

O  
C  
E  
A  
N  
S  
O  
U  
N  
D

OCEAN-WAVE SOUND DIFFUSER



# OCEANOS

## GENERAL INFORMATION

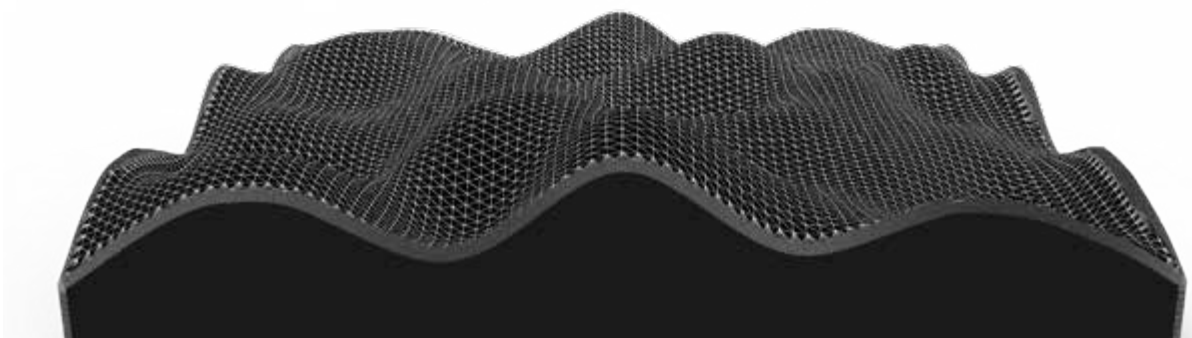
Absorbers and diffusers are two of the main design tools for altering the acoustic conditions of a room. In small rooms it is often preferable to control interfering reflections and provide an ambient sound field using diffusion instead of absorption. Diffusion is the re-radiation of an incident sound wave over a wide area.

Using sound diffusion as a room acoustic treatment can improve the speech intelligibility and improve the overall listening environment within the room,

without adding excessive amounts of sound absorption materials.

Based on our experience in acoustic studies since 1978 and in collaboration with a European team of engineers and scientists, we have created a new acoustic diffuser named **OCEANOS**.

These acoustic diffusers help in conserving sound energy, by spreading it around the room and creating a better acoustic environment.





## DESCRIPTION

**OCEANOS** is a modern innovative two-dimensional, quadratic acoustic diffuser. Its curved contoured surface resembles the wavy surface of a calm ocean.

The aperiodic modulation of asymmetric base shape, offers a more uniform sound diffusion.

Its unique artistic form has been developed using QRD array calculation in combination with graphical algorithm editor computational software. Hence, a structural optimization of its complex geometry has been achieved.

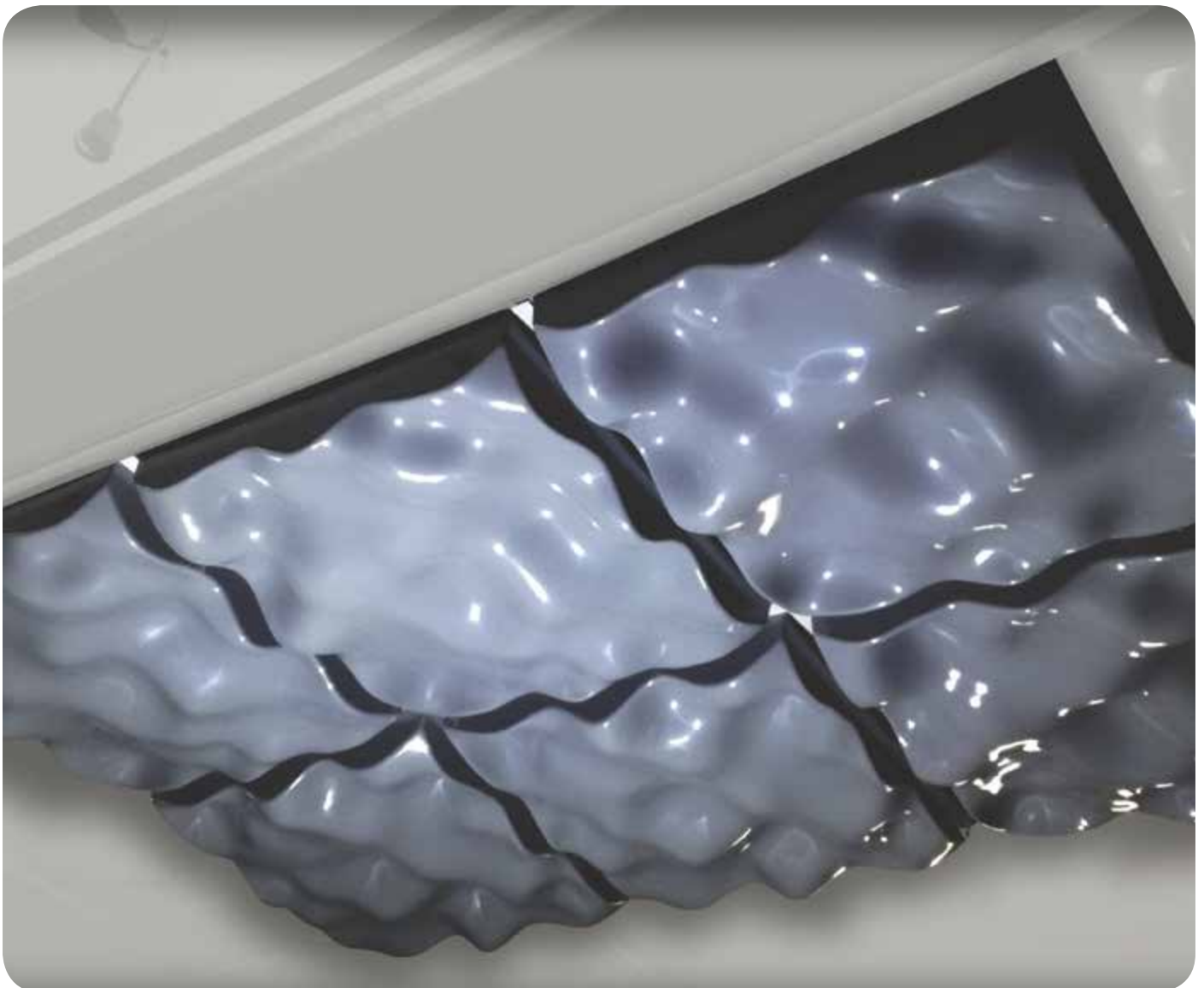
At the same time, by using ray tracing simulation software, we have optimized the uniform acoustic diffusion and diffraction on its surface.

