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## HOSPITALITY, HOTELS AND RESORTS ARCHITECTURAL HANDBOOK

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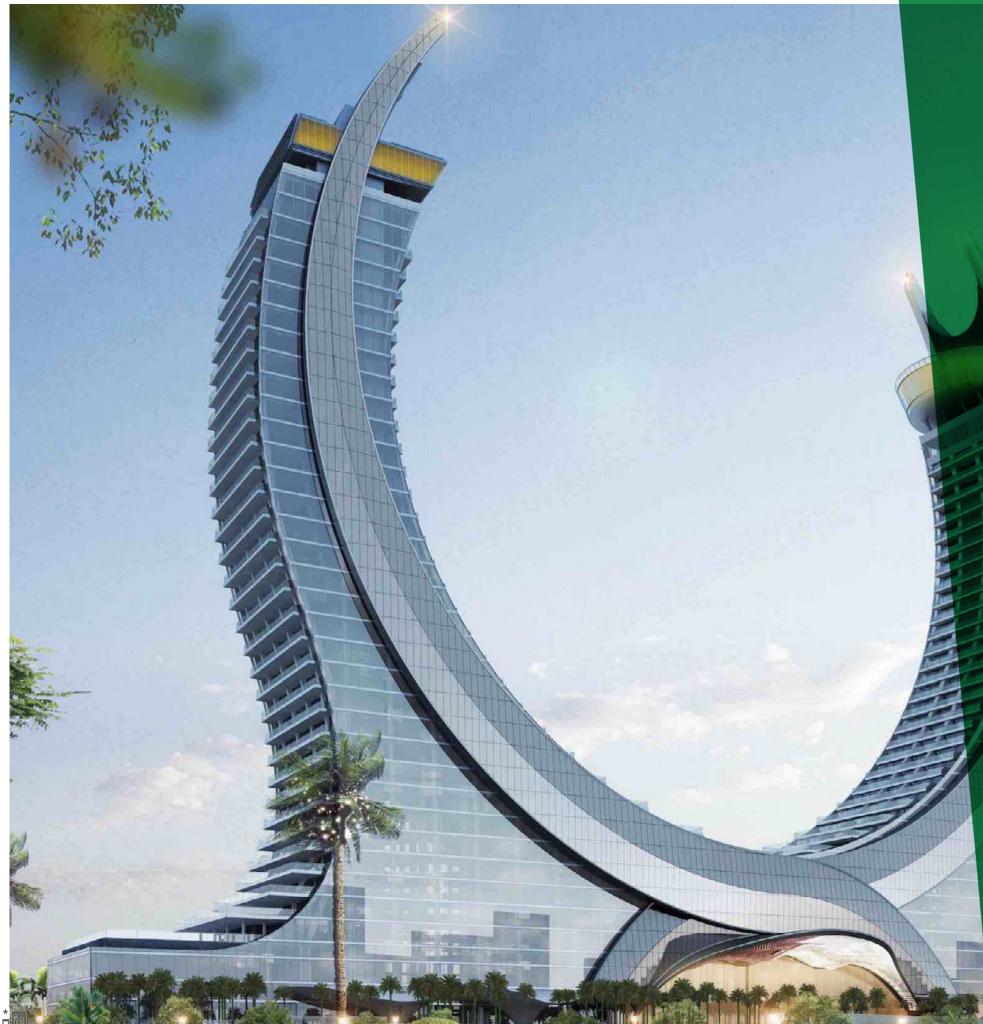
INVELOPE SOLUTIONS LE SYSTEMS CERTIFICATION AND COMPLIANCE











