



**TÜRK STANDARDLARI ENSTİTÜSÜ**  
**DENEY ve KALİBRASYON**  
**MERKEZİ BAŞKANLIĞI**  
**Yapı Malzemeleri Yangın ve Akustik**  
**Laboratuvarı Müdürlüğü**



Test  
TS EN ISO/IEC 17025  
AB-0001-T

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631586

09-21

*TURKISH STANDARDS INSTITUTION*  
*HEADSHIP OF TEST and CALIBRATION CENTER*  
*Construction Materials Fire and Acoustics Laboratory Directorate*  
Aydınlı Mahallesi Ulus Sokak No:7/1 34953 Tuzla / İSTANBUL  
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**MUAYENE VE DENEY RAPORU**  
**TEST REPORT**

**Deneysel Talep Eden/Firma** : ALPHA ACOUSTIK LTD  
(Adı,Adresi,Şehir vb.) (ALPHA ACOUSTIK LTD: 73 APOSTOLOPOULOU STR 15231 CHALANDRI  
**Requesting/Customer** ATHENS GREECE --ATHENS)  
(Name,Address,City etc.)  
**Deneysel Talep Tarihi/No** : 01.09.2021 / 638956  
**Order Date / No**  
**Numunenin Tanımı** : 814635,Sound Absorption Polyester Fiber slab, İZIFON , , - , - , 6,00 adet  
(No,Cins, Marka, Tip, Tür, Model vb.)  
**Sample Description**(No,Type,Model etc.) 814635,Sound Absorption Polyester Fiber slab,İZİFON,...6,00 item  
**Numune Kabul Tarihi** : 01.09.2021  
**Test Item Receipt Date** Sample was taken by the client.  
**Deneysel Yapıldığı Tarih** : 02.09.2021 - 07.09.2021  
**Date of Test**  
**Uygulanan Standard / Metod** : TS EN ISO 10534-2: 2003-04 Akustik-Empedans borularındaki ses absorpsiyon  
**Applied Standard/Method** katsayısının ve empedansın tayini-Bölüm 2:Aktarım fonksiyonu metodu  
TS EN ISO 10534-2: 2003-04 Acoustics - Determination of sound absorption coefficient  
and impedance in impedances tubes - Part 2: Transfer-function method

**Raporun Sayfa Sayısı** : 5  
**Number of pages of the report**

**Açıklamalar** :  
**Remarks**

Deneysel laboratuvarları olarak faaliyet gösteren TSE Deney ve Kalibrasyon Merkezi Başkanlığı Deney Laboratuvarları TÜRKAK'tan AB-0001-T ile TS EN ISO/IEC 17025:2012 standardına göre akredite edilmiştir.

TSE Headship of Test and Calibration Center Testing Laboratories accredited by TÜRKAK under registration number AB-0001-T for TS EN ISO/IEC 17025:2012 as test laboratory.

TÜRKAK deney raporlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği (EA) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği(ILAC) ile karşılıklı tanıma anlaşması imzalamıştır.

TURKAK is a signatory to the European co-operation for Accreditation (EA) Multilateral Agreement (MLA) and to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the recognition of test reports.

Deneysel ve/veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deneysel metodları bu raporun tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir.

The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report.

Numune müşteri tarafından alınmıştır, bu rapordaki sonuçlar numunenin teslim alındığı hali için geçerlidir. Bu rapor özel deneysel talebine istinaden düzenlenmiş olup, Standartlara Uygunluk Belgesi niteliğinde değildir. Partiyi temsil etmez, Piyasa Gözetim ve Denetim Faaliyetlerine esas oluşturamaz, ilan, reklam ve ihalelerde 6102 sayılı Türk Ticaret Kanunu'nun 54. ve 55. Maddelerinde yer alan haksız rekabet hükümlerine aykırılık teşkil edecek şekilde kullanılamaz. Söz konusu hususlara aykırılık hareket edilmesi halinde hukuki ve cezai açıdan TSE sorumlu tutulamaz.

