Gyproc
SAINT-GOBAIN

CEILING PRODUCTS AND SYSTEM CATALOGUE

SAINT-GOBAIN

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SAINT-GOBAIN

Introduction:

Saint-Gobain India Pvt. Ltd. – Gyproc business is a pioneer and market leader in offering Ceiling and Drywall Solutions in India.

Catering to the growing needs of Acoustical requirements in building spaces in the current environment, we are delighted to bring to you “Ceiling Products and System Catalogue” a comprehensive handbook on Perforated Gypsum board Acoustical ceiling systems, Metal ceiling systems and Mineral Fiber tiles ceiling systems which offer optimal Acoustical solutions in interior spaces complied by our global team of experts based on the vast domain experience and functional knowledge across the construction space.

Saint-Gobain Gyproc Acoustical boards offer a wide range of design feasibilities helping the transformation of ideas to realities. All the boards meet the most stringent requirements of acoustics like optimum noise levels, NRCs, STCs and others without compromising on quality and premium nature of the product.

Whenever you specify any Ceilings Solution from this handbook, you will be sure of premium quality solutions for the interior space that you are designing for.

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ABOUT SAINT-GOBAIN

A world leader in habitat and construction market, Saint-Gobain designs, manufactures and distributes high-performance building materials providing innovative solutions to the challenges of growth, energy-efficiency and environmental protection. In 2015, Saint-Gobain celebrated its 350th anniversary - 350 reasons to believe in the future. With 2016 sales of €39.1 billion, Saint-Gobain operates in 67 countries and has more than 170,000 employees.

SAINT-GOBAIN INDIA PVT. LTD. – GYPROC BUSINESS

Gyproc is a market leader in the light weight interior construction space in India for more than 30 years. Our product range includes gypsum plasterboard systems for false ceilings and drywall partition applications, acoustical ceiling tiles (gypsum, mineral fibre, metal & glass wool) and gypsum plastering solutions plus a complementary range of metal framings, along with jointing & finishing products. At Gyproc, we are committed to contribute to a sustainable habitat and in this regard we have initiated to monitor the environmental impact of our products during its life cycle. Our products are certified by leading green organisations like IGBC & GRIHA.

PRODUCT AND SERVICES

Our Gyproc business provides a comprehensive range of plasterboards; including Fireline (fire resistant), Sound Bloc (acoustics), MR (moisture resistant) and Fiber cement boards for wet area applications.

Our offering includes an all-encompassing grid ceiling range of Gypsum tiles, Mineral fiber tiles, Acoustic Big Boards and Metal tiles. We also provide a complete range of metal components & accessories, jointing & finishing products and plastering solutions for walls and ceilings.

MANUFACTURING FACILITIES

Gyproc has Four Manufacturing facilities in **India :** Wada (Near Mumbai), Jind (Haryana) , Bengaluru & Jhagadia (Gujarat). We are fully equipped with competent technical capability to cater to the needs of different stake holders.

PRESENCE
67 IN MORE THAN
COUNTRIES

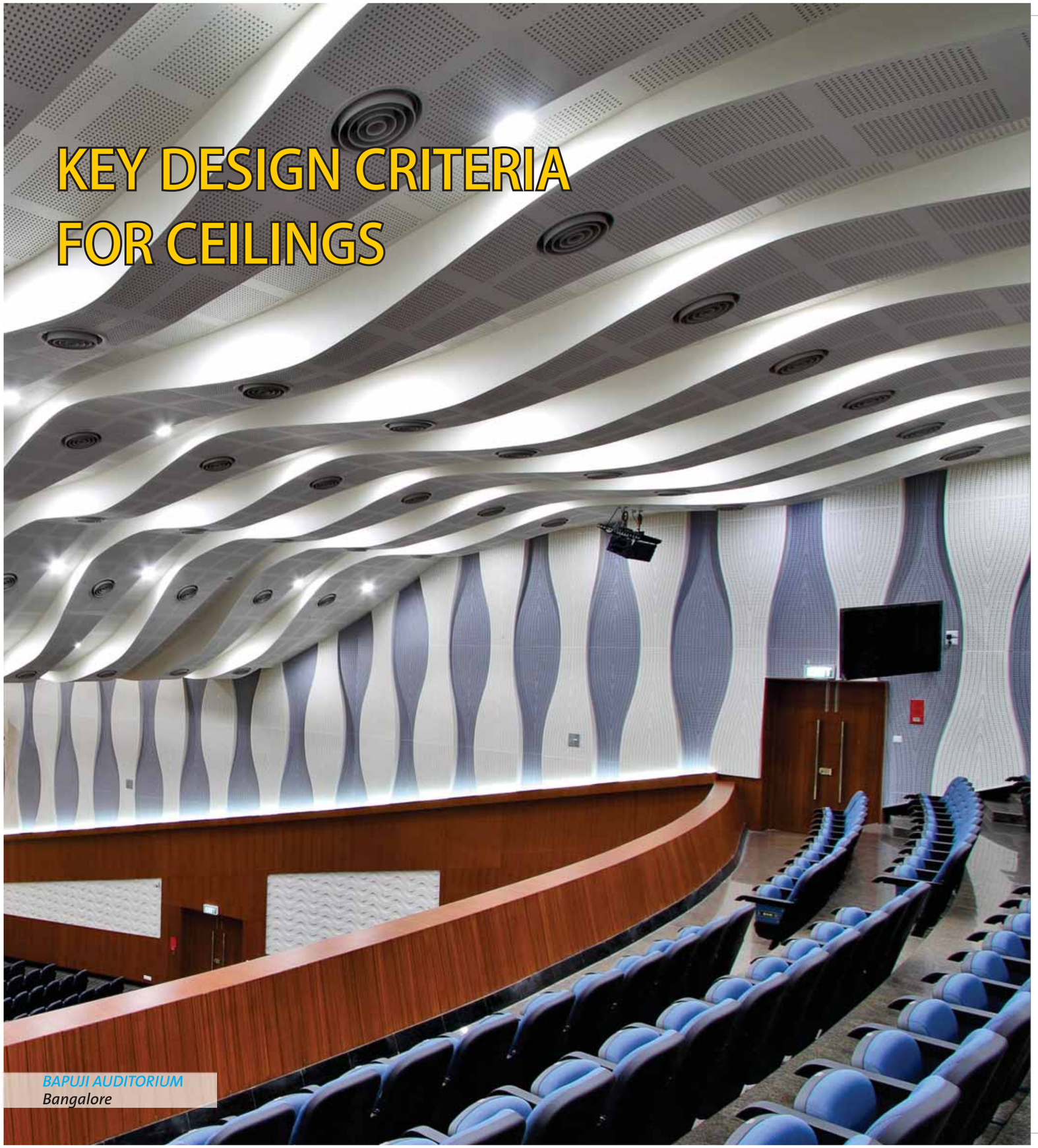
170,000
EMPLOYEES

8 RESEARCH CENTERS

3 ACTIVITY HUBS

- Innovative Materials
- Construction Products
- Building Distribution

KEY DESIGN CRITERIA FOR CEILINGS



BAPUJI AUDITORIUM
Bangalore

Choosing The Right Ceiling Systems

Good Acoustic Properties

- "The Science of Sound"; originates from Greek akoustos, meaning "listen".
- Like every physical quantity, acoustics also are measurable.
- Acoustics just like lighting or fire protection has effects related to psychology. It offers a feeling of well being and peace.
- Good acoustics are recognized by some factors like good speech intelligibility and sufficient protection from unwanted or intrusive ambient sounds.
- The materials used for ceilings and Wall linings significantly influence acoustics of the space and therefore the choice of the right materials is very important.
- One can compare products and systems and design practical acoustic solutions for every situation.

Fire Safe

A fire in a building can develop very quickly and lead to devastating consequences. In the design process, when selecting building materials it is therefore very important that the fire safety aspects are treated carefully and with complete knowledge. Three general requirements to be kept in mind for suspended ceilings.

- They must only make a negligible contribution to the fire development and to the production of smoke.
- They must not break and collapse during the early stages of the fire when evacuation and rescue operations can still be carried out.
- They should prevent ignition of combustible material in the ceiling void (cables etc) in order to delay or prevent the occurrence of lash over.

Light Efficient

Lighting makes a huge contribution to the overall look and feel of a room. From a lighting point of view, an acoustic ceiling should provide a good light reflectance and diffusion.

- Indirect lighting from a good ceiling reduces the risk of dazzling reflections and also the need for installed lighting is reduced and offers improved energy efficiency and a better working environment.
- A surface's reflection of light is based on whiteness, the evenness and the existence of holes/ perforations. Light reflectance is expressed as a percentage of the light falling on a surface and how much is reflected back.
- Light diffusion can be defined as the ratio of the diffused reflected light to the totally reflected light. For good light efficiency the reflectance factor should be above 80% and the diffusion factor as high as possible.

Accessibility

An important function of a suspended ceiling is to conceal plumbing and air conditioning systems, as well as the electrical and communication services that are installed in the ceiling void. Many ceiling systems will need to be demounted totally or partially during their service life when such services are augmented, maintained or repaired. However, cable management, ventilation equipment, lighting installations and other features can limit the demount ability of individual ceiling panels. These problems can be reduced by carefully planning the ceiling layout and by following the plans throughout the installation. Access ceiling panels are recommended in areas where the services above the ceilings are frequently accessed. These systems provide complete accessibility with no obstructing profiles.

Ability to withstand Interior Climate

All kinds of material are affected by the surrounding climate. In an indoor environment the key climatic factors are moisture, heat and microbiological activity.

In order to minimize the risk of problems with corrosion, mould, aesthetic performance and human comfort in a building, the relative humidity should not exceed 70% - 80% more than temporarily.

A relative humidity of 100% means that air can hold no more water, i.e. condensation forms, and a relative humidity of 0% indicates there is no moisture in the air.

For most applications ceiling design can be made taking a RH factor of 85% which is very safe. Specific application areas like kitchens, swimming pool facilities, shower areas or food preparation industries where the air humidity can rise substantially demand higher.

Highly Aesthetic

- Ceiling systems should provide for unlimited design scope for creating highly attractive rooms and buildings.
- Ceiling systems should be able to provide unlimited options for customized design to the designers and end users.

Supports Sustainability

Administration of earth's resources is one of the most important environmental issues for the future. This calls for environmental consciousness, knowledge and above all a desire to work towards improvement. The green building movement calls for ceiling system materials to have,

- High recycle content
- Recyclability
- Local availability to save on transportation

Apart from this the ceiling system must aid in improving the overall comfort (aesthetic, thermal and acoustic) of the building space.

Restaurant Swadisht,
Brazil

Introduction to Acoustics Pertaining to Perforated Gypsum

The modern acoustic systems from Saint-Gobain Gyproc offer optimum solutions for acoustic ceilings and walls which perform two key functions.

On one hand, the broad spectrum of acoustic boards offer virtually unlimited design scope for creating highly attractive rooms and buildings.

On the other hand, the acoustic properties of the boards are ideal for planning and designing optimum room acoustics.

Saint-Gobain Gyproc acoustic systems meet the most demanding requirements in terms of material properties, variety of shapes and acoustic results. Whether jointless and continuous or in the form of a suspended ceiling – perfect solutions are available for all applications in many appealing designs and edge shapes, for lay-in installation, invisible rail systems and the particularly cost-effective visible rail systems for lay-in installation. In combination with non-perforated Saint-Gobain Gyproc boards, Saint-Gobain Gyproc acoustic ceilings offer unlimited options for customized design.

Gyptone boards round out the ceiling range. They are used in particularly in halls and corridors. Various perforation patterns also offer a number of possible designs here. The Saint-Gobain Gyproc acoustic ceiling range combines functionality and aesthetics in the modern design of walls and ceilings. Integrating lighting, ventilation systems, loudspeakers, etc. is straightforward and simple. Saint-Gobain Gyproc acoustic boards also have a long lifetime and can be renovated at any time without altering the acoustic properties of the ceilings. In addition, they have a positive effect on room climate as they absorb and release moisture, as well as removing pollutants from room air. Saint-Gobain Gyproc acoustic solutions meet the many requirements of modern construction equally – aesthetics, individuality, eco-friendliness, safety and long lifetime.

Gain an insight into the variety of aesthetic and functional living spaces which can be created.

Room Acoustics

The term “room acoustics” describes the propagation of sound in a room and is one of its key quality features. Many people suffer from the effects of poor room acoustics, which are often linked to the reverberance in the room.

Poor room acoustics quickly lead to fatigue or an inability to retain information from important texts. In other words, a person's performance levels are severely impacted in rooms with unfavorable acoustics.

ACOUSTICAL SOLUTIONS IN GYPSUM

Lower-Saxony City Theater, Germany

The oldest and most well-known criterion for room acoustics is reverberation time. Reverberation time expresses in numbers the length of time a sound lingers in a room after the source of the sound has been silenced. The longer the reverberation time, the longer the sound can be heard in the room – the room echoes.

If it is too short, the room is excessively insulated and we cannot hear the sound clearly enough. The reverberation time of a room is largely influenced by its geometric design, and the selection and positioning of sound-absorbing and sound-reflecting surfaces.

The acoustic design of rooms is regulated in various standards, specifications and guidelines. The most important set of regulations is the DIN 18041 standard “Acoustic quality in small and medium-sized rooms”. In addition to requirements and recommendations relating to reverberation time – depending on room use – this standard includes information on acoustics room design.