Katara Hotel Towers, Lusail

ONE OF THE

**80 WALL** SYSTEMS TO BUILD MORE THAN **700 ROOMS** 

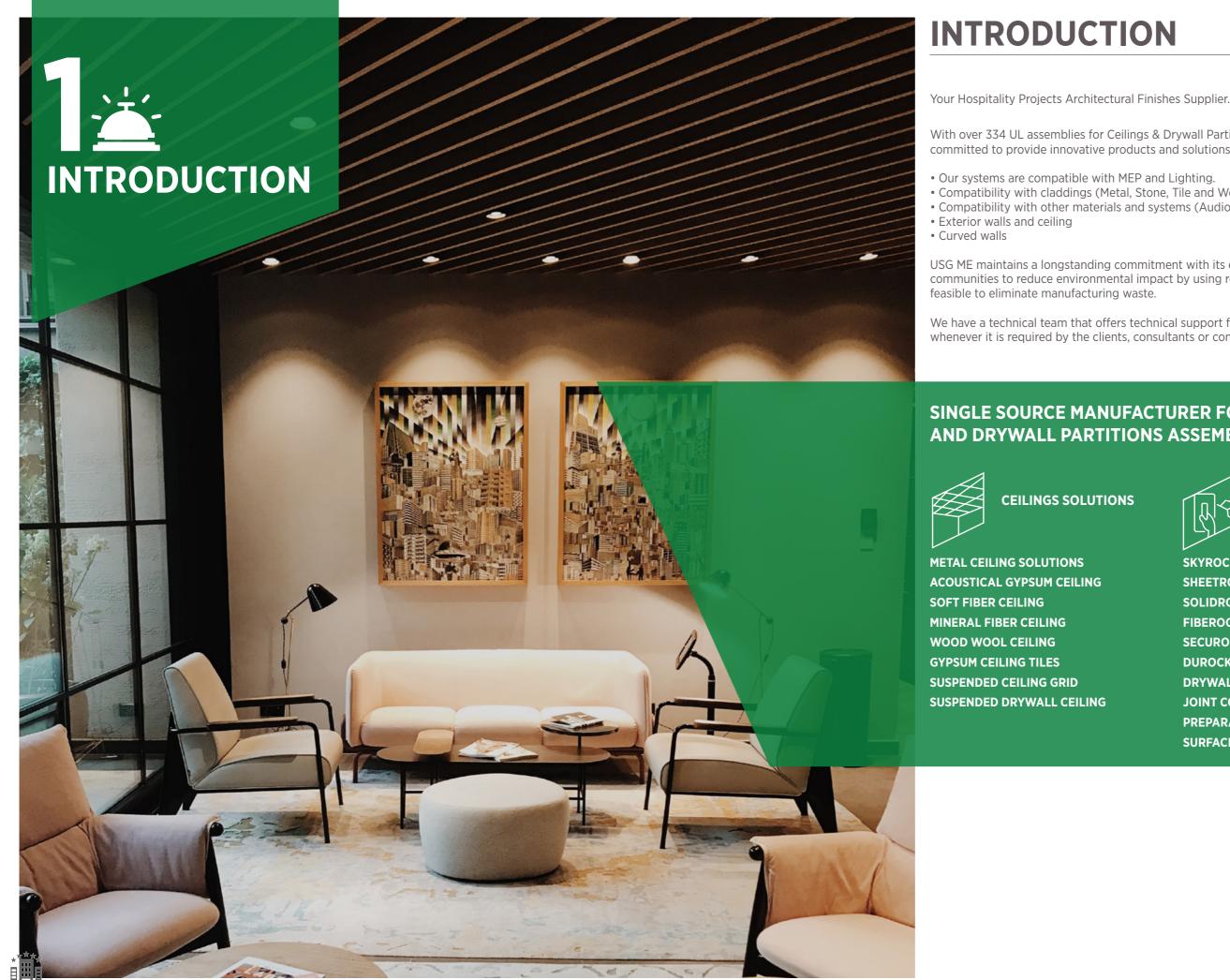
WALLS REACHING 12 METER HEIGHT

71dB ACOUSTICAL PERFORMANCE

2 HOURS FIRE RATING

# MOST LUXURIOUS HOTELS IN THE MIDDLE EAST





With over 334 UL assemblies for Ceilings & Drywall Partitions; USG Middle East is committed to provide innovative products and solutions to build your hotel projects.

• Compatibility with claddings (Metal, Stone, Tile and Wood) • Compatibility with other materials and systems (Audio-Visual Systems)

USG ME maintains a longstanding commitment with its employees, customers and communities to reduce environmental impact by using recycled materials whenever

We have a technical team that offers technical support for all hotel projects at no cost whenever it is required by the clients, consultants or contractors.