The sample was taken by the customer and the results in this report are valid for the status of the sample being received. This report has been prepared in accordance with the request for special tests and is not qualified as a Certificate of Conformity to Standards. It does not represent the party, does not constitute a basis for Market Surveillance and Audit Activities, and cannot be used in announcement, advertisements and tenders in contradiction with the provisions of unfair competition in Articles 54 and 55 of the Turkish Commercial Law No. 6102. TSE cannot be held responsible in case of violation of these issues in legal and criminal terms.

Mühür

Seal

Tarih

Date

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**Deneysel Sorumlusu**

Person in charge of tests

07.09.2021

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**Kontrol Eden**

Reviewer

07.09.2021

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**Onaylayan**

Approved by

07.09.2021

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Bu raporun onaylayan laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürlü raporlar geçersizdir. Bu rapor, sadece deneysel yapılan numune için geçerlidir ve "Ürün Belgesi" yerine geçmez.

This test report shall be used only in full except with the written permission of the laboratory. Test reports without signature and seal are not valid. This test report represents only test results and shall not be used as Product Certificate



## MUAYENE - DENEY SONUÇLARI TEST RESULTS

### TS EN ISO 10534-2:2003

<b>Test Laboratory</b>	TSE Yapı Malzemeleri Yangın ve Akustik Laboratuvarı Aydınlı Mah. Ulus Sokak No:7/1 Tuzla /İSTANBUL Tel: 0(216) 560 0 500 Fax: 0(216) 560 05 65
<b>Requested by</b>	ALPHA ACOUSTIKI Ltd. Apostolopoulou 73 15231 Athens /GREECE
<b>Test Sample</b>	İZİFON Sound absorption Polyester fiber slab

### 1. Introduction

At the request of the ALPHA ACOUSTIKI Ltd., sound absorption measurements were carried out for “İZİFON Sound absorption Polyester fiber slab” at the acoustic department of TSE Construction Materials Fire and Acoustic Laboratory according to “TS EN ISO 10534-2:2003 Acoustics - Determination of sound absorption coefficient and impedance in impedances tubes - Part 2: Transfer-function method” on 07/09/2021.

### 2. Test specimen

The specimen was prepared by the client.

Test specimen arrival date to the laboratory:09/2021

#### 2.1 Description of the test specimen

**Description of the product:** İZİFON Sound absorption Polyester fiber slab

**Made of:** Polyester fiber

**Number of test specimens :** ≈φ100 3 pieces, ≈φ28 3 pieces

Diameter(mm)	Thickness (mm)	Weight (gr) (for 100mm/28mm specimen)	Density (kg/m <sup>3</sup> )
100 mm	≈50	≈14,39	≈ 1,51
28mm	≈49		≈ 36,65

\*Product specifications are based on client declaration.

#### 2.2 Installation of the test specimen

Specimens are cut with different diameters 28mm and 100 mm respectively by the client. Photos were presented at the end of the report. For sound absorption measurements, specimen mounts on the sample holder without any protrusion and measures are taken in order not to allow to pass air from specimen perimeter.

*Note: Edges of the sample are not smooth and the height of the sample is not stable because of the structure of the material.*



## MUAYENE - DENEY SONUÇLARI TEST RESULTS

### TS EN ISO 10534-2:2003

### 3. Ambient Conditions

Temperature [ $^{\circ}$ C]	Pressure [kPa]	Relative Humidity [%]
24,7	51,7	101,3

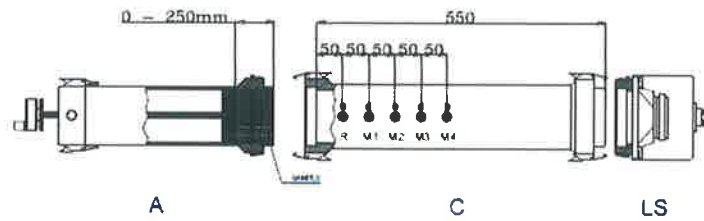
### 4. Method

Measurement equipment is controlled by a series of test before each measurement. Loudspeaker is operated 10 minutes before measurements in order to reach stable temperature. After pretests, test specimen is mounted on the sample holder as explained before. Three tests were performed for each diameter. Different diameters results were overlapped after tests. After the connection between signal generator and impedance tube, signal is produced at requested frequency range (100Hz-6,3kHz) then results obtained at 1/3 octave bands using appropriate software.