Sound Absorption

Sound absorption describes the removal of sound energy from a room or section of a room by converting it into another form of energy (e.g. heat: “dissipation”). Sound absorption is the most important tool in acoustic room design. Absorbing and reflecting surfaces determine the acoustic properties of a room.

Practical sound absorption coefficient αp

The practical sound absorption coefficient αp is the frequency-dependent value of the absorption capacity in octave bands.

The αp is determined by converting the αs values to octave bands in accordance with DIN EN ISO 11654.

Example for 250 Hz:

$$\alpha p250 = \frac{(\alpha s200 + \alpha s250 + \alpha s315)}{3}$$

The practical sound absorption coefficient αp is rounded in 0.05 (5%) increments to a maximum of 1.00. Strictly speaking, there is no such thing as “good” or“poor” absorption - this is why no standardized absorption requirements have been defined for individual surfaces. The total amount of absorption required is determined by the structural properties, fittings and planned use of the room.

Sound absorption coefficients α and αs

The sound absorption coefficient defines the ratio of the sound energy not reflected from a surface to the incident sound energy:

- Full sound reflection: = 0
- Full sound absorption: = 1

The sound absorption coefficient α is the frequency dependent value of the sound absorption capacity of a material. αs is measured in third octave bands by means of acoustic testing in a reverberation chamber in accordance with DIN EN ISO 354.

Centro Direzionale via dell'Arte, Italy

If the practical sound absorption co-efficient αpi exceeds the reference curve value by - 0.25, one or more shape indicators must be used in addition to the αw value:

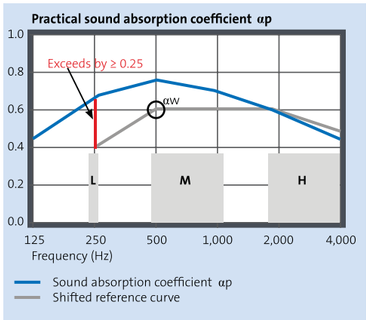
(L) = exceeds at 250 Hz

(M) = exceeds at 500 or 1,000 Hz

(H) = exceeds at 2,000 or 4,000 Hz

Example (250 Hz): 0.65 – 0.40 = 0.25 (- 0.25) = (L)

w = 0.60 (L)



Equivalent sound absorption area

Multiply the absorption co-efficient (α) of a material by its surface (S) to obtain the equivalent sound absorption area (A):

Shopping Centre Apaja, Finland

Full sound absorption:
= 1
Special foam and insulation materials

Full sound reflection:
= 0
Smooth surfaces

Partial sound absorption:
= 0 to = 1
E.g. Saint-Gobain Gyproc acoustic ceilings

Rated sound absorption coefficient αw

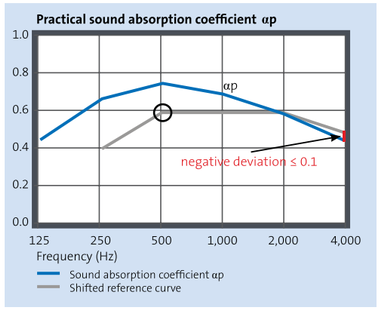
The rated sound absorption coefficient αw is a frequency independent single value for the sound absorption capacity of a material and is calculated in accordance with DIN EN ISO 11654.

The αw is determined by laying a reference curve over the αp values and shifting it until the total negative deviation is 0.1. The rated sound absorption coefficient αw corresponds to the value of the shifted reference curve at 500 Hz.

Sound absorption coefficient αp Shifted reference curve

Practical sound absorption coefficient αp

125 250 500 1,000 2,000 4,000

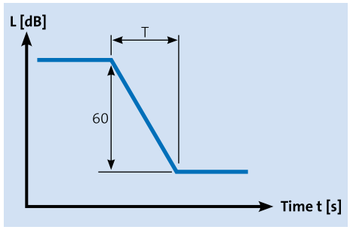


Serpentine Sackler Gallery, UK

Reverberation time T

The reverberation time is the time in seconds required for the sound pressure level to fade by 60 dB after the source of the sound has been silenced.

The reverberation time can be calculated for the majority of room situations using the “Sabine formula”:

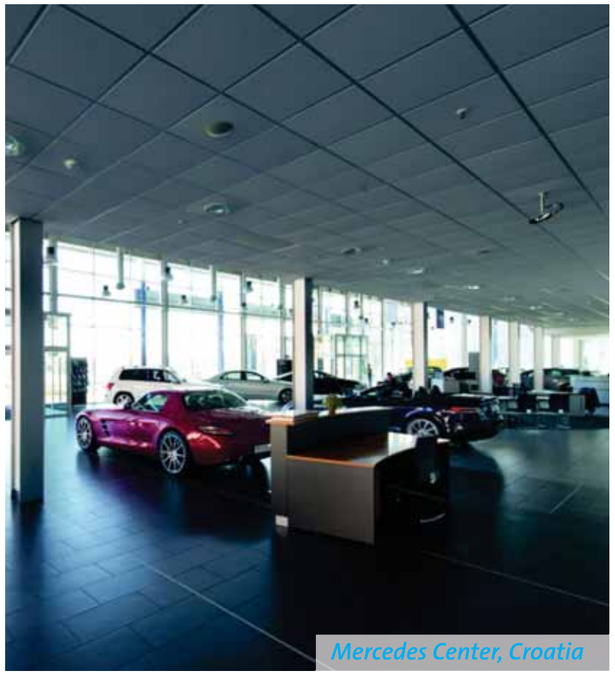


$$T = 0.163 \times \frac{V}{A}$$

T = reverberation time [s]

V = room volume [m^3]

A = equivalent sound absorption area [m^2]



Mercedes Center, Croatia

Despotica Winery, ***Serbia***

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Factors influencing absorption behaviour

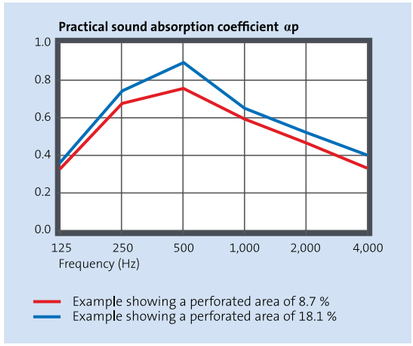
The wide range of Saint-Gobain Gyproc acoustic ceilings can meet virtually all acoustic requirements. The sound-absorbing properties of Saint-Gobain Gyproc acoustic ceilings are influenced by the following factors:

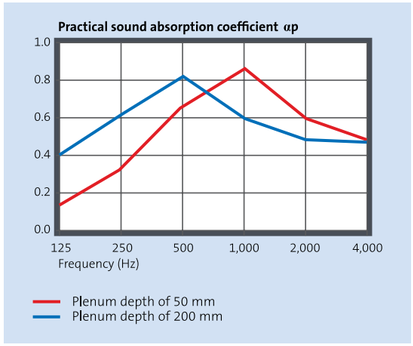
Perforated area/hole shape

The perforation pattern selected usually also has an influence on the acoustic properties of the ceiling structure. For example, an increase in the perforated area usually increases the level of sound absorption. However, any changes in value are minimal where the perforated area exceeds 25%.

Plenum depth/air cavity

In addition to the perforation pattern, the plenum depth –the distance between the slab and the top edge of the acoustic ceiling – also has a decisive influence on the acoustic properties of the ceiling. At low plenum depths < 100 mm, the sound absorption curve shifts towards the medium and high-frequency range (to the right). Increasing the plenum depth will in turn increase the sound absorption in the low-frequency range. This effect is lost at plenum depths ≥ 500 mm.



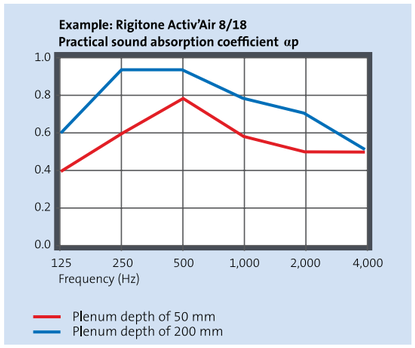


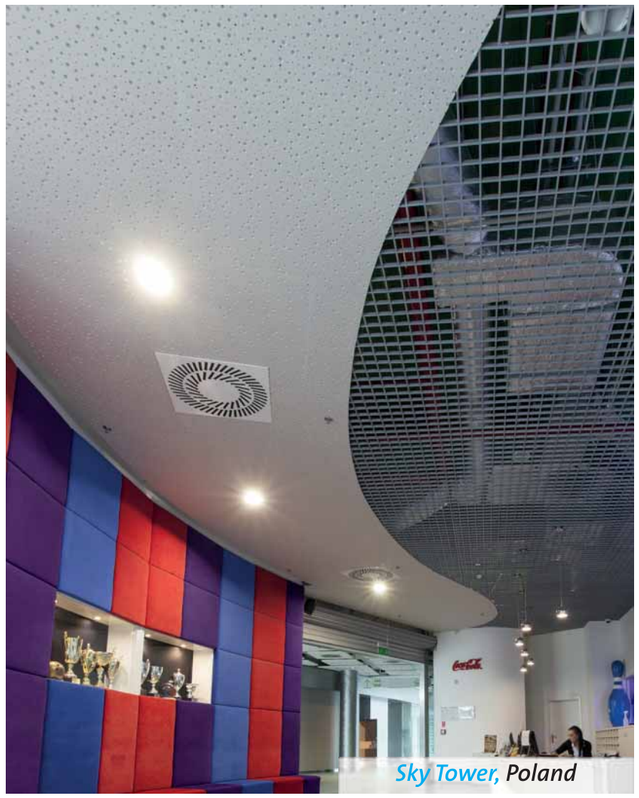
Acoustic tissue

All Rigitone & Gyptone acoustic ceiling systems are fitted with acoustic tissue on the reverse as standard, ensuring optimum acoustics in virtually all rooms in which noise is primarily caused by people's voices, e.g. offices, schools, kindergartens, lecture halls and assembly rooms.

Mineral wool layer

A mineral wool layer increases sound absorption – in particular in the deep-frequency range. Ceiling structures with a low plenum depth and wall absorbers should therefore always be fitted with a mineral wool layer.




Sky Tower, Poland

Wall absorbers

In order to further improve room acoustics, supplementary absorber surfaces can be added to bordering wall surfaces. To ensure optimum sound absorption across the entire frequency range in this instance, the following points should be observed

- A perforated board with the largest possible perforated area and an acoustic tissue should be used
- A mineral wool layer should be included

DIN 18041 regulates the acoustic planning of rooms in Germany. It applies for small to medium-sized rooms with a volume of up to approx. 5,000 m^3 and for sports halls and swimming baths without audiences up to 8,500 m^3.

This standard defines the acoustic requirements and planning regulations for ensuring acoustic quality, primarily for speech communication, including measures needed to achieve this.

DIN 18041 “Acoustic quality in small and medium-sized rooms”

Acoustic quality refers to how well a room renders specific sounds depending on what it is used for. It relates primarily to the acceptable quality of speech communication and musical performances. It is largely influenced by the geometry of a room, the distribution of sound-absorbing/sound-reflecting surfaces and the reverberation time.

DIN 18041 divides rooms into two different room/usage types:

- Group A rooms: Acoustic quality over medium and long distances
- Group B rooms: Acoustic quality over short distances Beginning with group A rooms, concrete requirements exist for acoustic quality over medium and long distances.

Group A rooms

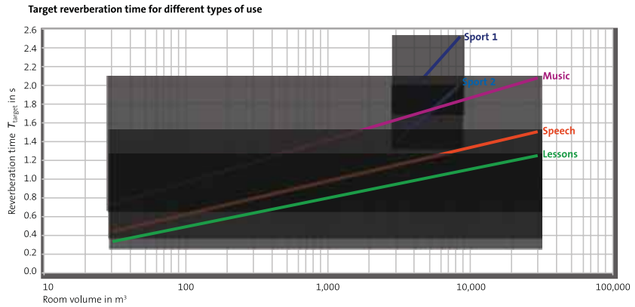
- Conference rooms
- Courtrooms, council chambers and ballrooms
- Classrooms
- Seminar rooms
- Lecture theaters
- Meeting rooms
- Interaction rooms
- Group rooms in kindergartens and day nurseries
- Senior citizens' centers
- Community halls
- Sports halls and swimming baths

In group A rooms, the target reverberation time (T target) should be calculated depending on the type of use and effective room volume (V). The target curves for “music”, “speech” and “lessons” apply for occupied rooms.

Where rooms are used for multiple purposes, the target values should be calculated on the basis of the priorities of the various uses.

Sport 1: Sports halls and swimming baths without audiences for normal use and/or one class at a time (one class or sports group, uniform lesson content).

Sport 2: Sports halls and swimming baths without audiences for multiple classes at a time (several classes or sports groups in parallel with varying lesson content).



Target reverberation time T_{target} for different types of use.