#### SINGLE SOURCE MANUFACTURER FOR CEILING SYSTEMS AND DRYWALL PARTITIONS ASSEMBLIES.

TIONS	DRYWALL ASSEMBLIES
	SKYROCK <sup>®</sup> BRAND GYPSUM BOARD
G	SHEETROCK <sup>®</sup> BRAND GYPSUM BOARD
	SOLIDROCK <sup>®</sup> CEMENT BOARD
	FIBEROCK <sup>®</sup> WALLBOARD
	SECUROCK <sup>®</sup> BRAND GYPSUM BOARD
	DRYWALL PARTITIONS METAL FRAMING
IG	JOINT COMPOUNDS
	PREPARATION SOLUTIONS
	SURFACING SOLUTIONS



# PRESENCE IN HOSPITALITY, HOTELS AND RESORTS

#### **UNITED ARAB EMIRATES**

- Ajman Palace Hotel
- Marriott Al Forsan Hotel, Abu Dhabi
- Al Nakheel Lodge Airport Hotel, Dubai
  Al Raha Beach Hotel, Abu Dhabi
- Armani Hotel Burj Khalifa, Dubai
- Atlantis Hotel Palm Jumeirah, Dubai
- Atlantis The Royal in Palm Jumeirah, Dubai
- Azizi Plaza Hotel Apartments, Dubai
- Bluewaters Hospitality, Dubai
  Bridgeway Hotel, Abu Dhabi
  City Max Hotel, Dubai
- Crescent Resort Hotel in Palm Jumeirah, Dubai
- Emirates Palace Hotel, Abu Dhabi
- Hampton by Hilton Marjan Island, Abu Dhabi • Hilton Garden Inn Hotel in Business Bay, Dubai
- Holiday Inn & Kingston Residences in Business
- Bay, Dubai
- Ibis Hotel, Dubai
- Intercontinental Resort, Fujairah • Madinat Jumeirah, Dubai
- Novotel Hotel Al Barsha, Dubai
- Novotel Hotel, Fujairah
- RIU Deira Island Hotel, Dubai
  Taj Exotica Resort & Spa The Palm, Dubai
  Millenium Hotel in Barsha Heights, Dubai
- The Palace Hotel in Creek Harbour, Dubai
- Tiara Hotel, Dubai
- Viceroy Hotel, Dubai
- Arjaan Rotana Hotel, DubaiMiramar Al Aqah Beach Resort, Fujairah
- Crowne Plaza Hotel in Business Bay, Dubai

#### **KINGDOM OF SAUDI ARABIA**

• Four Points Hotel, Riyadh

- Ibis Adagio Hotel, JeddahJabal Omar Development, Mecca
- Oberoi Hotel, Madina

• Hilton Garden Inn, Riyadh • Hilton Hotel, Al Khobar

- Park In Hotel, Riyadh
- St Regius Hotel, Riyadh

#### QATAR

- Alar Hotel, LusailBanyan Tree: Doha Oasis, Doha
- Four Seasons Hotel, Doha Intercontinental Hotel, Doha
- Katara 5 Star Hotel, Lusail
- Katara 6 Star Hotel, Lusail
- Katara Boutique Hotel, Doha
  Ritz Carlton Hotel, Doha
- Rosewood Hotel, Lusail
- The Ned Hotel, Doha Corniche • Waldorf Astoria Hotel, Doha

#### BAHRAIN

- Al Sahel Resort, ZallaqHilton Garden Inn Bahrain Bay, Manama
- Movenpick Hotel, Muharraq
  Vida Beach Resort Marassi, Manama

#### OMAN

 Beach Hotel Khasab Hotel

#### • Arabella Hotel

- Hampton By Hilton
  JW Marriot & Salhiya Mall
  KIA Hotel (Part of Kuwait International
- Airport)

**KUWAIT** 

#### JORDAN

#### TURKEY

- Aktay Insaat-Ela Quality Resort Hotel
  Calista Luxury Resort Hotel
- Gocay Insaat-Hilton Dalaman Golf Resort & Spa
- Marriott Hotel, Absheron Peninsula
- Tugcan Hotel
- Zumurut Hotel

