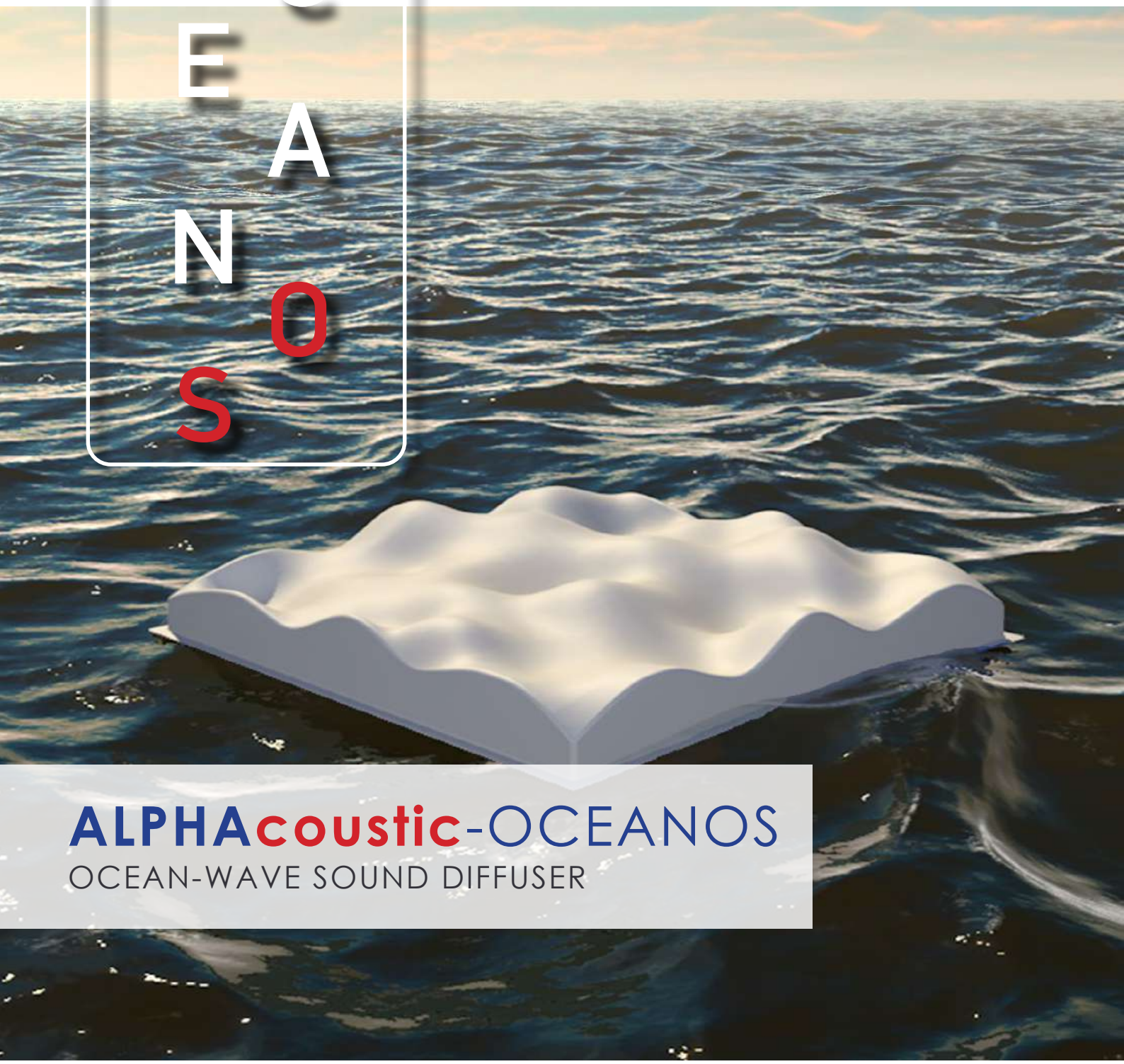
Architectural Acoustics



ALPHAcoustic-OCEANOS

OCEAN-WAVE SOUND DIFFUSER

BUILDING MATERIALS AWARDS 2020
ΒΡΑΒΕΙΑ ΔΟΜΙΚΩΝ ΥΛΙΚΩΝ
GOLD

ALPHA ACOUSTIKI
In TUNE with YOUR needs

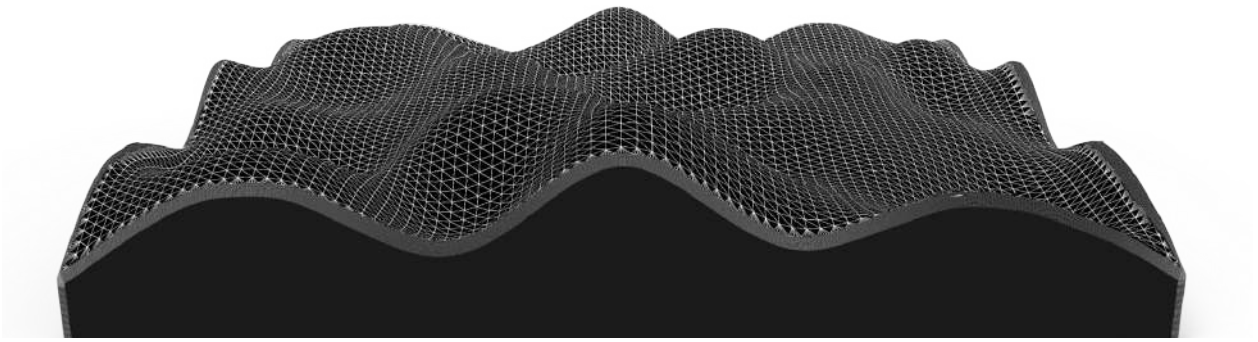
