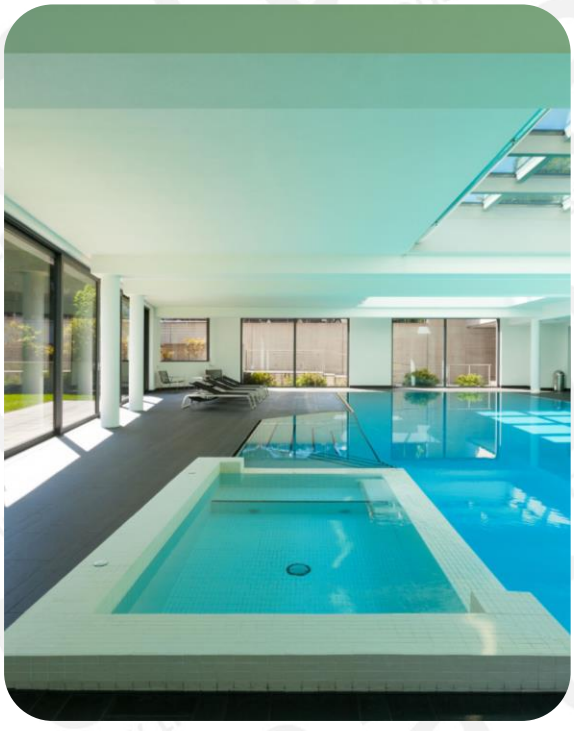
www.tnaacoustic.com

MONOLITHIC TNA SYSTEM

ACOUSTIC



The sensory balance that is hidden behind invisible acoustics

DEFINITION

TNA is a monolithic system that is built on site by laying standard modules and then finished in a single block

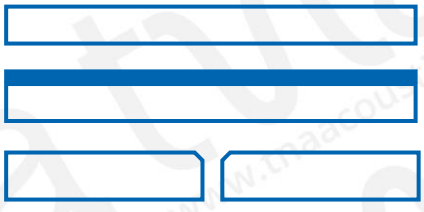
MODULE

Heat resistance	0,038 W/mK
Resistance to mold	YES
Permeability to vapor	YES
Soundproofing	YES
Washability	YES
Specific weight in place	11 Kg/mq ca.

Panel thickness 37mm

Finished height 40mm

Beveled edges
(to get the stucco)



Curved structures can be created by changing the dimensions of the panel: concave & convex

The size of the products have a tolerance of ± 0.5% of the indicated value.

PANEL

TNA panels are prefabricated and ready for use.
The interlocking system (male / female) guarantees considerable ease of installation, perfect flatness and mechanical strength.

ROCK WOOL
Sound absorbing, sound insulating and thermal

FOAM HOLDER NET
Base for fixing the foam

MAGNESIUM OXIDE BLADE
For interlocking with other panels

GLASS FOAM
Air permeable coating

SYSTEM

METALLIC STRUCTURE
400mm pitch

SCREWED PANELS IN STRUCTURE
Standard structure from plasterboard

MECHANICAL FIXING
25 mm screws and washers

FILLING
Processing on site to seal the milling of the panels and the screw holes

FINAL FINISH
Based on marble microgranulate, it covers the system making it monolithic

GLUED PANELS DIRECTLY AT THE CEILING
Bonding with cement glue and mechanical fixing with plugs

FINISHING

The final coating can be customized in the surface, in the color or enriched with light points

GREAT DESIGN POWER
Customizable finishes to sample. Combination of innovative and sustainable materials for sound absorbing finishes.

CALIBRABLE AREIC MASS
The sound absorption curve can be calibrated according to needs using different thicknesses and different grain sizes.

REPRODUCTION OF DECORATIONS
Reproduction of frames and decorations of historic buildings. Development of traditional finishes and innovative material effects.