#### **NORTHERN CYPRUS**

- Acapulco Hotel
- Aphrodite Hotel
- Merit Hotel-Cyprus Rocks Hotel & Casino

#### GHANA

- Atlantic Tower Meridian Apartments
- 600 **KO**ÍÒ

- Messilah Resort
- Miral Hotel
- Radisson Blu

• Hilton Dead Sea & Spa Resort





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#### FIVE STAR HOTEL / **RESORT HOTEL** \*\*\*\*

These are hotels that offer only the highest level of accommodations and services (High degree of personal service). The hotel locations can vary from the very exclusive locations of a suburban area, to the heart of downtown. The hotel lobbies are sumptuous, the rooms complete with stylish furnishing and quality linens. The hotels feature up to three restaurants all with exquisite menus, grand ballroom and conference/meeting rooms. A concierge is also available to assist you, 24 hours room service, fitness centers and valet and/or garage parking are typically available.

#### **THREE STAR HOTEL / HOTEL APARTMENT** \*\*\*

Typically, three stars hotels and hotel apartments offer more spacious accommodations that include well-appointed rooms and decorated lobbies. Bellhop service is usually not available. They are often located near major expressways or business areas, convenient to shopping and moderate to high priced attractions. The hotels and apartments usually feature medium-sized restaurants that typically offer service breakfast through dinner. Room service availability may vary. Valet parking, fitness Centers and pools are often provided.

#### FOUR STAR HOTEL \*\*\*

Mostly large, formal hotels with smart reception areas, front desk service and bellhop service. The hotels are most often located near other hotels of the same caliber and are usually found near shopping, dining and other major attractions. The level of service is well above average and the rooms are well lit and well furnished. Restaurant dining is usually available and may include more than one choice. Room service is usually available during most hours. Valet parking and/or garage service is also usually available. Concierge services, fitness Centers and one or more pools are often provided.

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# **ACOUSTICS IN HOTELS**

#### "

I was assigned to a single room facing to the highway next to the hotel. The room is very very noisy throughout the day. I can't hardly sleep due to the noise from the highway.

#### "

Very noisy-two windows were open and the noise from the pub below was evident. I closed the windows but the room was too hot.

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Excessive noise is one of the most frequent complaints in hotels. With an online platform, it is complaint that meets the most basic needs of a guest but it can be an aspect that affects hotel choices over the competition. As an increasingly important criteria, acoustics affecting a night's rest is typically reviewed on sites such as www.tripadvisor.com, www.booking.com affecting a hotel's reputation and commercial success.

#### DRYWALL ASSEMBLIES

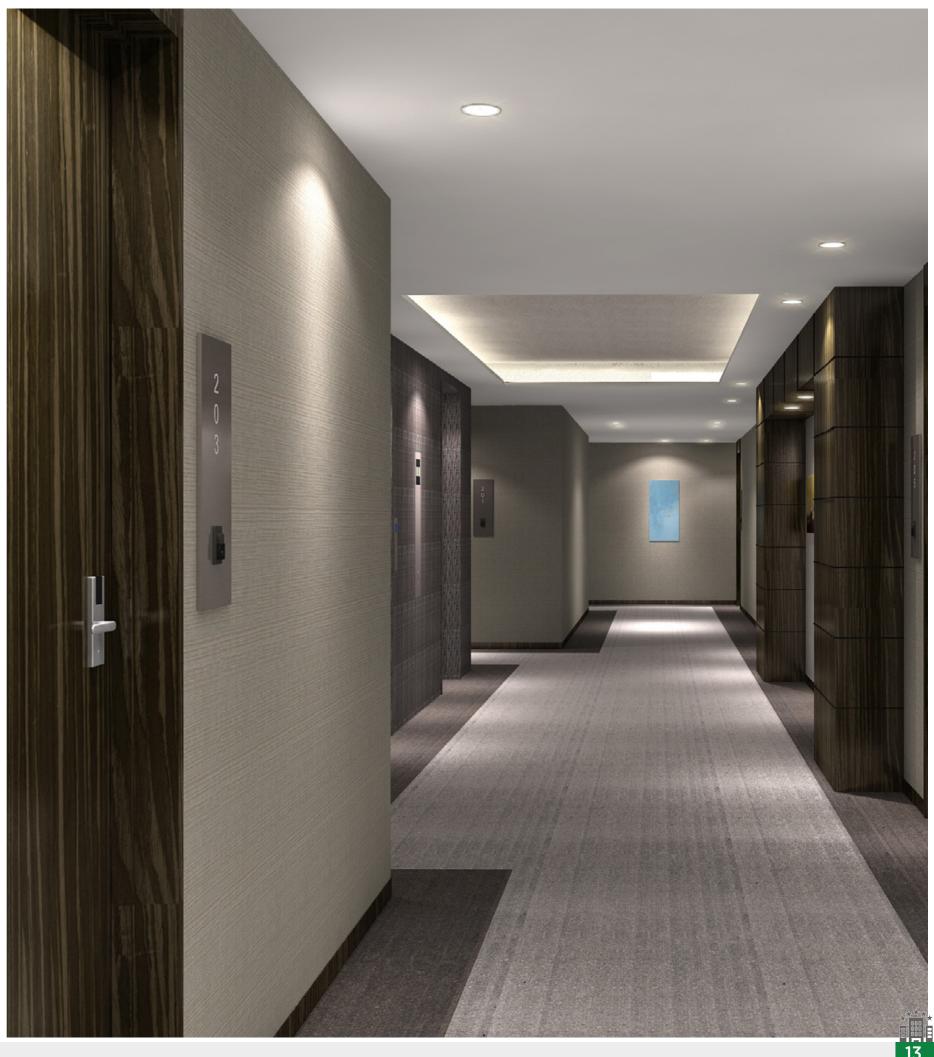
#### Engineered fire and sound isolation performance