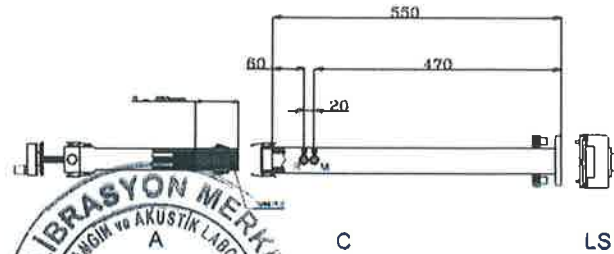
#### 4.1 Test Equipment



SIZE 100mm



SIZE 28mm



**MUAYENE - DENEY SONUÇLARI TEST RESULTS**  
**TS EN ISO 10534-2:2003**

**5. Results**

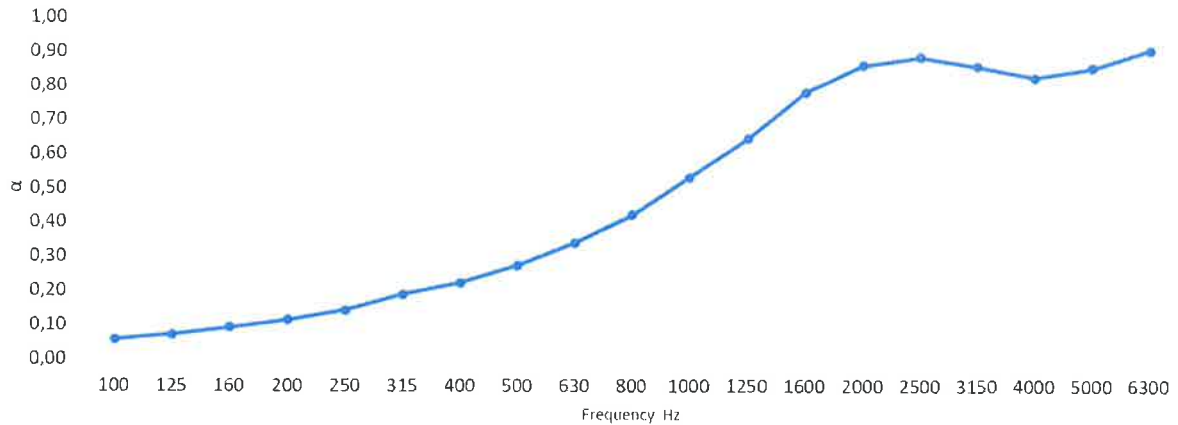
Results were obtained using arithmetic mean of three specimens test result. Sound absorption value ( $\alpha$ ) is presented for 1/3 octave bands on the following pages.

**Sound absorption ( $\alpha$ ),**

Frequency Hz	ALPHA			ALPHA mean.
100	0,06	0,06	0,05	<b>0,06</b>
125	0,08	0,08	0,06	<b>0,07</b>
160	0,10	0,10	0,08	<b>0,09</b>
200	0,12	0,12	0,11	<b>0,11</b>
250	0,14	0,14	0,14	<b>0,14</b>
315	0,19	0,19	0,18	<b>0,19</b>
400	0,22	0,23	0,22	<b>0,22</b>
500	0,27	0,28	0,27	<b>0,27</b>
630	0,34	0,35	0,34	<b>0,34</b>
800	0,42	0,43	0,41	<b>0,42</b>
1000	0,54	0,53	0,51	<b>0,53</b>
1250	0,67	0,65	0,62	<b>0,64</b>
1600	0,83	0,77	0,74	<b>0,78</b>
2000	0,90	0,85	0,83	<b>0,86</b>
2500	0,91	0,87	0,86	<b>0,88</b>
3150	0,88	0,85	0,85	<b>0,86</b>
4000	0,83	0,81	0,83	<b>0,82</b>
5000	0,86	0,84	0,86	<b>0,85</b>
6300	0,92	0,90	0,90	<b>0,90</b>

\*Results are out of measurement equipment's reliable range.

**İZİFON SOUND ABSORPTION POLYESTER FIBER SLAB**





## MUAYENE - DENEY SONUÇLARI TEST RESULTS

TS EN ISO 10534-2:2003

### PHOTOS REGARDING TEST SAMPLE