Music: $T_{target} = \left(0.45 \lg \frac{V}{m^3} + 0.07\right)$ s [s]

Speech: $T_{target} = \left(0.37 \lg \frac{V}{m^3} - 0.14\right)$ s [s]

Lessons: $T_{target} = \left(0.32 \lg \frac{V}{m^3} - 0.17\right)$ s [s]

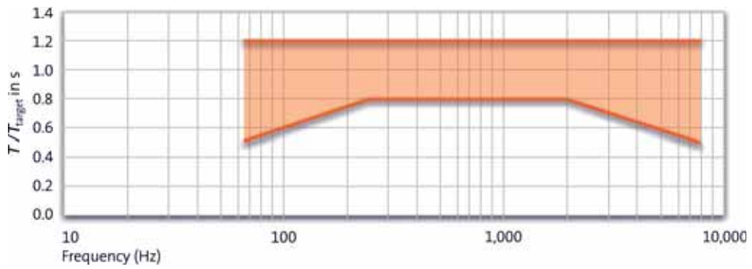
Sport 1: $T_{target} = \left(1.27 \lg \frac{V}{m^3} - 2.49\right)$ s [s]

Sport 2: $T_{target} = \left(0.95 \lg \frac{V}{m^3} - 1.74\right)$ s [s]

For 2,000 $m^3 \leq V \leq 8{,}500\ m^3$

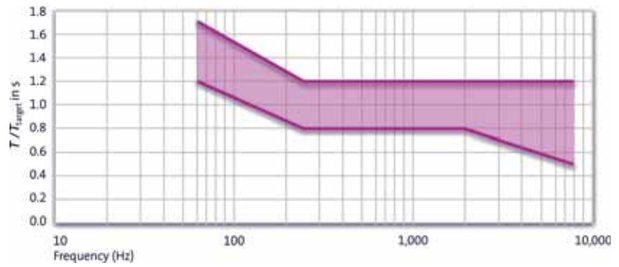
Reverberation time range for Speech

The target reverberation time range depends on the frequency in rooms used for speech communication.



Reverberation time range for Music

The target reverberation time range depends on the frequency in rooms used for music.



Group B rooms

By contrast to the requirements for group A rooms, recommendations are made for group B rooms which enable speech communication appropriate to the purpose of the rooms over short distances:

- Sales premises
- Restaurants, canteens
- Public areas for public transport
- Ticket and bank counters, call centers
- Lawyers' and doctors' consulting rooms
- Municipal offices
- Operating theaters, treatment and rehabilitation rooms, wards
- Public areas
- Public access areas
- Reading rooms, lending desks in libraries, lending libraries
- Stairwells, foyers, heavily frequented exhibition rooms

It is not essential to observe a target reverberation time for group B rooms. Increasing the sound absorption reduces both overall background noise levels and reverberation time. Sound-absorbing materials for covering surfaces as well as furnishings can be used for this purpose. Sound absorbers should be used where:

- Additional sound absorbers are needed to reduce the DL of the sound pressure level by at least 3 dB compared to the untreated room. The existing equivalent sound absorption area in the octave bands which determine the sound pressure level must be at least doubled here.
- The degree of sound absorption expected as a result of the sound absorption measures and calculated on the basis of the surface area of the room does not exceed the value of 0.35 between the octave band mid-bandfrequencies of 250 Hz to 2,000 Hz.

Although greater sound absorption is expedient, the technical feasibility and cost-effectiveness of further measures should be reviewed.

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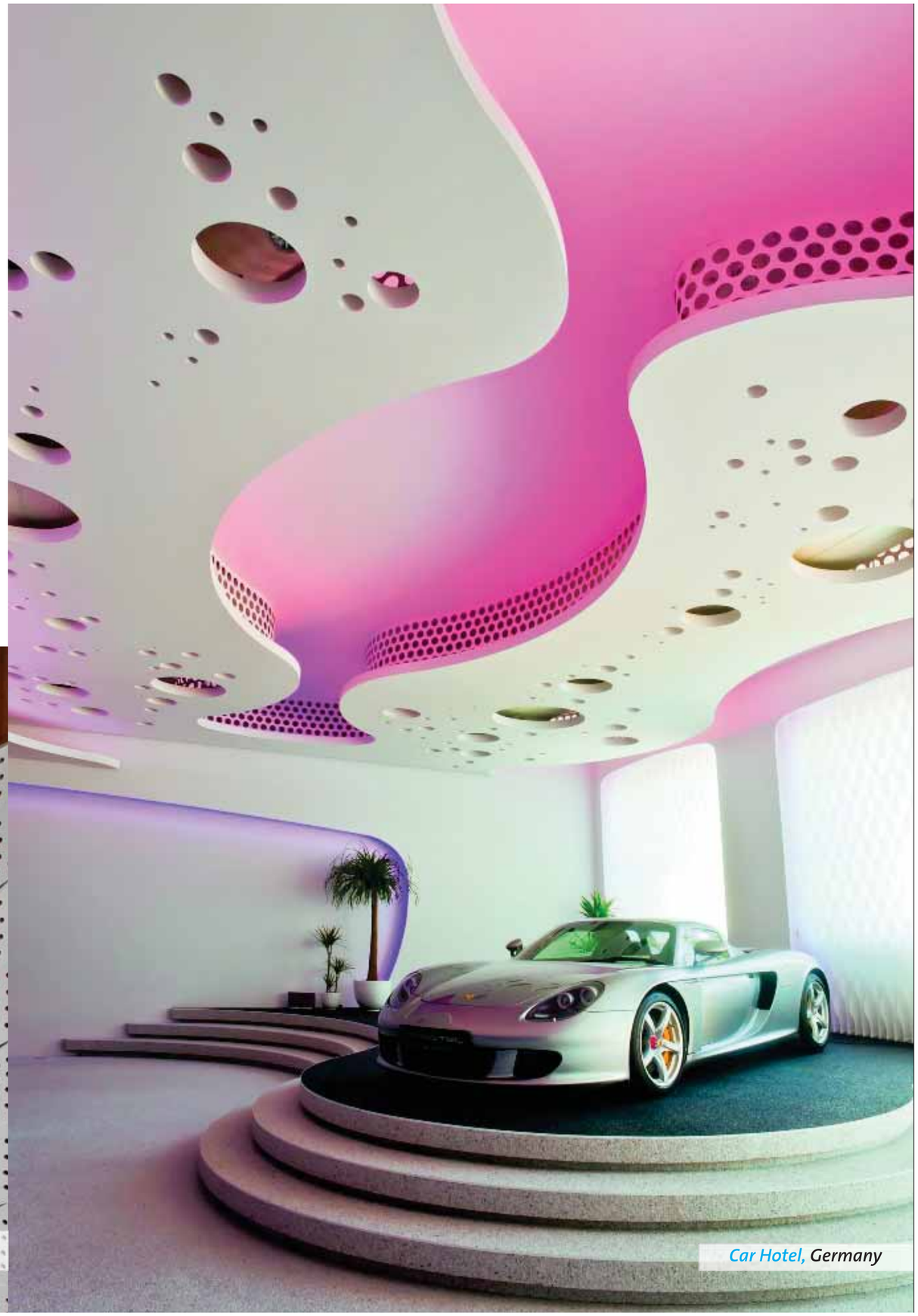


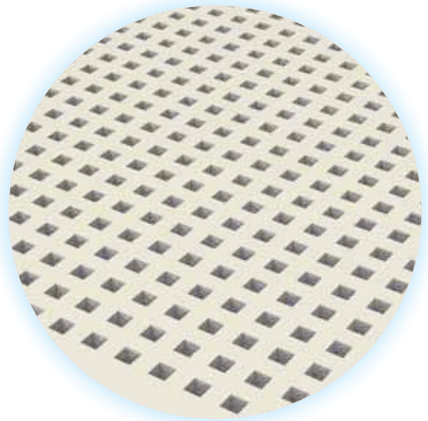
Car Hotel, Germany

Acoustics, Aesthetics and Durability

Gyptone Quattro 41

Characteristics

All four side tapered perforated Gypsum Acoustical board having eight quadrants of square shaped perforations of 12x12mm and backed by an acoustical fleece.



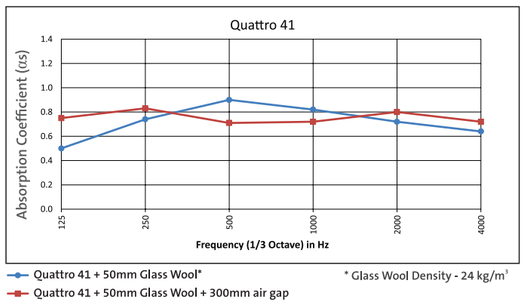
Attributes :

Nominal Size (mm)	Weight (kg/m^2)
1200 x 2400 x 12.5	8.0

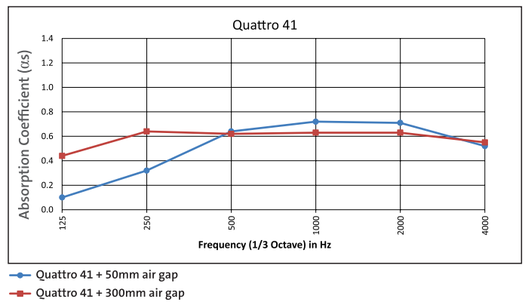
Edge Detail

All Edges Tapered

4TE Technology



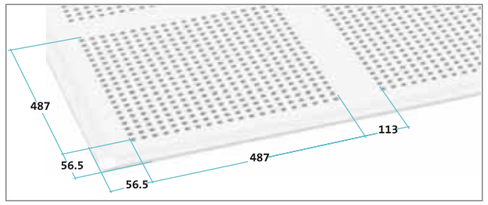
* Glass Wool Density - 24 kg/m^3



Freq. (Hz)	125	250	500	1000	2000	4000	NRC
Quattro 41 + 50mm Glass Wool	0.50	0.74	0.90	0.82	0.72	0.64	0.80
Quattro 41 + 50mm Glass Wool + 300mm air gap	0.75	0.83	0.71	0.72	0.80	0.72	0.77

Freq. (Hz)	125	250	500	1000	2000	4000	NRC
Quattro 41 + 50mm air gap	0.10	0.32	0.64	0.72	0.71	0.52	0.60
Quattro 41 + 300mm air gap	0.44	0.64	0.62	0.63	0.63	0.55	0.65

Size Details



- Perforation Size & Type : 12 x 12 mm square
- Perforation Area : 16%
- Reaction to Fire : Class 1 as per BS 476

Surface

Unpainted - Can be painted to any color

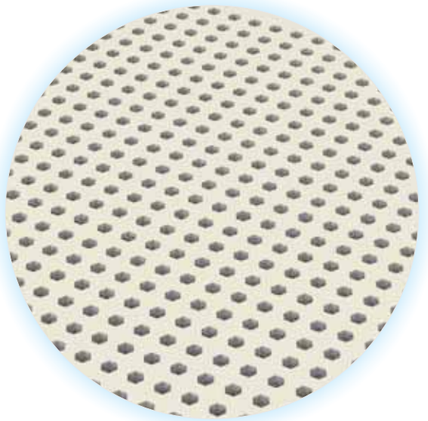
Benefits

- High Sound Absorption
- Seamless flush finish
- Immense design possibilities
- Suitable for Green Buildings

Gyptone Sixto 63

Characteristics

All four side tapered perforated Gypsum Acoustical board having eight quadrants having 12mm Hexagonal shaped perforations and backed by an acoustical fleece.



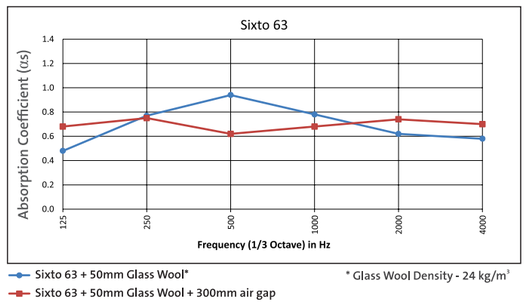
Attributes :

Nominal Size (mm)	Weight (kg/m^2)
1200 x 2400 x 12.5	8.0

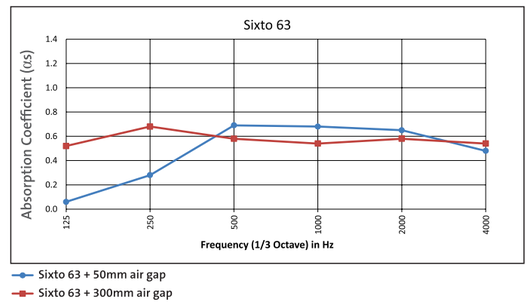
Edge Detail

All Edges Tapered

4TE Technology



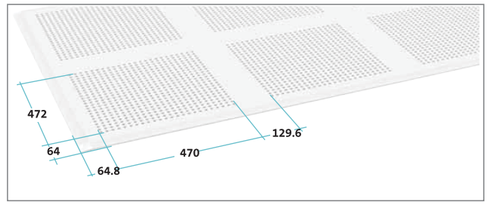
* Glass Wool Density - 24 kg/m^3



Freq. (Hz)	125	250	500	1000	2000	4000	NRC
Sixto 63 + 50mm Glass Wool	0.48	0.77	0.94	0.78	0.62	0.58	0.80
Sixto 63 + 50mm Glass Wool + 300mm air gap	0.68	0.75	0.62	0.68	0.74	0.70	0.70

Freq. (Hz)	125	250	500	1000	2000	4000	NRC
Sixto 63 + 50mm air gap	0.06	0.28	0.69	0.68	0.65	0.48	0.60
Sixto 63 + 300mm air gap	0.52	0.68	0.58	0.54	0.58	0.54	0.60

Size Details



- Perforation Size & Type : 6mm Radius Hexagonal
- Perforation Area : 15%
- Reaction to Fire : Class 1 as per BS 476

Surface

Unpainted - Can be painted to any color

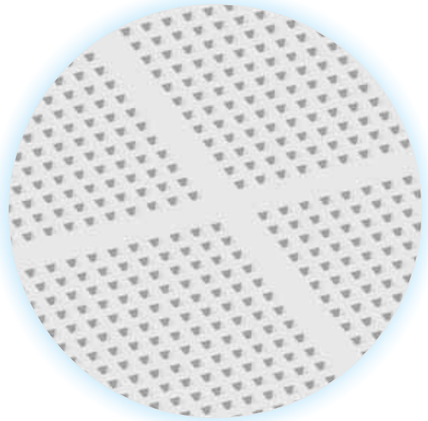
Benefits

- High Sound Absorption
- Seamless flush finish
- Immense design possibilities
- Suitable for Green Buildings

Fultone

Characteristics

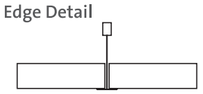
This ceiling panel is unpainted with fully perforated square holes in a regular pattern and is backed with a special non-woven lining. It has excellent sound absorption properties when backed with glass wool insulation matt.