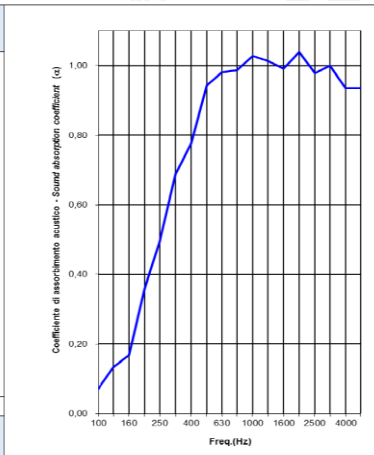
WIDE RANGE OF COLORS
Heat treatment of the mass with opaque colors, with extremely bright and clean shades of color.

SIZES
- Fine grain (fine plaster)
- Medium grain (medium plaster)

INSERTS
- Light guides
- Recessed spotlights
- Stripled
- Inspection hatches
- Air conditioning vents
- Hanging points

FREQ [Hz]	T1 [sec]	T2 [sec]	α_S	α_P
100	6,03	5,27	0,07	
125	6,19	4,84	0,13	0,10
160	7,19	5,10	0,17	
200	7,01	3,77	0,36	
250	6,65	3,14	0,50	0,50
315	7,66	2,75	0,69	
400	8,07	2,58	0,78	
500	8,00	2,24	0,94	0,90
630	7,55	2,15	0,98	
800	6,83	2,08	0,99	
1000	6,10	1,95	1,03	1,00
1250	5,51	1,90	1,01	
1600	4,56	1,80	0,99	
2000	3,97	1,66	1,04	1,00
2500	3,17	1,54	0,98	
3150	2,30	1,29	1,00	
4000	1,78	1,14	0,94	0,95
5000	1,33	0,93	0,94	

$\alpha_W = 0,80$



SOUND ABSORPTION

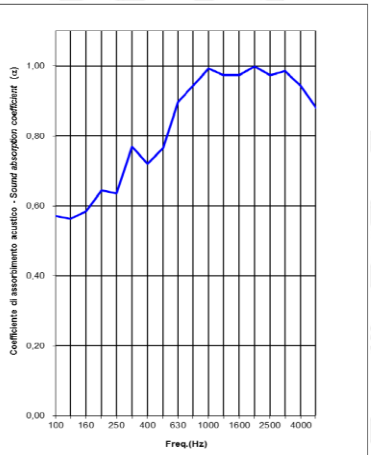
αw= 0,80

Sample placed directly on the floor of the reverberation room

REFERENCE STANDARD: EN ISO 354:2003

FREQ [Hz]	T1 [sec]	T2 [sec]	α_S	α_P
100	6,03	2,78	0,57	
125	6,19	2,84	0,56	0,55
160	7,19	2,96	0,58	
200	7,01	2,77	0,64	
250	6,65	2,73	0,64	0,70
315	7,66	2,55	0,77	
400	8,07	2,71	0,72	
500	8,00	2,60	0,76	0,80
630	7,55	2,29	0,90	
800	6,83	2,14	0,94	
1000	6,10	2,00	0,99	0,95
1250	5,51	1,95	0,97	
1600	4,56	1,82	0,97	
2000	3,97	1,69	1,00	1,00
2500	3,17	1,55	0,97	
3150	2,30	1,30	0,99	
4000	1,78	1,13	0,94	0,95
5000	1,33	0,95	0,88	

$\alpha_W = 0,90$



SOUND ABSORPTION

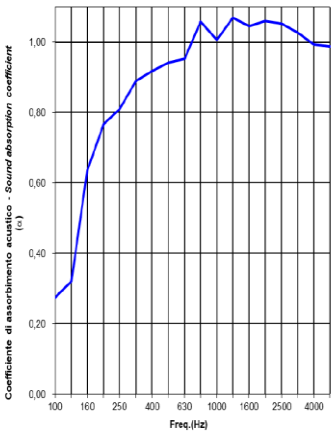
αw = 0,90

Sample positioned with air gap under it

REFERENCE STANDARD: EN ISO 354:2003

FREQ [Hz]	T1 [sec]	T2 [sec]	α_S	α_P
100	6,39	4,02	0,27	
125	5,93	3,62	0,32	0,40
160	7,12	2,82	0,64	
200	7,16	2,52	0,77	
250	6,77	2,38	0,81	0,80
315	7,45	2,31	0,89	
400	8,13	2,32	0,92	
500	7,81	2,25	0,94	0,95
630	7,10	2,17	0,95	
800	6,58	1,97	1,06	
1000	6,05	1,99	1,01	1,00
1250	5,81	1,88	1,07	
1600	5,40	1,86	1,05	
2000	4,97	1,79	1,06	1,00
2500	4,32	1,71	1,05	
3150	3,45	1,57	1,03	
4000	2,94	1,48	0,99	1,00
5000	2,29	1,30	0,99	