GENERAL INFORMATION

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.

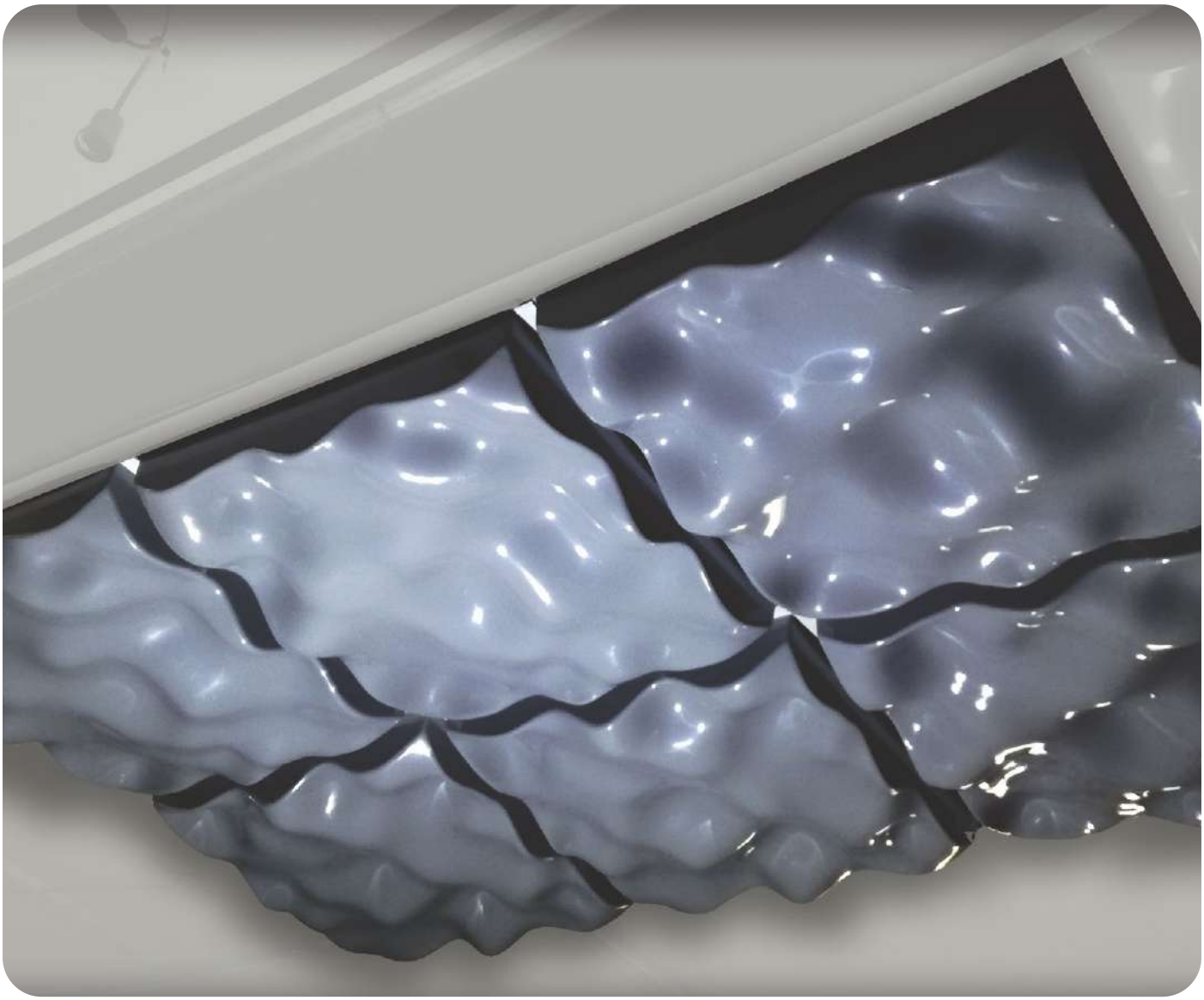
At the same time, by using ray tracing simulation software, we have optimized the uniform acoustic diffusion and diffraction on its surface.