Attributes :

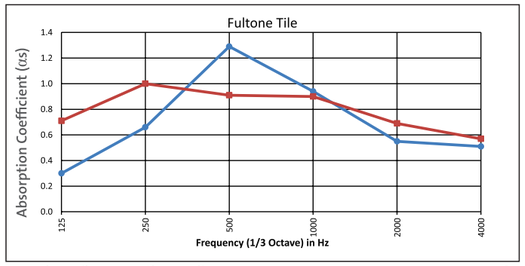
Nominal Size (mm)	Weight (kg/m^2)
600 x 600 x 12.5	8.5

Edge Detail



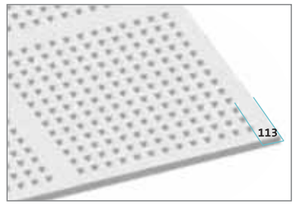
Square (S/E)

*Suitable for Grid module of 600 x 600 mm



Freq. (Hz)	125	250	500	1000	2000	4000	NRC
Fultone Tile + 50mm Glass Wool	0.30	0.66	1.29	0.94	0.55	0.51	0.85
Fultone Tile + 50mm Glass Wool + 300mm air Gap	0.71	1.00	0.91	0.90	0.69	0.57	0.88

Size Details



- Perforation Area : 18%
- Light Reflectance : Will depend on the paint used

Surface

Unpainted - Can be painted to any color

Benefits

- High Sound Absorption
- Can be used both in grid and flush format
- Suitable for Green Building

Technodrome Room, Italy

Introduction to Activ'Air

Rigitone Activ'Air: Good room acoustics, healthy room climate, great design.

Good room acoustics and healthy air are critically important for people's well-being. All the more so when you consider that we spend up to 90% of our time in enclosed spaces – whether at home, in the office, at kindergarten or school, in auditoriums or leisure facilities such as sports clubs.

While we can clearly perceive good and bad room acoustics, we are often exposed to invisible pollutants, e.g. through vapours from carpets and other floor coverings, paints or adhesives, without realizing it. Air pollutants such as volatile organic compounds (VOCs) can impact our well-being and significantly damage our health.

Such VOCs, in particular formaldehyde, can be immediately – and most importantly – permanently removed from room air by the new Saint-Gobain Activ'Air acoustic boards. Thanks to their unique active agent, Saint-Gobain Activ'Air boards can permanently reduce formaldehyde by 60%. A lasting effect which consistently ensures very good room air and thus greater well-being. And last but not least, the attractive perforation design make's them real eye-catchers wherever they are installed.

Room Climate

Permanently removes 60% of formaldehyde from room air

Quiet

Excellent room acoustics properties

Design Freedom

Jointless Ceiling appearance with different perforations

Sustainability

Reduction in pollutant with no re-emission

Hayes Primary School, UK

Activ'Air

How does Activ'Air work?

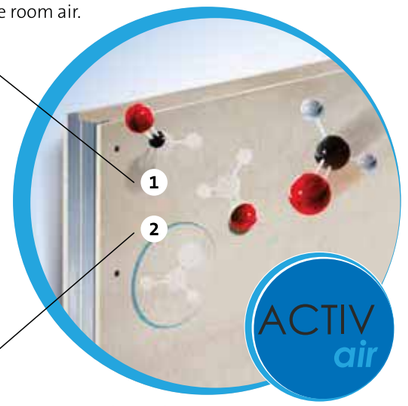
Saint-Gobain Activ'Air boards contain a unique organic mineral substance. It can absorb formaldehyde from room air, convert it into harmless, inactive compounds and permanently bind them in its structure. This ensures a sustainable reduction in formaldehyde without any risk of re-emission.

Proven long-term effect

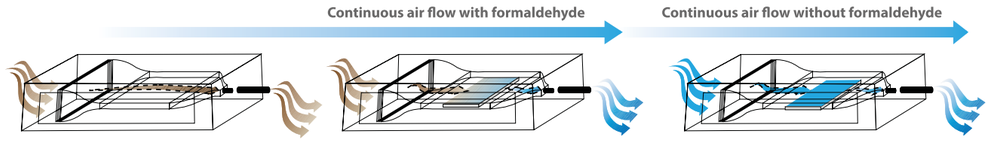
Saint-Gobain Activ'Air is an innovative material with proven performance you can rely on. In a long-term test conducted in accordance with international standards, it was proven that the installation of Saint-Gobain Activ'Air permanently removes 60% of formaldehyde from room air after just a short time and without any risk of re-emission. An important contribution to healthy construction which offers greater living comfort and has a long-term positive effect on people's well-being. Current simulation calculations also prove that Activ'Air boards remain effective (for atleast) 50 years.

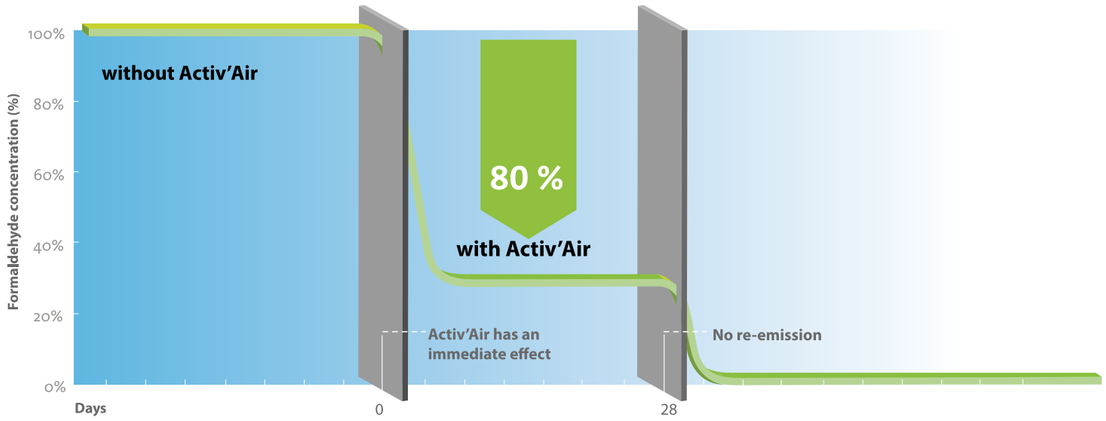
Through the circulation of air in the room formaldehyde comes into contact with the board, which converts the harmful substances into inert compounds.

1. Activ'Air absorbs formaldehyde from the room air.



2. Converts it into non-hazardous substances and permanently binds it in the board.





Tested in accordance with ISO 16000-23
Long-term Rigitone Activ'Air testing confirms the high and sustainable level of effectiveness and absence of re-emissions.

Activ'Air Cleaning Power

Activ'Air surface area needed to achieve the air cleaning power effect. Installing Saint-Gobain Activ'Air and other Saint Gobain Activ'Air products enables the permanent removal of up to 80% of formaldehyde from the room air.

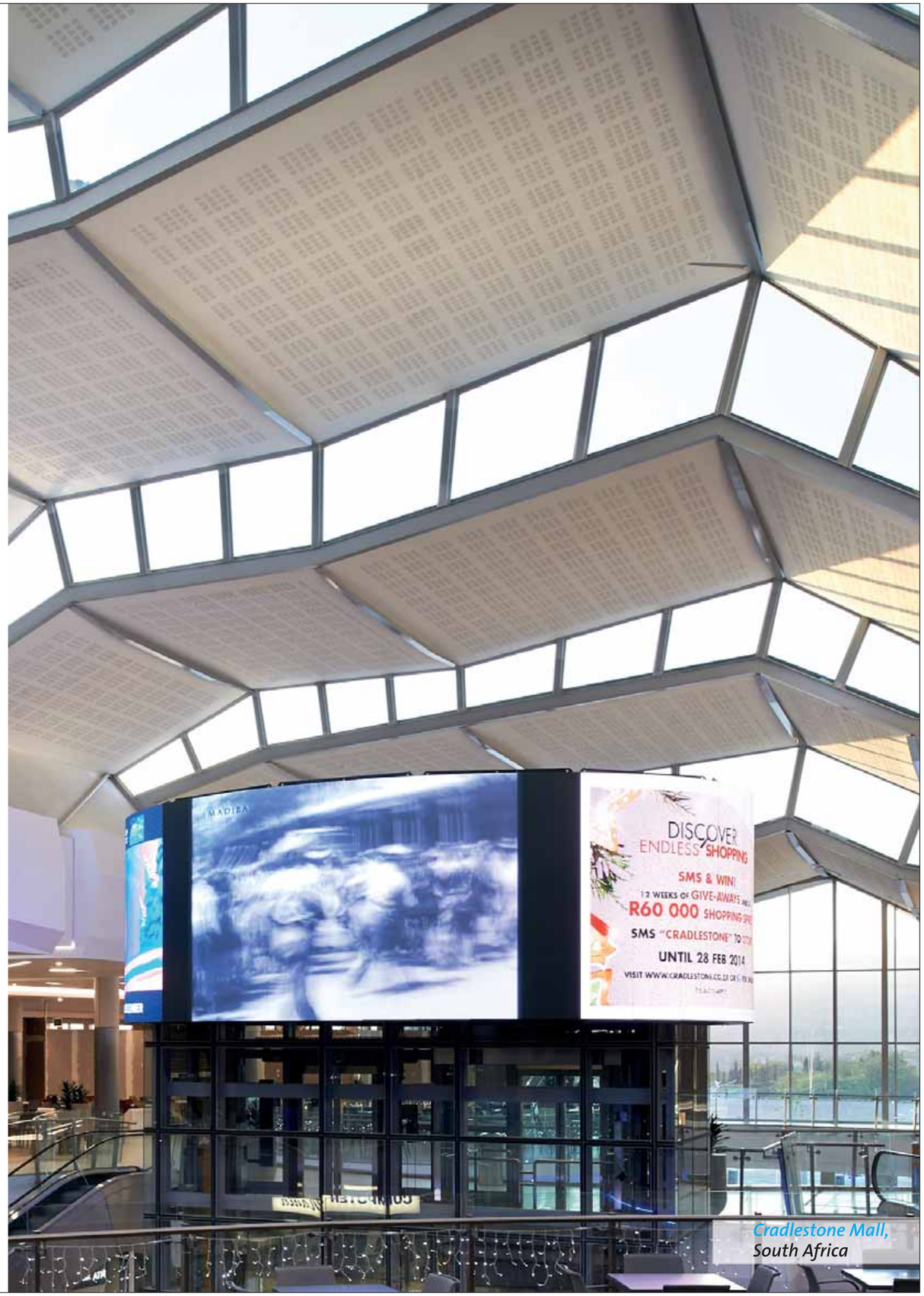
You can use the adjacent table to calculate how many square metres of Saint-Gobain Activ'Air you should install in a room.

Absorption (CH_2O)	Ratio of surface/ room volume (m^2/m^3)	Application areas
60 %	0.4	Ceilings
70 %	1.0	Walls
80 %	1.2	Walls & Ceilings

Augsburg University Department For Music & Arts,
Germany

Extract: International formaldehyde concentration limits in room air

ppm	mg/m^3	
0.30	0.37	Health & Safety Institute
0.10	0.13	Maximum guideline value of the German Health Authority, German Federal Institute for Risk Assessment (BfR) and German Environment Agency
0.08	0.10	WHO (World Health Organisation) limit (maximum short-term concentration) Portuguese limit (maximum long-term concentration)
0.04	0.05	Polish limit (maximum long-term concentration)
0.02	0.03	French limit for public buildings (maximum average long-term concentration) from 2015
0.01	0.01	Belgian and French limit for public buildings (maximum average long-term concentration) from 2023
0	0	Health & Safety Institute



Cradlestone Mall,
South Africa

Acoustics, Aesthetics, Clean Air And Durability

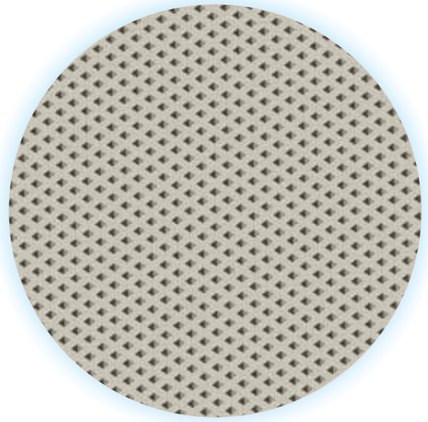
Gyptone Quattro 71

Characteristics

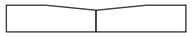
All four side tapered perforated Gypsum Acoustical board having eight quadrants of square shaped perforations of 3x3mm and backed by an acoustical fleece and having Activ'Air cleaning powder to ensure sustainable reduction in air pollutants such as formaldehyde.