Acoustic performance ratings in this manual are based on tested laboratory results or the expected laboratory results based on the opinions of qualified acoustics professionals. With USG ME's input in engineering assemblies' performance, hotels also require knowledge on careful installation procedures, workmanship and caulking can affect performance on site. These may affect critical areas such as doors, lightweight panels above doors, air paths through gaps and cracks or holes and appliances, consult USG ME nearest technical services office for these best practices.

#### **CEILINGS SYSTEM**

#### Monolithic Acoustical Ceiling used in a hotel lobbies

Systems with advanced noise absorption performance such as Monosilent Monolithic Acoustical Ceiling, Ensemble™ Monolithic Acoustical Ceiling or USG ME's range of perforated acoustic plasterboard can help design a space's reverberation time. This determines the acoustic quality of a space such as the lobby, meeting rooms or a restaurant.

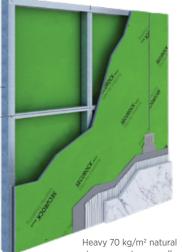




# STRUCTURAL DESIGNS FOR HOTEL DRYWALL

Drywall partitions in hotels are typically subjected to various types of loads such as cabinets, decorative items, television in a hotel room or even crowd loads along a corridor to tiles or stones on a partition in the toilet area.

In order to cover the basics of a drywall partition's structural design basic, USG ME practices the 4 steps below which are considered when proposing a particular system. It is a detailed process that encompass the fundamental details required to ensure minimized reworks and a working partition that can be signed off by structural engineers.





stone on wet area walls

Man sitting on a cabinet fixed to USG ME drywall system. Check with USG ME technical team for the system design and allowable structural loads.