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 (with MOQ).

TYPICAL APPLICATIONS

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



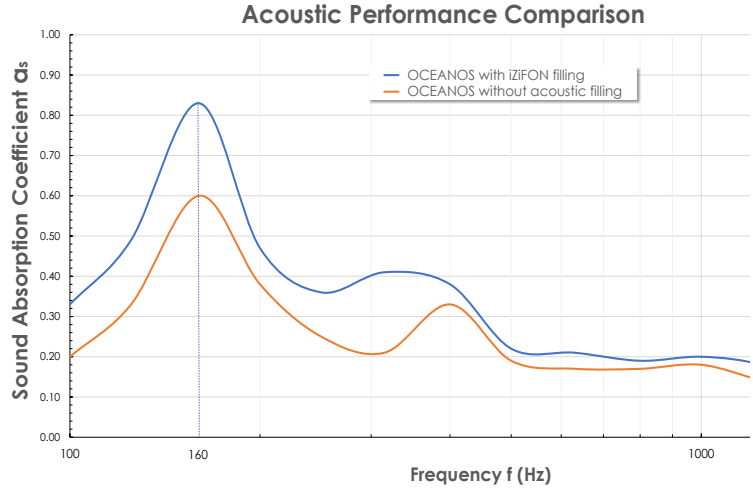
ACOUSTIC CHARACTERISTICS

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.

Measurements were performed in a reverberation chamber to determine the sound absorption coefficient (α_s) of the OCEANOS according to ISO 354: 2003 with and without acoustic filling (30 mm thick polyester fiber slabs iZiFON.30)

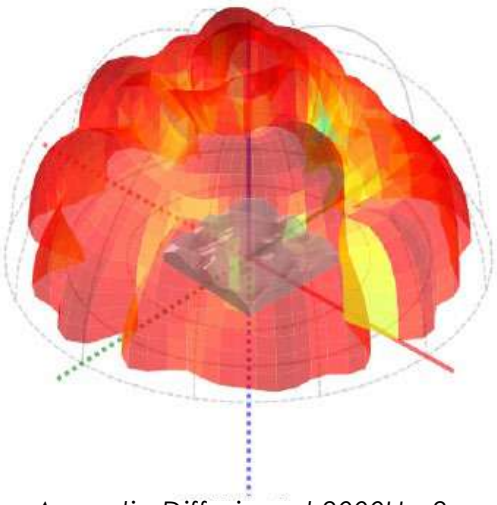
The results are presented in the following diagram:



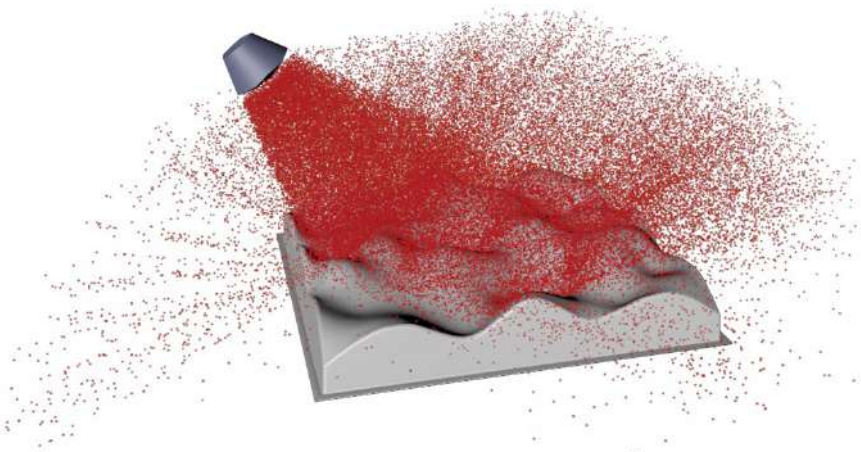
Sound absorption coefficient according to **ISO 354:2003**

For the Diffusion Characteristics please refer to specific leaflet.