Attributes :

Nominal Size (mm)	Weight (kg/m²)
1200 x 2400 x 12.5	8.0

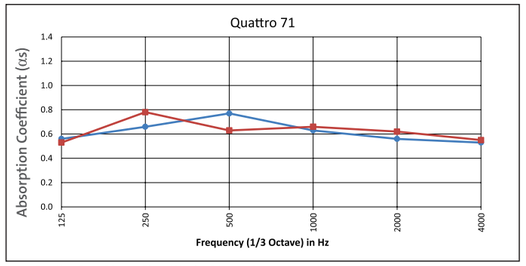


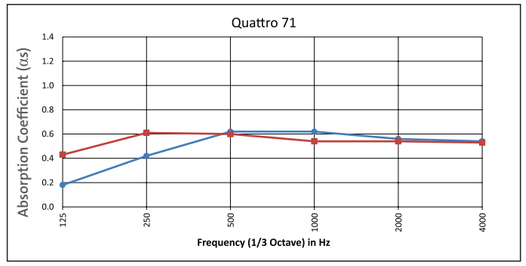
Edge Detail



All Edges Tapered

4TE Technology

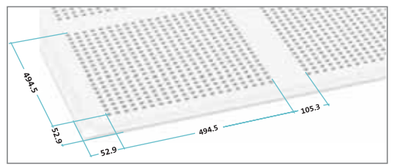




Freq. (Hz)	125	250	500	1000	2000	4000	NRC
Quattro 71 + 50mm Glass Wool + 50mm air gap	0.56	0.66	0.77	0.63	0.56	0.53	0.65
Quattro 71 + 50mm Glass Wool + 300mm air gap	0.53	0.78	0.63	0.66	0.62	0.55	0.70

Freq. (Hz)	125	250	500	1000	2000	4000	NRC
Quattro 71 + 50mm air gap	0.18	0.42	0.62	0.62	0.56	0.54	0.55
Quattro 71 + 300mm air gap	0.43	0.61	0.60	0.54	0.54	0.53	0.55

Size Details



- Perforation Size & Type : 3mm Square
- Perforation Area : 9%
- Reaction to Fire : A2-s1, d0

Surface

Unpainted - Can be painted to any color

Benefits

- Seamless flush finish.
- Immense design possibilities.
- Substantially reduces air Pollutants.
- Suitable for Green Buildings.

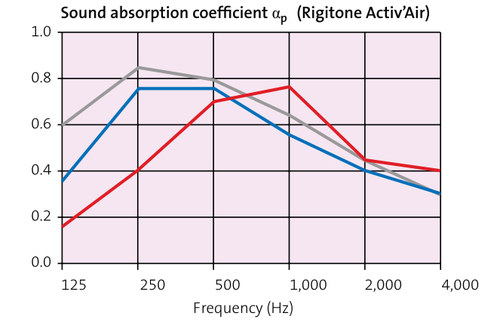
Rigitone Activ'Air 8-15-20 Super

Characteristics

Perforated Gypsum Acoustical board having 8, 15 &20mm diameter end to end irregularly scattered round perforations and backed by an acoustical fleece and having Activ'Air cleaning powder to ensure sustainable reduction in air pollutants such as formaldehyde.

Attributes :

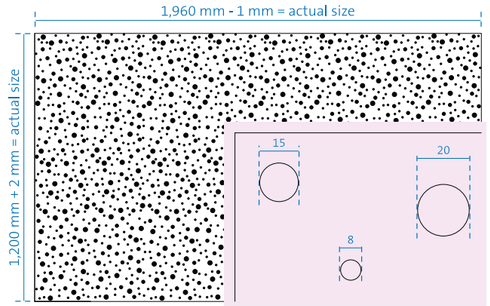
Nominal Size (mm)	Weight (kg/m²)
1200 x 1960 x 12.5	10.0



	Rigitone Activ'Air
System Number	AD10RTA (4.07.21)
Board thickness in mm	12.5
Weight in kg/m²	approx. 10
Perforated area in %	10
Centre-to-centre distance between support profiles in mm	327
Air cleaning power	√
Reaction to fire in accordance with DIN EN 13501	A2-s1, d0 (C.4)

							α_w	NRC
Plenum depth 50 mm								
0.15	0.40	0.70	0.75	0.45	0.40		0.50 (M)	0.6
Plenum depth 200 mm								
0.35	0.75	0.75	0.55	0.40	0.30		0.45 (LM)	0.6
Plenum depth 200 mm, mineral wool layer 50 mm								
0.60	0.85	0.80	0.65	0.45	0.30		0.45 (LM)	0.7

Size Details



Surface

Unpainted - Can be painted to any color

Benefits

- High sound absorption
- Seamless flush finish.
- Immense design possibilities.
- Substantially reduces air pollutants.
- Suitable for Green Buildings.

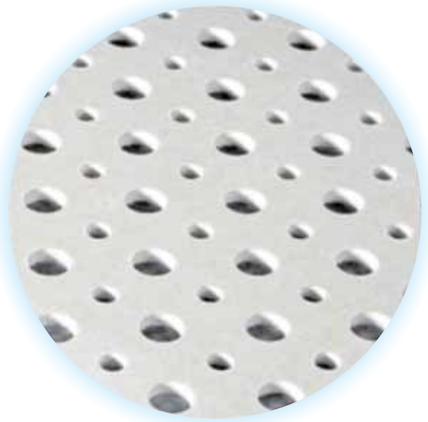
Rigitone Activ'Air 12-20/66

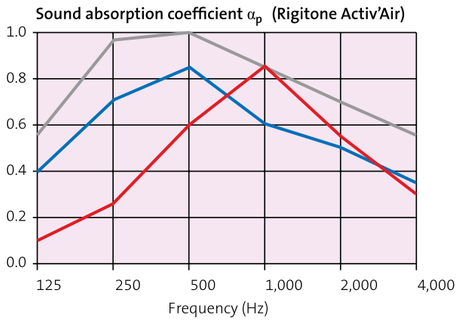
Characteristics

Perforated Gypsum Acoustical board having 12 &20mm diameter end to end regularly staggered round perforations and backed by an acoustical fleece and having Activ'Air cleaning powder to ensure sustainable reduction in air pollutants such as formaldehyde.

Attributes :

Nominal Size (mm)	Weight (kg/m²)
1188 x 1980 x 12.5	9.0

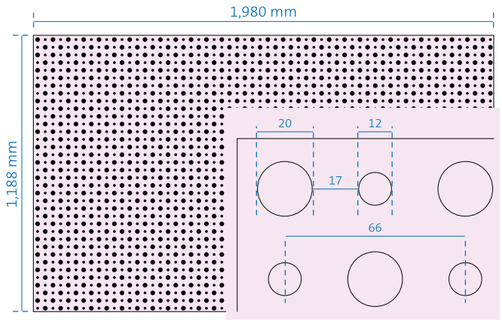




	Rigitone Activ'Air
System Number	AD10RTA (4.07.21)
Board thickness in mm	12.5
Weight in kg/m²	approx. 9.0
Perforated area in %	19.6
Centre-to-centre distance between support profiles in mm	333
Air cleaning power	√
Reaction to fire in accordance with DIN EN 13501	A2-s1, d0 (C.4)

							α_w	NRC
Plenum depth 50 mm								
0.10	0.25	0.60	0.85	0.55	0.30		0.45 (M)	0.55
Plenum depth 200 mm								
0.40	0.70	0.85	0.60	0.50	0.35		0.50 (LM)	0.65
Plenum depth 200 mm, mineral wool layer50 mm								
0.55	0.95	1.00	0.85	0.70	0.55		0.70 (LM)	0.90

Size Details



Surface

Unpainted - Can be painted to any color

Benefits

- Seamless flush finish.
- Immense design possibilities.
- Substantially reduces air Pollutants.
- Suitable for Green Buildings.

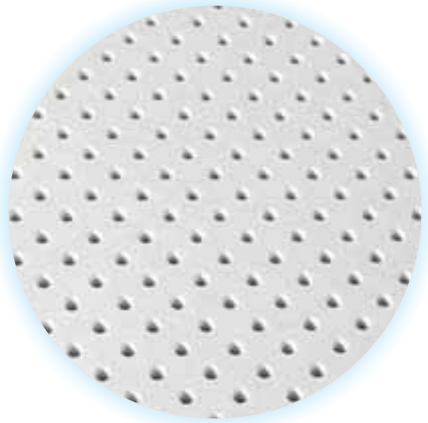
Rigitone Activ'Air 8/18

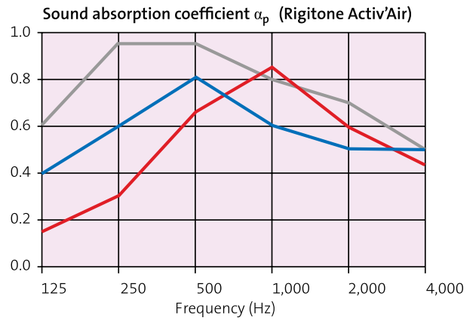
Characteristics

Perforated Gypsum Acoustical board having 8mm diameter at 18mm center to center end to end regular round perforations and backed by an acoustical fleece and having Activ'Air cleaning powder to ensure sustainable reduction in air pollutants such as formaldehyde.

Attributes :

Nominal Size (mm)	Weight (kg/m²)
1188 x 1998 x 12.5	9.5

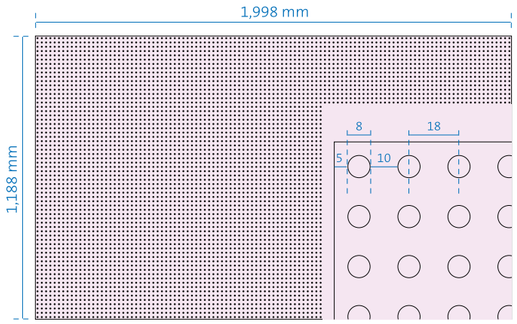




	Rigitone Activ'Air
System Number	AD10RTA (4.07.21)
Board thickness in mm	12.5
Weight in kg/m²	approx. 9.5
Perforated area in %	15.5
Centre-to-centre distance between support profiles in mm	333
Air cleaning power	√
Reaction to fire in accordance with DIN EN 13501	A2-s1, d0 (C.4)

							α_w	NRC
Plenum depth 50 mm								
0.15	0.30	0.65	0.85	0.60	0.45		0.55 (M)	0.6
Plenum depth 200 mm								
0.40	0.60	0.80	0.60	0.50	0.50		0.60	0.65
Plenum depth 200 mm, mineral wool layer 50 mm								
0.60	0.95	0.95	0.80	0.70	0.50		0.70 (LM)	0.85

Size Details



Surface

Unpainted - Can be painted to any color

Benefits

- High sound absorption
- Seamless flush finish.
- Immense design possibilities.
- Substantially reduces air pollutants.
- Suitable for Green Buildings.

MAINTENANCE FREE AND HYGIENE MODULAR SOLUTIONS IN GYPSUM

Glenstal Abbey
Limerick, Ireland

Maintenance Free

Dew Drop

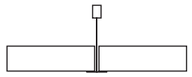
Characteristics

This ceiling panel is laminated with a PVC film on the face side, Metalised polyester film on back side and is available in a dew drop texture.

Attributes :

Nominal Width (mm)	Nominal Length (mm)	Edge Type
9mm Panel		
600	600	S/E

Edge Detail



Square
(S/E)
Suitable for Grid Module of
600 x 600 mm

Panel Colour ☐ White

Standards
Light Reflectance % : >75

Granular

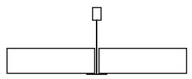
Characteristics

This ceiling panel is laminated with a PVC film on the face side, Metalised polyester film on back side and is available in a granular texture.

Attributes :

Nominal Width (mm)	Nominal Length (mm)	Edge Type
9mm Panel		
600	600	S/E

Edge Detail



Square
(S/E)
Suitable for Grid Module of
600 x 600 mm

Panel Colour ☐ White

Standards
Light Reflectance % : >75

Maintenance Free and Hygiene

Polyshield

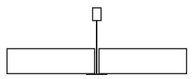
Characteristics

This ceiling panel is laminated with a PVC film on the face side and a metalised polyester film on the back side with all four edges sealed with PVC film thus giving the panel superior maintenance free finish combined with additional superior maintenance.

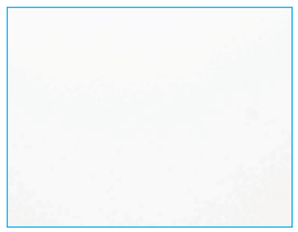
Attributes :

Nominal Width (mm)	Nominal Length (mm)	Edge Type
9.5/12.5mm Panel		
600	600	S/E
600	1200	S/E

Edge Detail



Square
(S/E)
Suitable for Grid Module of
600 x 600 mm & 600x1200 mm



Panel Colour ☐ White

Standards
Light Reflectance % : >75

CERTIFICATES FOR POLYSHIELD

SPECTRO ANALYTICAL LABS LTD.