**OCEANOS** is a thermoformed light weight panel, made of a thermoplastic polymer known as Acrylonitrile butadiene styrene (ABS) and can also be produced with fire retardant characteristics according to *UN/ECE R 118*.

**OCEANOS** can also be made of translucent light diffusing opal acrylic sheet, in order to function as both diffuser and lighting system.

## TYPICAL APPLICATIONS

- Recording & Broadcast Studios
- Control rooms
- Rehearsal Rooms
- Auditoriums
- Teleconference rooms
- Home Cinemas

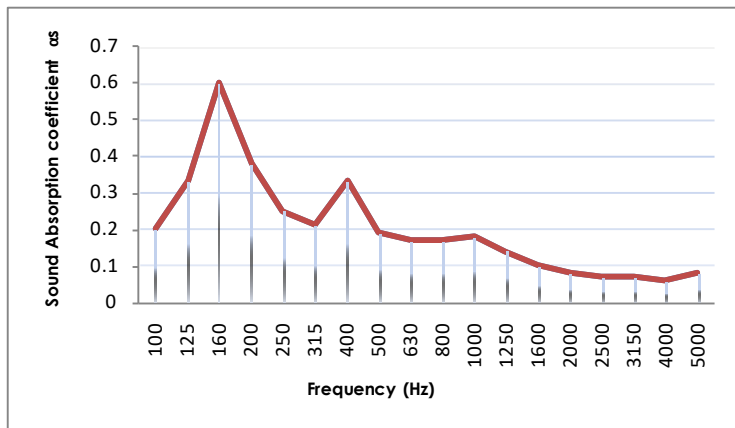


# ACOUSTIC CHARACTERISTICS

On its basic version, **OCEANOS** diffuser due to its membrane type construction can absorb low frequency sound energy.

In case low frequency sound absorption is not desirable, **OCEANOS** diffuser can be produced with an internal heavy weight overlay, without alteration of its external surface.

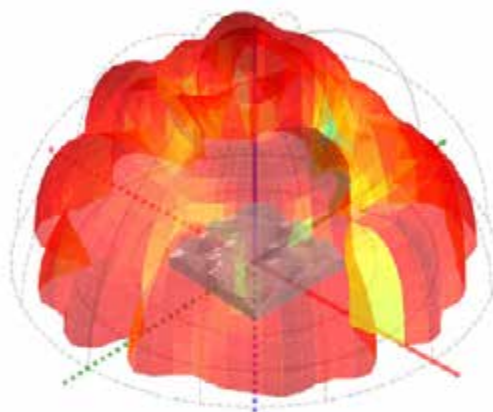
Sound absorption coefficient  $\alpha_s$  measured according to ISO 354:2003 for basic version can be found on the following table:



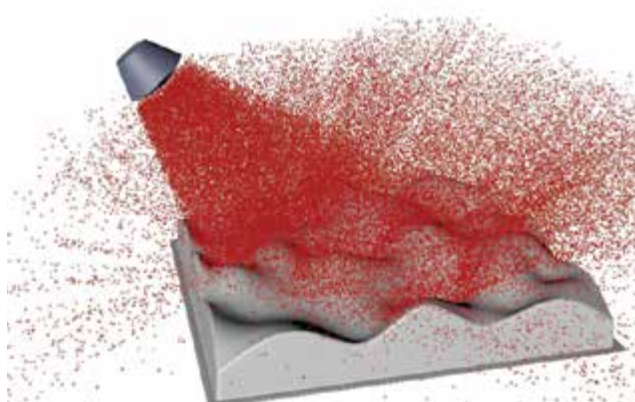
Sound absorption coefficient according to ISO 354:2003