Uniform Sound Diffusion



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



Diffusion Simulation

SPECIFICATIONS

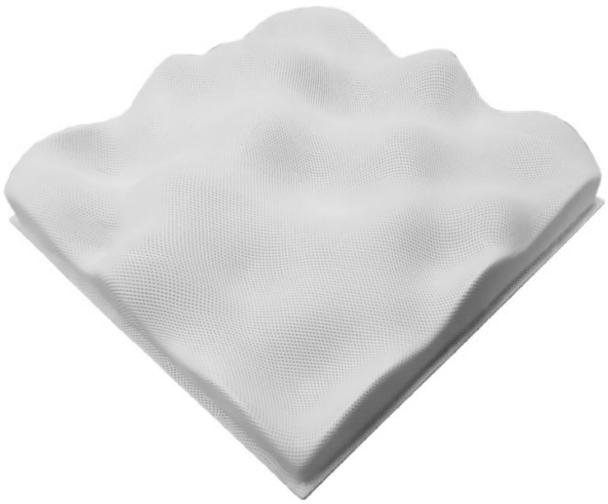
Color: Grey color (RAL7042) as standard.
Custom colors can be assigned to third-party painters.

Size: 595 x 595 x max110 mm

Weight: ~1.5kg

Acoustic damping: Polyester fiber acoustic slab, on the backside, can be provided, on request, for better acoustic damping.

Texture (optional): Chose **Oceanos-FAB** with the entire wave surface lined with flexible specialised technological fabric **ALPHAcoustic-CL.AiR MESH** (explore color palette).



Oceanos-FAB-White

Oceanos-FAB-Dark Grey

INSTALLATION

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

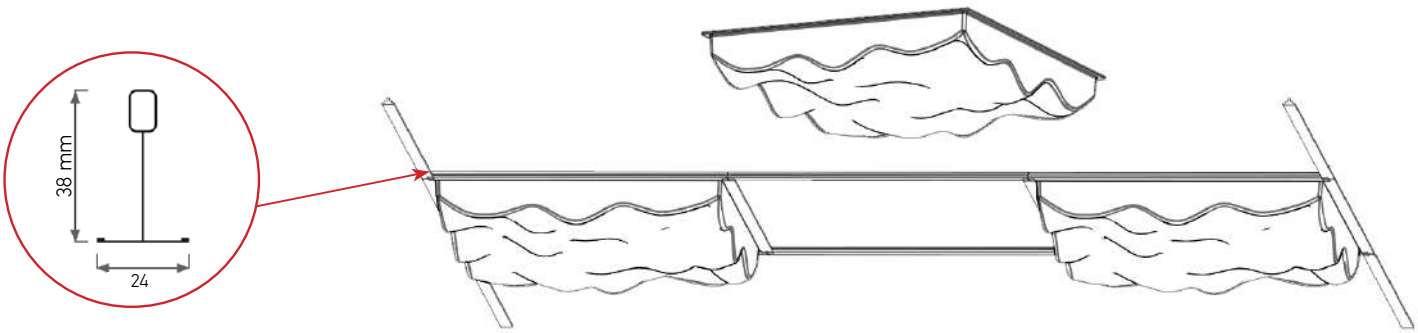
Minimum gap of 40cm over the false ceiling is required in order to facilitate its movement before it is placed in the T-bars.

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. (See below)



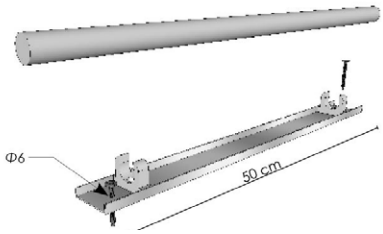
T-bar runner profiles 24/38

Special Fixing System

Pre-installed plastic tube on the back side of the panel.

Metal profile for wall/ceiling installation using screws with plastic expansion anchors.

Upon request with MOQ.



TYPICAL APPLICATIONS

ALPHA ACOUSTIKI

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ALPHA ACOUSTIKI S.A. combines technical experience and scientific knowledge of its Engineers who are specialized in the field of room acoustics since 1980.

Please be informed about the other types of Acoustic Diffusers we produce:
-ALPHAcoustic-City
-ALPHAcoustic-City.Wood

Our technical department *(tech@alphacoustic.com)*, would be happy to help you improve the Architectural Acoustics in your project.

SUSTAINABILITY
SEE OUR ACTIONS

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*Design and Production according to Quality Management System **ISO 9001.2008** & Environmental Management System **ISO 14001.2004***