Particle Count Test Report

Disclaimer : We assure that Our Polyshield tiles will give the results as shown in the test certificates when used as False Ceiling in Gyproc Matrix T- Grids system, provided these tiles are installed in strict adherence to the Company's methodology and used as sealed unit as supplied by the Company.
We does not own any responsibility for the results, if tiles are cut, torn, damaged etc during or after installation.

CLEAN ROOM CLASS 100- CERTIFICATION

SPECTRO ANALYTICAL LABS LTD.

Particle Count Test Report

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CLEAN ROOM CLASS 100- CERTIFICATION

SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

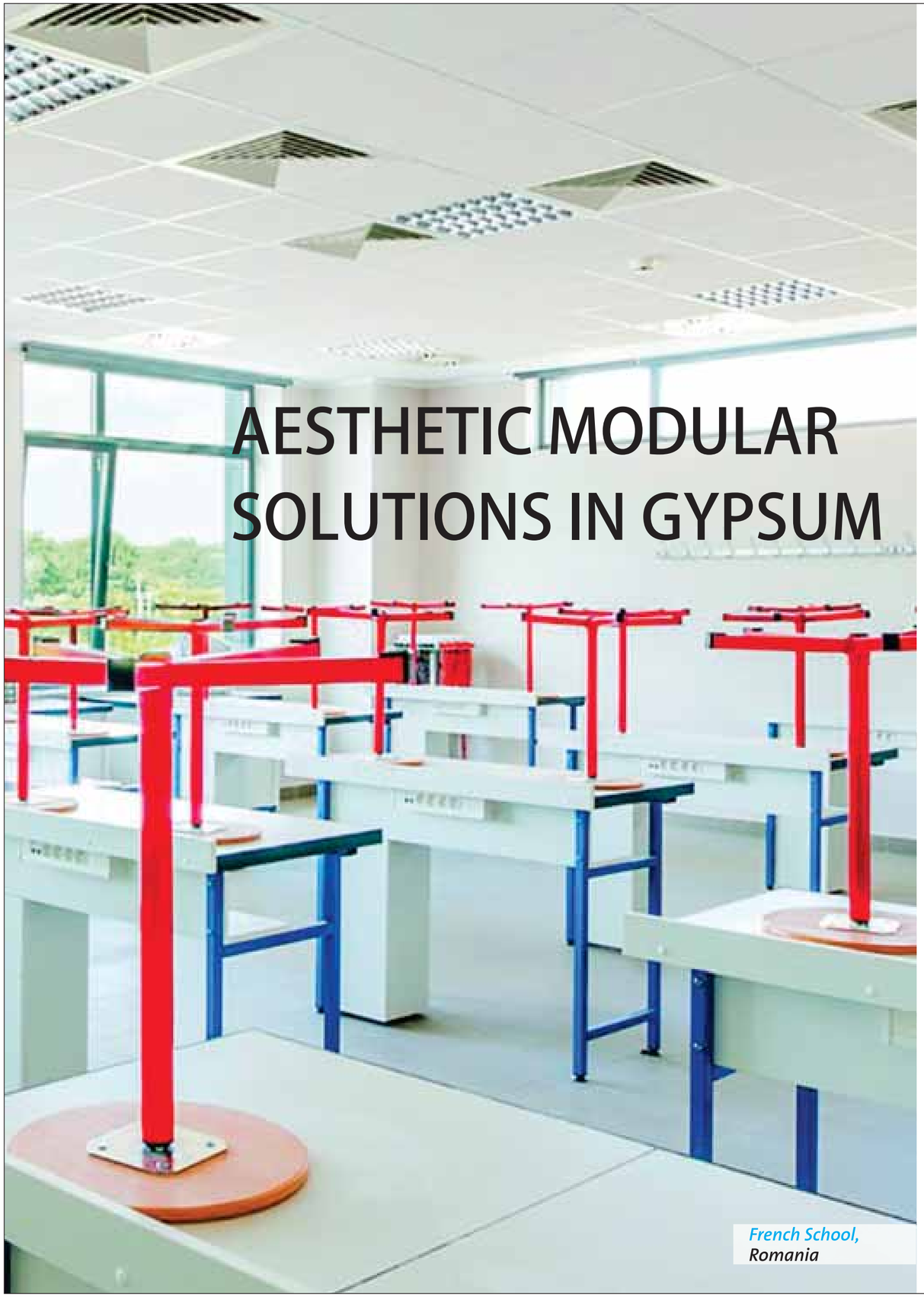
TEST CERTIFICATE 000365385

TEST RESULTS

Disclaimer : We assure that Our Polyshield tiles will give the results as shown in the test certificates when used as False Ceiling in Gyproc Matrix T- Grids system, provided these tiles are installed in strict adherence to the Company's methodology and used as sealed unit as supplied by the Company.
We does not own any responsibility for the results, if tiles are cut, torn, damaged etc during or after installation.

SAG RESISTANCE CERTIFICATION AT 99% RH

AESTHETIC MODULAR SOLUTIONS IN GYPSUM



French School,
Romania

High Aesthetics

Casofina

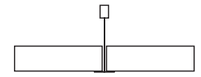
Characteristics

These are pre-painted ceiling panels which are coated with a special paint which is cleanable and has anti-mould growth and anti-yellowing properties.

Attributes :

Nominal Width (mm)	Nominal Length (mm)	Edge Type
9mm Panel		
600	600	S/E

Edge Detail



Square
(S/E)
Suitable for Grid Module of
600 x 600 mm

Panel Colour White

Standards
Light Reflectance % : >75

Casostar

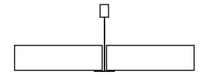
Characteristics

These are pre-painted ceiling panels which are coated with a special paint which is cleanable and has anti-mould growth and anti-yellowing properties. This range combines economy with great aesthetics.

Attributes :

Nominal Width (mm)	Nominal Length (mm)	Edge Type
9mm Panel		
600	600	S/E

Edge Detail



Square
(S/E)
Suitable for Grid Module of
600 x 600 mm

Panel Colour White

Standards
Light Reflectance % : >75

Good Aesthetics

Sundance

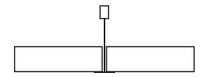
Characteristics

This is an unpainted ceiling panel has round semi-perforations in a random pattern and is economical, durable and dimensionally stable.

Attributes :

Nominal Width (mm)	Nominal Length (mm)	Edge Type
12.5mm Panel		
600	600	S/E

Edge Detail



Square
(S/E)
Suitable for Grid Module of
600 x 600 mm

Panel Colour White

Surface
Unpainted – Can be painted to any color

Standards
Light Reflectance % : Will depend on the paint used.

FUNCTIONAL MODULAR SOLUTIONS IN GYPSUM

Al Mafraq Hospital,
UAE

Functional

Gypboard® Plain

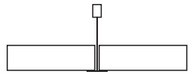
Characteristics

This ceiling tile is a standard Gypsum board product cut into the required panel size.

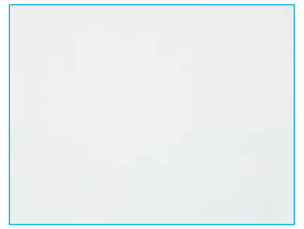
Attributes :

Width (mm)	Length (mm)	Thickness (mm)
600	600	12.5
600	1200	12.5
600	600	9.5
600	1200	9.5

Edge Detail



Square
(S/E)
Suitable for Grid Module of
600 x 600 mm &
600 x 1200 mm



Surface
Unpainted – can be painted to any color.

Gyproc® Fireline

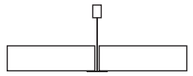
Characteristics

This ceiling tile is a Gypsum plasterboard with glass fibre and other additives.

Attributes :

Width (mm)	Length (mm)	Thickness (mm)
600	600	12.5

Edge Detail



Square
(S/E)
Suitable for Grid Module of
600 x 600 mm

Surface
Unpainted – can be painted to any color.

Gyproc® Moisture Resistant

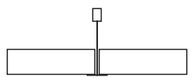
Characteristics

This ceiling tile is a Gypsum plasterboard with water repellent additives in the core and paper liners.

Attributes :

Width (mm)	Length (mm)	Thickness (mm)
600	600	12.5

Edge Detail



Square
(S/E)
Suitable for Grid Module of
600 x 600 mm

Surface
Unpainted – can be painted to any color.

Gyproc® Foil Black

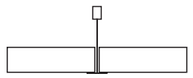
Characteristics

This ceiling tile is a Gypsum plasterboard tile backed with MPL vapour control film.

Attributes :

Width (mm)	Length (mm)	Thickness (mm)
600	600	12.5

Edge Detail



Square
(S/E)
Suitable for Grid Module of
600 x 600 mm

Surface
Unpainted – can be painted to any color.

METAL CEILING SOLUTION

Centre de Dialyse,
France

Lay In - Plain

Characteristics

Plain Panels made either from Pre- Painted galvanized steel or Polyester powder coated galvanized steel offering the best corrosion protection.

Attributes :

Type	Nominal Size (mm)	Perforation Size (mm)	LR	NRC
Pre-Painted	600 x 600 x 0.5	NA	≥0.75	NA
Powder Coated	600 x 600 x 0.5	NA	≥0.75	NA

Edge Detail

E24

For24 mm Gyproc Matrix Grid

E15

For14 mm Gyproc Micro Grid

For15 mm Gyproc Bolt Slot Grid

Panel Color
Standard color is White.
Standards
Noise Reduction Coefficient (NRC): NA

Lay In – Perforated

Characteristics

Perforated Panels made either from Pre- Painted galvanized steel or Polyester powder coated galvanized steel offering the best corrosion protection. They are backed by a high quality acoustic fleece.

Attributes :

Type	Nominal Size (mm)	Perforation Size (mm)	LR	NRC
Pre-Painted	600 x 600 x 0.5	2.4	≥0.65	≥0.5
Powder Coated	600 x 600 x 0.5	1.8/2.4	≥0.65	≥0.5

Edge Detail

E24

For24 mm Gyproc Matrix Grid

E15

For14 mm Gyproc Micro Grid

For15 mm Gyproc Bolt Slot Grid

Panel Color
Standard color is White.
Standards
Noise Reduction Coefficient (NRC): 0.5
Perforation Area
≥ 18%

Clip In – Plain

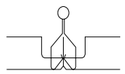
Characteristics

Plain Panels made either from Pre- Painted galvanized steel or Polyester powder coated galvanized steel offering the best corrosion protection.

Attributes :

Type	Nominal Size (mm)	Perforation Size (mm)	LR	NRC
Pre-Painted	600 x 600 x 0.5	NA	≥0.75	NA
Powder Coated	600 x 600 x 0.5	NA	≥0.75	NA

Edge Detail



Beveled Edge

Panel Color
Standard color is White.
Standards
Noise Reduction Coefficient (NRC): NA

Clip In – Perforated

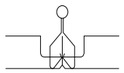
Characteristics

Perforated Panels made either from Pre- Painted galvanized steel or Polyester powder coated galvanized steel offering the best corrosion protection.

Attributes :

Type	Nominal Size (mm)	Perforation Size (mm)	LR	NRC
Pre-Painted	600 x 600 x 0.5	2.4	≥0.65	≥0.5
Powder Coated	600 x 600 x 0.5	1.8/2.4	≥0.65	≥0.5

Edge Detail



Beveled Edge

Panel Color

Standard color is White.

Standards

Noise Reduction Coefficient (NRC): 0.5

Perforation Area

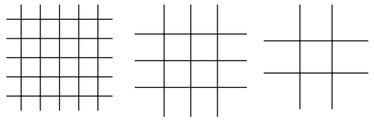
≥18%

T – Cell Open Plenum

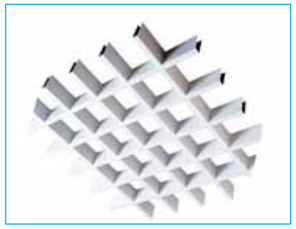
Characteristics

Cell ceiling panels shall be made out of U shaped lower blades made out of 0.3 mm thick white color Pre painted galvanized steel of size10mm (W) x 50mm (H) in 600mm (Length), and cross connected to upper blades of size 10mm(W) x 50mm(H) in 600mm(L)

Cell Sizes :



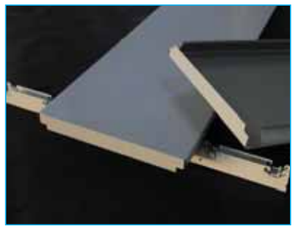
100 x 100 150 x 150 200 x 200



Linear Ceilings – 300 C

Characteristics

Saint Gobain 300 C ceiling panels manufactured by roll forming of 0.45 mm. Pre coated galvanized steel sheets of white colour. The panels have a finished bottom width of 300 mm which includes the 4 mm bevel edges on both the sides. Further the panels bend upwards to a overall height of 29mm. The top curved portion of the panels get locked in the compatible carrier manufactured from GI 0.50mm thickness of size 34 x 23 mm having notches to fix the panels in these carriers. Available both in plain and perforated. General color is white, other colors available subject to order for minimum quantity.