$\alpha_W = 1,00$

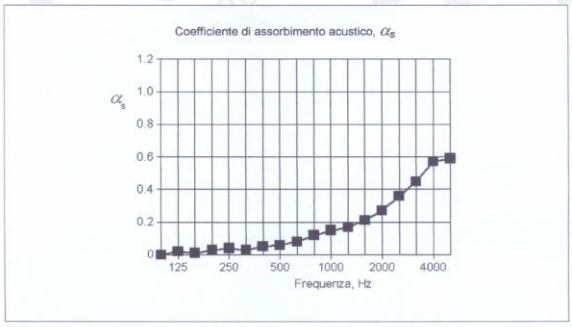


SOUND ABSORPTION

αw = 1,00

Sample placed directly on the floor of the reverberation chamber with the addition of a rock wool panel under the sample

REFERENCE STANDARD: EN ISO 354:2003



Freq. [Hz]	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
T_1 [s]	17,6	14,1	11,6	10,4	10,6	11,2	11,2	11,0	11,1	10,7	10,2	9,6	8,5	7,4	6,1	5,1	4,0	3,2
T_2 [s]	17,4	12,9	11,2	9,4	9,5	10,3	9,5	9,3	8,8	7,6	7,0	6,4	5,5	4,6	3,7	3,0	2,4	2,0
α_S	0,00	0,02	0,01	0,03	0,04	0,03	0,05	0,06	0,08	0,12	0,15	0,17	0,21	0,27	0,36	0,45	0,57	0,59
U [%]	34	36	40	44	38	32	28	24	22	20	18	16	14	14	12	12	12	14

Coefficiente di assorbimento acustico ponderato (ISO 11654:1998): α_w = 0,15 (H)

SOUND ABSORPTION

αw =0,15

Sample of TNA plaster only on plasterboard sheets positioned directly on the floor of the reverberation room

REFERENCE STANDARD: EN ISO 354:2003

REACTION TO FIRE
A2-s1,do

ORDINARY MAINTENANCE
Vacuum cleaner

REFLECTION AND DIFFUSION OF LIGHT
Reflection: 88% Elegant Render
Diffusion: over 97% Elegant Render
79% Reflection Ready-Mix Render

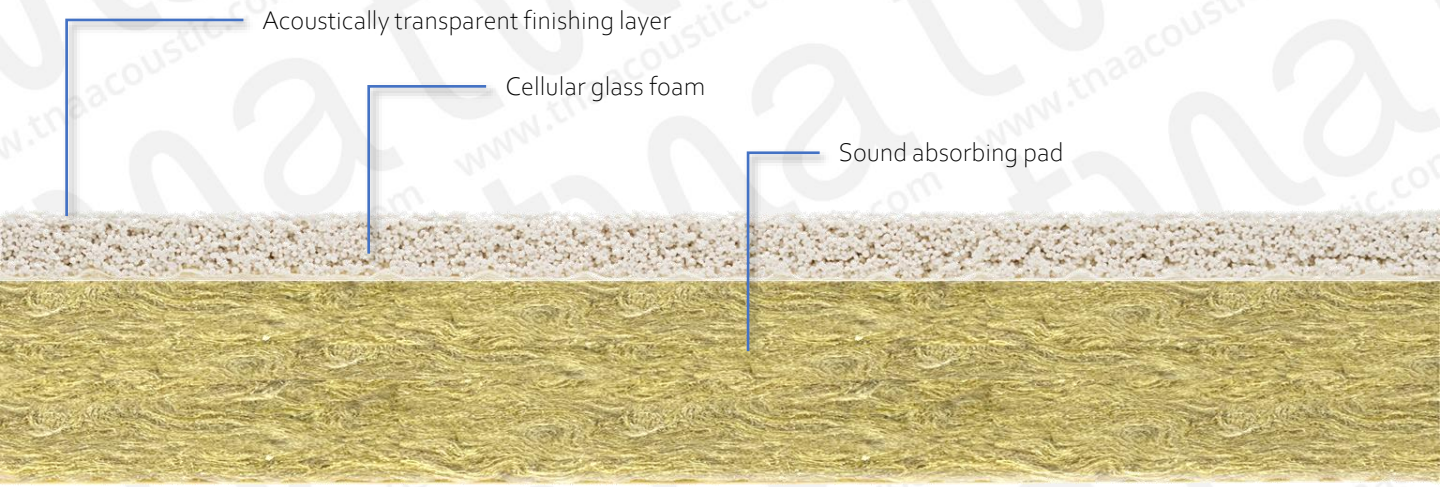
HYGIENE
Rock wool does not contain
no nutritional elements and does not favor the development of microorganisms.

