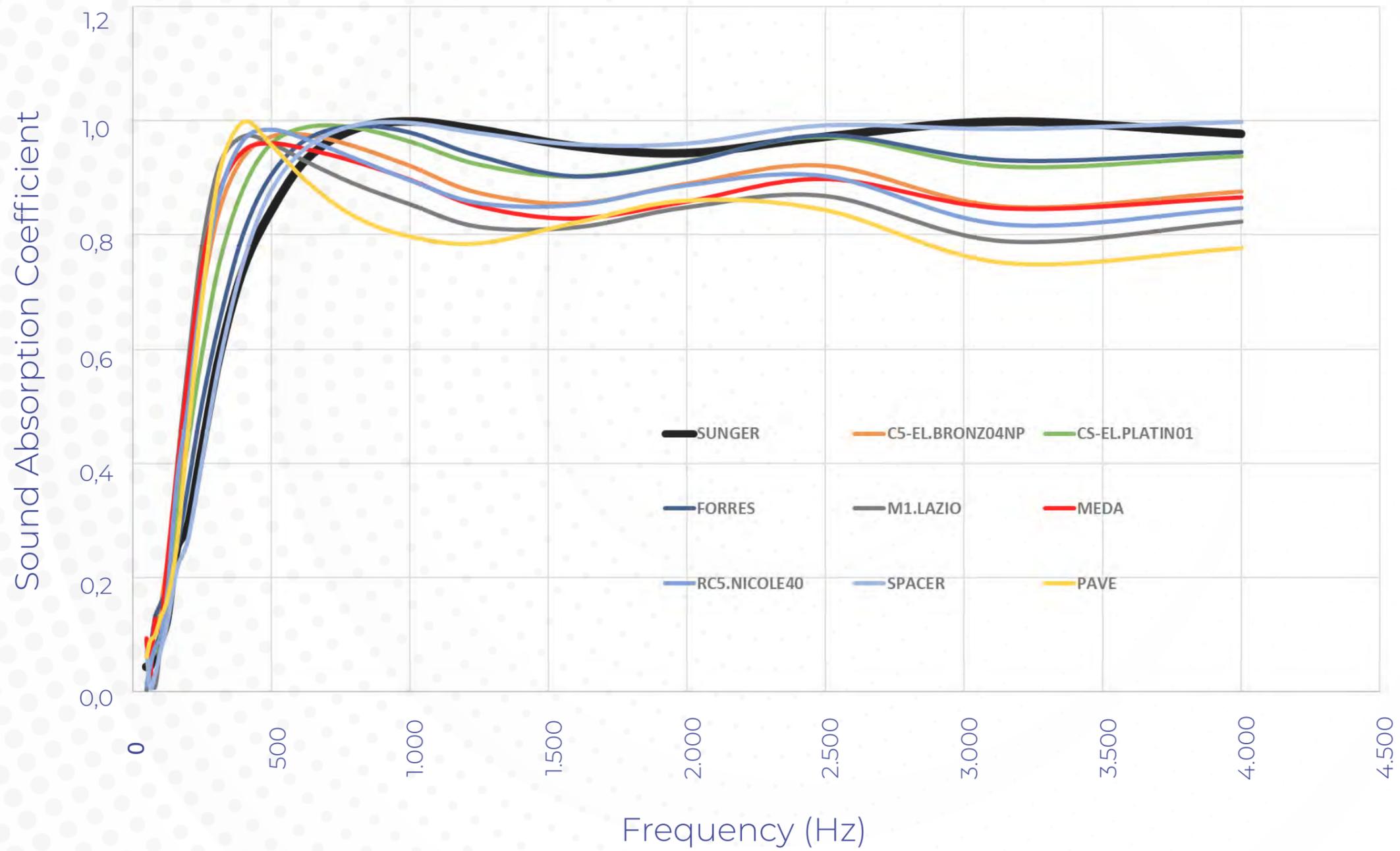
The test methodology followed was the one detailed in BS EN ISO 10534-2, using an impedance tube with a sound source generating plane waves connected to one end and the test sample mounted in the tube at the other end.

The decomposition of the interference field is achieved by measuring acoustic pressures at two fixed locations, using wall-mounted microphones, and calculating the complex acoustic transfer function and the normal incidence absorption ratios of the material.

For this particular test, a B&K Type 4206 Impedance Tube was used (Figure). This impedance tube is in accordance with BS EN ISO 10534-2 and consists of an adjustable signal filter, a loudspeaker, a sound propagation tube, microphone holders, a large sample tube (100 mm diameter), and a small sample tube (29 mm diameter). Each sample tube contains an adjustable plunger for positioning the test sample and creating air gaps behind it if desired.



Tests Results



In the tests, we used 80mm melamine foam which is widely used in acoustic panels

The acoustic values of Kreate+ Acoustic Fabrics portfolio were measured using the impedance tube method. It is very difficult to see the high absorption value at low frequencies. As seen in the graph, all the tested qualities increased the absorption value by exceeding the original foam value at low frequency. They are acoustically transparent at high frequencies, thus drawing a curve close to the graph of the original 80mm foam in test tubes. We have got extra large number of Kreate+ Acoustic Fabric qualities that are not shown in the chart.

In addition, There are Kreate+ Acoustic Fabrics combined with technologies such as Flame Retardancy, Easy Life, Biosafe, Refresh and Antibacterial.



Lab Test Results

Reverbetaion Room

intertek



TÜBİTAK



**LAB TEST
DOWNLOAD**



**LAB TEST
DOWNLOAD**

Empedance Tube



**MARMARA
ÜNİVERSİTESİ**



**LAB TEST
DOWNLOAD**



Digital Catalog

DIGITAL CATALOGS OF ACOUSTIC FABRICS

FORRES

MEDA

M1.LAZIO

PLATIN 01

BRONZO4NP

EXPLORE

EXPLORE

EXPLORE

EXPLORE

EXPLORE



ACOUSTIC FABRIC