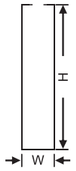


Baffles

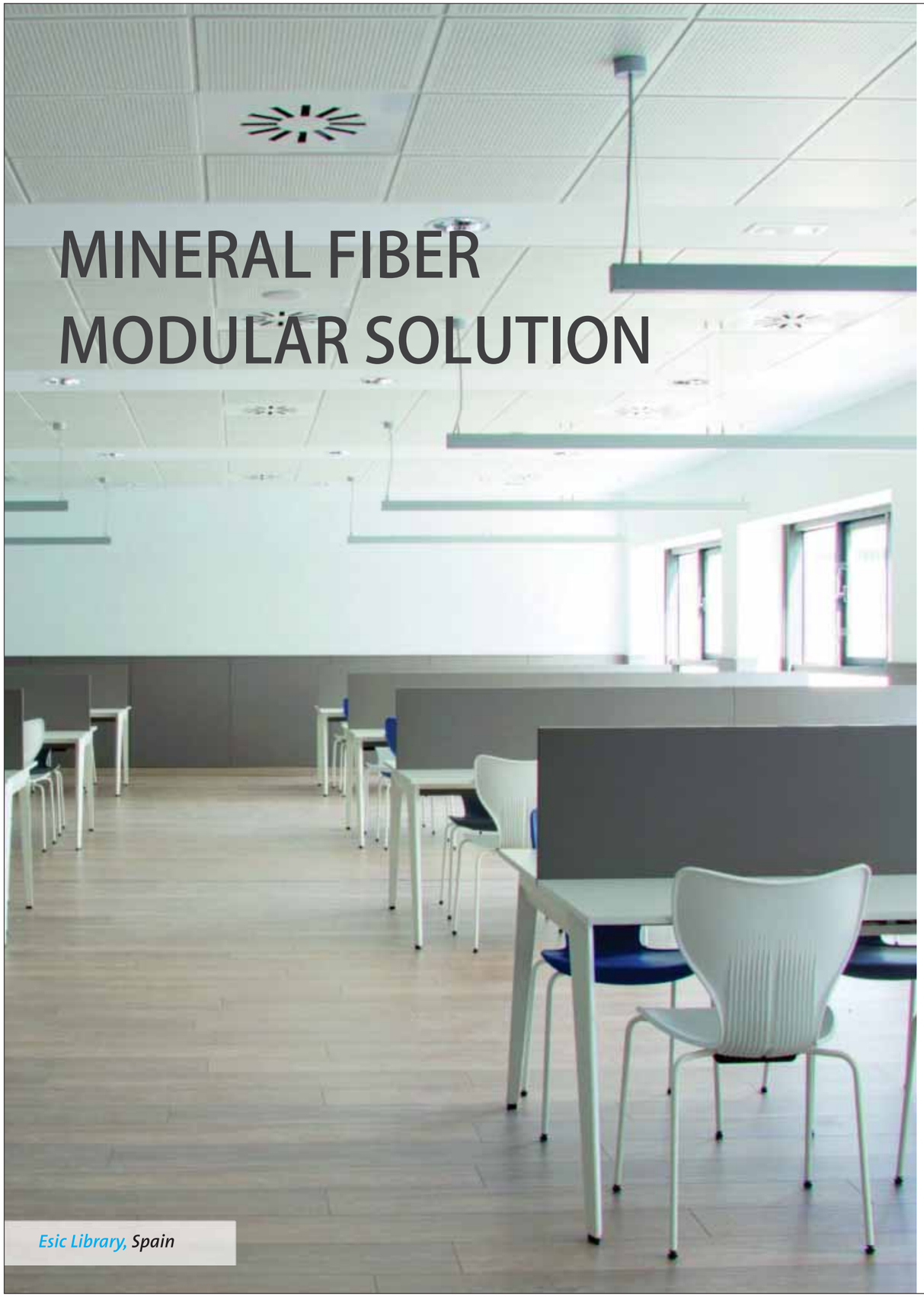
Characteristics

Saint Gobain PPGI Baffle Ceiling of size 25x100/ 30x100/50 x 100 mm placed at required centre to centre of the following components and specifications:

- Carrier made of 0.50 mm GI, painted to match background colour or black as directed by the engineer / architect . Baffle to have arrangement to fix, hang and lock the baffles of required sizes and at required intervals. The size of punched carrier would be 35x20x35mm bent channel with holes for suspension and fixing secondary channel.
- The Baffles would be made from PPGI profiles of 0.50 mm TCT, U shaped bent to required (H) mm height and (W) mm bottom width. The top edge will have a flange of 5mm to fix in the carrier profile. These baffles would be of white color.
- Suspension. The carriers would be placed at every 1200 mm (maximum) and suspended by means of a secondary channel fixed to the carrier at every 900 to 1200 mm and this secondary member in turn would be suspended by means of a 4 mm wire and level adjustment butterfly clip...fixed to the slab by means of a 8 mm dia and 45mm long dash.
- Colour: General colour is white; however wooden colour or any other colour as required can be supplied subject to order for minimum quantity.



MINERAL FIBER MODULAR SOLUTION



Esic Library, ***Spain***

Mineral Fiber

Celotex Fine Fissured

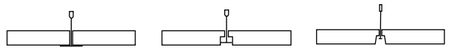
Characteristics

This ceiling panel has the popular fine fissured design on the face side.

Attributes :

Width (mm)	Length (mm)	Edge Type
15 mm Panel		
600	600	S/E R/E NR/E

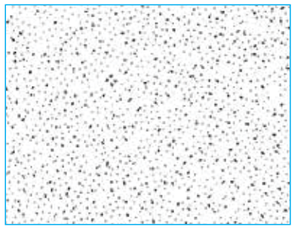
Edge Detail



Square (S/E) — Suitable for Grid Module of 600 x 600 mm

Reveal (R/E) — SE & RE Suitable for Gyproc Matrix Grid

Narrow Reveal (NR/E) — NRE Suitable for Gyproc Micro & Bolt Slot Grid



Panel Colour ☐ White

Standards

Noise Reduction Coefficient (NRC): 0.55
Ceiling Attenuation Class (CAC): 35
Light Reflectance (%): 84

Celotex Pin

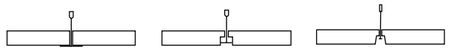
Characteristics

This ceiling panel has the pin perforated surface design on the face side.

Attributes :

Width (mm)	Length (mm)	Edge Type
15 mm Panel		
600	600	S/E R/E NR/E

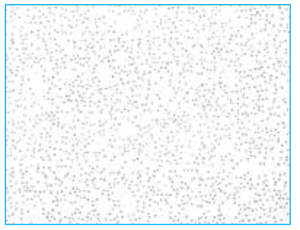
Edge Detail



Square (S/E) — Suitable for Grid Module of 600 x 600 mm

Reveal (R/E) — SE & RE Suitable for Gyproc Matrix Grid

Narrow Reveal (NR/E) — NRE Suitable for Gyproc Micro & Bolt Slot Grid



Panel Colour ☐ White

Standards

Noise Reduction Coefficient (NRC): 0.55
Ceiling Attenuation Class (CAC): 35
Light Reflectance (%): 85

Certain Teed Sand Micro

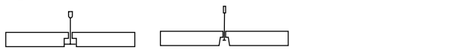
Characteristics

This ceiling panel has the sand finish surface design on the face side along with micro perforations. BioShield® treatment included for added mold and mildew resistance.

Attributes :

Width (mm)	Length (mm)	Edge Type
15 mm Panel		
600	600	R/E NR/E

Edge Detail



Reveal (R/E) — Suitable for Grid Module of 600 x 600 mm

Narrow Reveal (NR/E) — RE Suitable for Gyproc Matrix Grid

NRE Suitable for Gyproc Micro & Bolt Slot Grid

Panel Colour ☐ White

Standards

Noise Reduction Coefficient (NRC): 0.50
Ceiling Attenuation Class (CAC): 33
Light Reflectance (%): 88

Heyrieux Cultural Center,
France

Gyproc® T-Grid

Main -T

Characteristics

Main Ts are suspended by suspension system and carry the weight of the Grid system. These Ts have a system of interlocking with each other in order to provide an additional length and thus form a continuous mesh across the space where they are used.

They have following features

- Hanger holes
- Slots to interlock Cross T

Cross - T

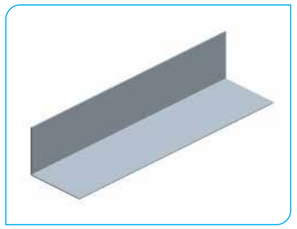
Characteristics

Cross Ts are used intermittently at the specified distances and are inter locked with the Main Ts. Typically the Cross Ts are of 2 sizes: 1200 mm and 600 mm. They thus form modules which makes a mesh/grid.

Wall Angle

Characteristics

Wall angle is fixed to the perimeter of the wall at the ceiling level to hold the Main Ts and gives a finish when it terminates on the wall.



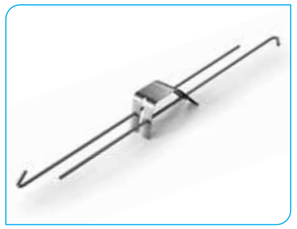
Level Clip

Characteristics

The Main-T are suspended from the soffit cleat with the help of level clips.

Dimensions in mm:

Butterfly Clip	Wire Rod
85 X 30 X 0.8 mm	4 Ø



Rawl Plug

Characteristics

It is an expandable fastener to hold the ceiling.

Dimensions in mm:

Length	Diameter
45	8 Ø

Soffit Cleat

Characteristics

It is used to hold level clip for suspension of the framework from the structural soffit.

Dimensions in mm:

Long End	Short End	Width	Thickness
27	37	25	1.6

Metal Ceiling T-Grids

Gyproc 38 Matrix Grid

Dimensions in mm:

Component	Length (mm)	Width (mm)	Height (mm)	Thickness (mm)
Main T	3600	24	38	0.3
Cross T	1200	24	25	0.3
Cross T	600	24	25	0.3
Wall Angle	3000	24	24	0.4

Gyproc® 32 Matrix Grid

Dimensions in mm:

Component	Length (mm)	Width (mm)	Height (mm)	Thickness (mm)
Main T	3600	24	32	0.3
Cross T	1200	24	25	0.3
Cross T	600	24	25	0.3
Wall Angle	3000	24	24	0.4

Gyproc® Micro Grid

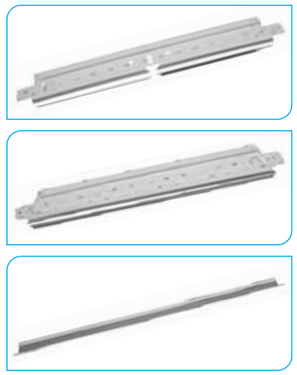
Dimensions in mm:

Component	Length (mm)	Width (mm)	Height (mm)	Thickness (mm)
Main T	3600	14	32	0.3
Cross T	1200	14	32	0.3
Cross T	600	14	32	0.3
Wall Angle	3000	14	19	0.4

Gyproc Bolt Slot Grid (White-Black)

Dimensions in mm:

Component	Length (mm)	Width (mm)	Height (mm)	Thickness (mm)
Main T	3600	15	42	0.3
Cross T	1200	15	42	0.3
Cross T	600	15	42	0.3
Wall Angle	3000	14	20	0.4



Gyproc® Pro 1 Grid (White - Black)

Dimensions in mm:

Component	Length (mm)	Width (mm)	Height (mm)	Thickness (mm)
Main T	3600	15.5	32	0.3
Cross T	1200	15.5	32	0.3
Cross T	600	15.5	32	0.3
Wall Angle	3000	14	20	0.4

Gypserra™ Metal & Accessories

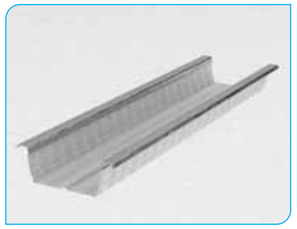
Ceiling Section

Characteristics

This is the main supporting section to fix plasterboard in the suspended ceiling system.

Attributes :

Total Width	Height	Web Width	Length	Thickness
80	26	51	3660	0.5



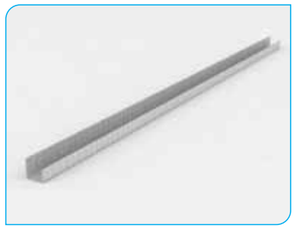
Perimeter Channel

Characteristics

This section is fixed around walls/partitions on which the plasterboard is terminated.

Attributes :

Width	Shorter Side	Longer Side	Length	Thickness
28.5	20	30	3660	0.5



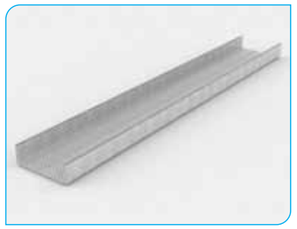
Intermediate Channel

Characteristics

This is a primary section to support the ceiling section to the suspension system.

Attributes :

Width	Side 1	Side 2	Length	Thickness
45	15	15	3660	0.9



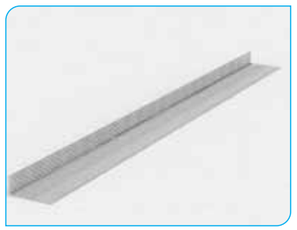
Ceiling Angle - Regular Suspended Ceiling

Characteristics

This section provides suspensions from the structural soffit.