RESISTANCE TO HUMIDITY AND BENDING
Excellent resistance to humidity. Up to 100% RH (relative humidity).
TNA can be installed in wellness centers or humid environments. These environments must be well ventilated and must not have splashes, water drips or condensation.

ENVIRONMENT
Sustainable materials: made up of 80% recycled materials such as glass, marble chips and ceramics.

ENCAPSULATION OF FIBERS
System treated to not release fibers into the environment.

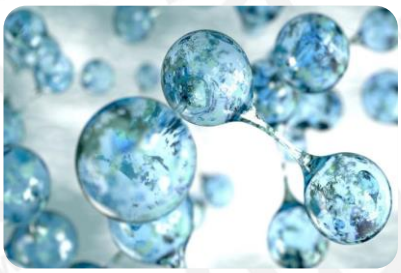
A UNIQUE SYSTEM
The special 3 mm thick surface finishing layer, thanks to its characteristic permeability to the air flow, allows the correct penetration of the incident sound energy.



The cellular glass foam mantle dissipates part of the sound energy and transfers it to the sound-absorbing layer behind it, regardless of the angle of incidence (source of sound or noise).

The semi-rigid panel in the latest generation of glass wool completes the sound-absorbing action by dissipating by porosity, thanks to the optimal resistivity to the air flow, the residual sound energy which is therefore no longer reflected towards the environment.

TNA meets BIOTECH.
BIOTECH is a completely natural bio-paint which, thanks to its patented active ingredient, neutralizes suspended pollutants, rebalances the heat exchange and, acting in a similar way to chlorophyll photosynthesis, ionizes the air. It is completely anti-mold and most importantly, it lasts over time.



THE SOLUTION AGAINST MOLD AND BACTERIA

The fungicidal power of the surfaces with integrated ionizing technology is such as to completely block the development of a mixed fungal suspension. surfaces with integrated ionizing technology thus take the place of normal anti-algae and anti-mold products, often toxic.
No chemicals are produced - the process is completely natural.

MEASURABLE EFFECTIVENESS

Thanks to small portable instruments, it is possible to measure the concentration of anions before and after installation, to verify their effectiveness.

The concentrations of anions per cubic centimeter present in the air are:
In residential urban areas: between 40 and 50 / cm3;
In urban areas: between 100 and 200 / cm3;
In the countryside: between 700 and 1000 / cm3;
In the high mountains: above 1,500 / cm3;
After a storm: about 2,000 / cm3

Ionic TNA: over 2,000 / cm3

SURFACES WITH INTEGRATED IONIZING TECHNOLOGY: BIOTECHNOLOGY FOR HEALTH

The microporous structure allows the circulation of air up to the deep layers of the panel interacting with a patented combination of elements that allow the release of a specific amount of anions that can be calibrated between 1000 and 20,000 / c3.
A negatively charged ion has the ability to attract dust particles and bacteria, which usually have a positive charge, to neutralize them.

SURFACE DESIGN AWARDS 2018 | WINNER

WINNER 2018
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Client: Cannavacciuolo Bistrot Torino

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