*For the Diffusion Characteristics please refer to specific leaflet.*

## Uniform Sound Diffusion



Acoustic Diffusion at 2000Hz, 2m  
(3D representation)



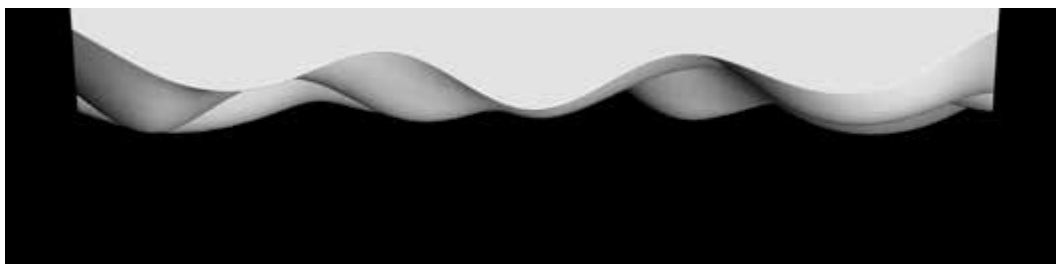
Diffusion Simulation



## SPECIFICATIONS

---

- Color:** Grey color (RAL7042) as standard.  
Custom colors can be assigned to third-party painters.  
Opal translucent Acrylic Sheet for lighting panel use.
- Size:** 595 x 595 x 110 mm
- Weight:** ~1.5kg
- Acoustic damping:** Polyester fiber acoustic slab, for internal use, can be provided, on request, for better acoustic damping.



# INSTALLATION

Basic version includes ceiling tiles diffuser, for easy installation in standard T-bar runner profiles 24/38 ceiling grids.

Minimum gap of 40cm over the false ceiling is required.

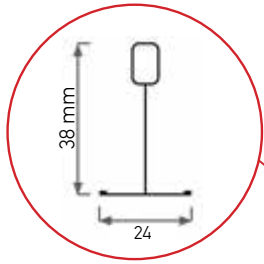
Diffusion panels can be installed in any route direction thanks to their identical form sides.

The 90 degree rotation is recommended for better sound diffusion.

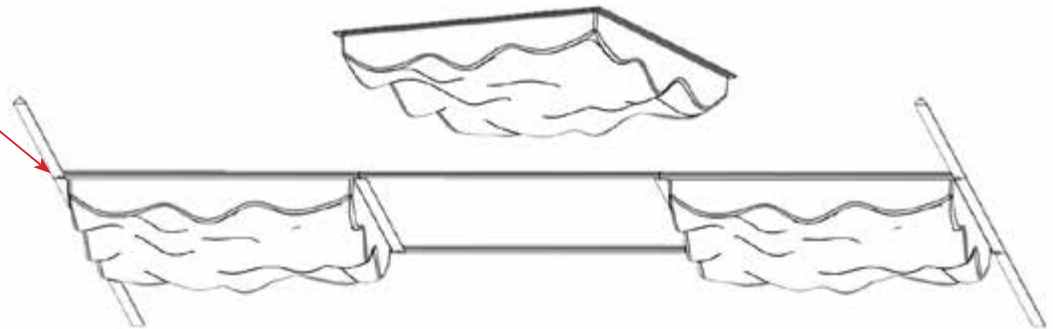
OCEANOS panels can be also installed on the wall, with four screws and plastic anchors.

Another option is using our easy-to-install non-visible hanging device behind the panels.

\*Please ask our technical department for more details.\*



T-bar runner profiles 24/38



## TYPICAL APPLICATIONS



**OCEANOS** in opal translucent acrylic lighting version.





**ALPHA ACOUSTIKI** Ltd combines technical experience and scientific knowledge of it's Engineers who are specialized in the field of room acoustics since 1980. Our complete range of innovative acoustics products can offer solutions to complex architectural acoustic projects.

Some of our Acoustics product creations:

- **ALPHA**acoustic - **ORTHO** Fabric Acoustic Panels
  - **ALPHA**acoustic - **TONDO** Fabric Acoustic Panels
    - **ALPHA**acoustic - **City** Acoustic Diffusers
    - **ALPHA**acoustic - **City.Wood** Acoustic Diffusers
- and many more...

Our technical department (tech@alphacoustic.com), will be glad to assist you improve the Architectural Acoustics in your project.



#### CONTACT



**ALPHA ACOUSTIKI**  
73, Apostolopoulou st.  
Chalandri, Greece 15231



T: +30 210 6779875  
F: +30 210 6779269



info@alphacoustic.com  
www.alphacoustic.com