Dimensions in mm:

Side 1	Side 2	Length	Thickness
25	10	3660	0.5



Installation Procedure

Gyptone Big Board Ceiling System

» Gypserra™ Serrated perimeter channels are fixed along the perimeter of ceiling which are screw fixed to brick wall/partition with the help of nylon sleeves and screws, at 610mm centres.

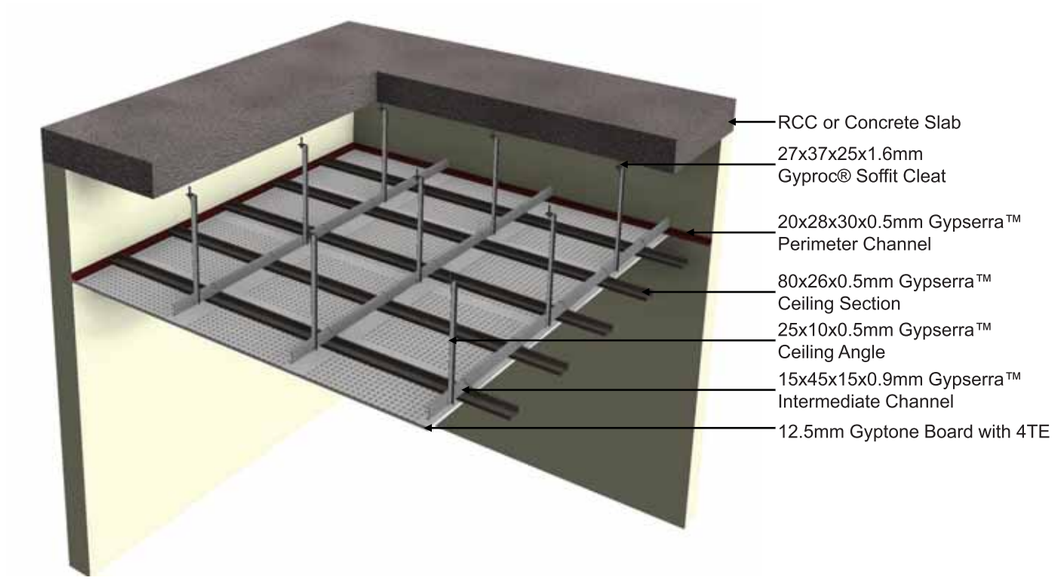
» Then suspending Gypserra™ Serrated intermediate channels of size 45mm from the soffit at 1200mm centres with Gypserra™ CRP surface ribbed ceiling angle of width 25mm x 10mm fixed to soffit with GI cleat and steel expansion fasteners.

» Gypserra™ Serrated section of having web of 51.5mm and two flanges of 26mm each with lips of 10.5mm are then fixed to the Gypserra Serrated intermediate channel with the help of Connecting clip and in direction perpendicular to the Gypserra Serrated intermediate™ channel at 600mm centres.

» Single layer of 12.5mm thick Gyptone Line 6 having (4TE) 4 Tapered edges and slit type perforation is then screw fixed to ceiling section with 25mm drywall screws at 230mm centres.

» Screw fixing is done mechanically either with screw driver or drilling machine with suitable attachment.

» Finally square and tapered edges of the boards are to be jointed and finished so as to have a flush look which includes filling and finishing with Gyproc Jointing compound, Gyproc Joint Paper tape and two coats of Drywall Top Coat and then painted. Priming and painting both should be done with a short haired paint roller. They should not be applied using brush or spray diffuser.



Rigitone Activ'Air® Board Ceiling System

» Gypserra™ Perimeter Channel is fixed along the perimeter of existing wall with the help of HILTI HPS - 1 (6x40) impact anchor at 600mm centres.

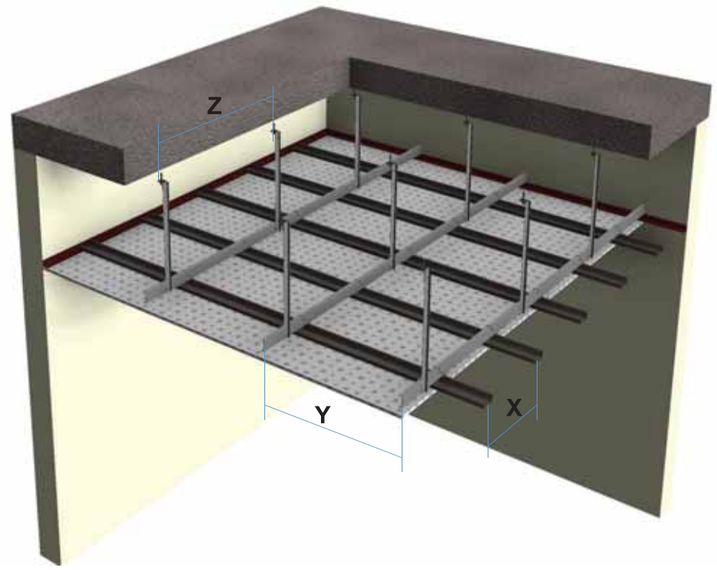
» Gypserra™ Ceiling Angle is suspended by fixing it to the Gyproc® Soffit Cleat and Gyproc® Rawl PlugØ8x45mm.

» Gypserra™ Intermediate channel is fixed to the Gypserra™ Ceiling Angle with M6 x 12mm Hex Bolt & Nut or with 2 Nos of Ø4.2x13 Gyproc® metal to metal screw .

» The Gypserra™ Ceiling Section is then fixed to the Gypserra™ Intermediate Channel with the help of Gyproc® Connecting Clip and in direction perpendicular to the Intermediate channel

» Single layer 12.5mm Gyproc Rigitone board having all four square edges, backed with acoustic tissue is then screw fixed to ceiling section with 25mm drywall screws at 170 mm centres. Boarding shall start from the centre of the ceiling area.

» Finally all square edges of the boards are to be jointed and finished so as to have a flush look. The joint filling using Vario joint filler and Rigitone joint filler set technique should be employed for the jointless installation of Rigitone perforated boards with continuous Perforation. After installation and joint-filling, the boards should be primed and then painted with a short haired paint roller. Paint should not be applied using a brush or spray diffuser.



Product	Board Size (mm)			Board Weight	Section spacing (CTC) mm		
	Width	Length	Thk	Kg/M²	Ceiling Section (X)	Intermediate Channel (Y)	Rawl Plug (Anchor) (Z)
Rigitone Activ'Air 8/18	1188	1998	12.5	9.5	333	1000	900
Rigitone Activ'Air 8-15-20 Super	1200	1960	12.5	10	327	1000	900
Rigitone Activ'Air 12-20/66	1188	1980	12.5	9	330	1000	900

Regular Suspended Ceiling System

Step I

Rawl Plug fixed into the soffit

Step II

Perimeter channel fixed to the wall at required ceiling

Step III

Intermediate channel connected to ceiling angle at required suspension height

Step IV

Intermediate channel and ceiling section are connected with each other by using connecting clip

Step V

Plasterboard screw fixed with Drywall screws in staggered joint manner

Step VI

Plasterboard fixing complete, ready for jointing & finishing

Step VII

Jointing & finishing is done on tapered edge/square edge joint

Step VIII

Finished flush seamless ceilings

Grid Ceiling System

Step I

Wall angle fixed to the perimeter of the wall at the ceiling level

Step II

Rawl Plug with soffit cleat is fixed into the soffit

Step III

Main “T” sections are suspended from the soffit cleat with the help of level clips

Step IV

Cross “T” sections are locked with the main “T” sections

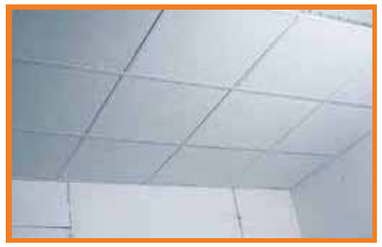
Step V

Completed framework with “T” section, ready for laying ceiling panels

Step VI

Ceiling panels are laid on the grid

Step VII



Finished grid ceiling

Rigitone Tools

NAME	TOOLS	USAGE
Rigitone Fix Pistol		To hold the Cartridge filled up with rigitone mix such that the liquid runs out of the nozzle in a constant flow.
Rigitone Fix cartridge tube		Cartridge for rigitone mix
Two Rigitone Fix joint nozzles		Nozzle developed specifically for the joints of Rigitone perforated boards. Its special shape ensures that joints are slightly overfilled.
Rigitone Fix cap		To screw the Rigitone Fix joint nozzle onto the Cartridge tube.
Rigitone Fix Plunger Head		To screw the Rigitone Fix joint nozzle and attached adapter tightly onto the Rigips ReadyMix pistol.
Rigitone Scraper		To remove excess hardened mix and smoothen the surface.

Rigitone Tools

NAME	TOOLS	USAGE
Rigitone screw head template		To slightly overfill the screw heads
Rigitone nozzle cleaning brush		For removal of dust particles within the perforations.
Rigitone multi-purpose cleaning brush		For removal of dust particles over the board surface and within the perforations.
Pattern Spacers		A plastic tool to ensure boards are properly aligned and check the alignment before screwing them into place along the perforation rows (straight & diagonal).
Sander		The joints and covered screw heads can be sanded by a sander which enables for a smooth finish.

Testimonials

"We are very much happy with Gyproc Ceilings products performance, especially Quattro 41. Products help in achieving desired flexible profiles along with acoustical parameters."

S. SANKARSHAN-SONICS, Director-Technical

"For many of our projects like NIIT, ILBS, NTPC and others, we used Gyproc's acoustical products Big Boards Quattro 41 and Sixto 63. These provide high degree of aesthetics along with required acoustical performances."

K.L.MALHOTRA, KLM DESIGN, Acoustical Consultant

"We have used Gyproc Acoustical products in projects like Abhinava School Auditorium - Pune and BIT Auditorium - Ranchi. Quality and Acoustical performance of the products are very satisfactory."

VIJAY PURANDARE, V.N.PURANDARE, Acoustical Consultant

"In many of our projects, we have used Gyproc's fully perforated Gyptone Big boards. These provide a lot of flexibility in achieving desired ceiling profiles along with acoustical performance."

BEDMATI SAMANTRAY, KOTHARI & ASSOCIATES, Architect & Acoustical Consultant

"We are thankful to Saint-Gobain Gyproc for giving wide range of Acoustical products to Acoustical consultants and Architects which give require RT value as well as Aesthetic appearance."

RAHUL JHAVERI, JHAVERI & JHAVERI, - Architect and Acoustical Consultant

GRIHA

GRIHA Council

This is to certify that the products

"Saint-Gobain India Pvt. Ltd - Gyproc Business"

Gyproc Acoustic Panels: Rigitone activ' air 8/18, Rigitone activ' air 12-20/66, Rigitone activ' air 8-15-20 Super, Fultone, Celotex fine fissured, Certainteed Sand Micro, Gyptone BIG Boards, Celotex Pin

have been included in the GRIHA Product Catalogue under the following categories:

GRIHA V.3 criterion: 29 & GRIHA V.2015 criterion: 11

These products can be used in GRIHA registered projects to meet the GRIHA norms.

This is valid only for the products which have been mentioned above.

The certificate for the above mentioned products is valid from

27th March 2018 - 26th March 2020

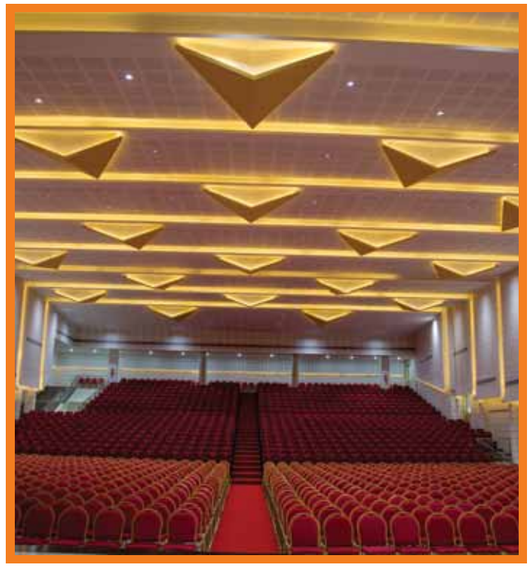
Sanjay Seth
Chief Executive Officer

Note: This evaluation has been done based on the documentation - in the form of 3rd party test results and/or declarations - submitted by the manufacturer to GRIHA Council.

GRIHA Council is a joint initiative of Ministry of New and Renewable Energy, Government of India and The Energy and Resources Institute (TERI) to implement GRIHA (Green Rating for Integrated Habitat Assessment), India's National Rating System for Sustainable Habitats.
www.grihaindia.org

Project References

Project : Safa Convention Centre
Location : Trivandrum
Type of product used : Fultone



Project : Vrindavanam Convention Centre
Location : Trivandrum
Type of product used : Quattro 41

Project : Crystal Convention Centre
Location : Trivandrum
Type of product used : Quattro 41

Project : RAJ Convention Centre
Location : Trivandrum
Type of product used : Fultone

Project References

Project : Augenarztpraxis Martin Henk
Location : Bremen
Type of product used : Rigitone Activ'Air 12-20/66

Project : Cafe & restaurant “Der Kleine Prinz”
Location : Duisburg
Type of product used : Rigitone Activ'Air 8-15-20

Project : Kronthal School
Location : Kronberg
Type of product used : Rigitone Activ'Air 8/18

Project : Orthodontic Practice
Location : Montabaur
Type of product used : Rigitone Activ'Air 8-15-20