#### **BEHAVIOR OF PARTITION WHEN SUBJECT TO LOAD**

**STRENGTH CHECK & SERVICE ABILITY DESIGN (DEFLECTION)** 

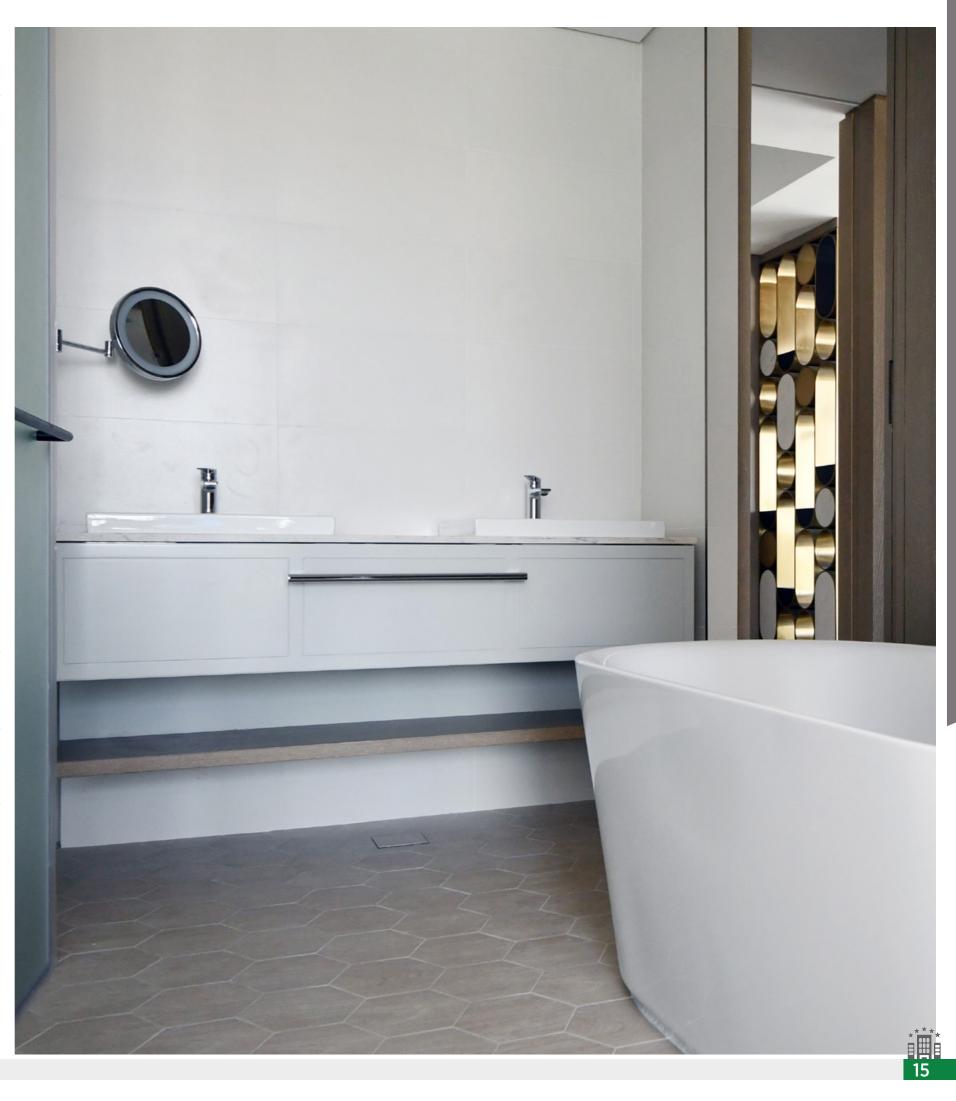
#### **DESIGN OF PARTITION SYSTEMS** 2

CONSIDERATION: MAXIMUM HEIGHT, STRUCTURAL LOADS

#### **DEFLECTION HEAD DETAILS**

PROVISION OF ON-SITE ASSESSMENT FOR VARIOUS CIRCUMSTANCES

FINAL PARTITION DESIGN CAD DETAILING BIM DRAWINGS (BUILDING INFORMATION MODELING)



# WET AREAS AND AREAS WITH HIGH HUMIDITY DESIGN IN HOTEL

#### Keeping Your Hotel Areas Dry and Comfortable



Application of the made-for-purpose moisture-resistant plasterboard in a bathroom ensures peace of mind when it comes to performance and comfort.

#### USG ME MOISTURE/MOLD RESISTANT PLASTERBOARD

- Improved resistance to moisture and mold
- Treated gypsum core for moisture or mold resistance performance
- Specially treated paper for additional protection against moisture

#### FEATURES AND BENEFITS: MOISTURE-RESISTANT PLASTERBOARD

USG ME's Moisture-resistant Plasterboard are manufactured to stringent requirements that repel moisture. The water-resistant core is formulated with water repellent additives and encased in specified moisture-resistant face and back liner papers.

These boards are also produced in fire-rated wet area formulations and form robust wet area systems when installed according to USG ME procedures. Ceramic tiles and natural marble, weighing up to 75 kg/sqm, may be directly adhered onto the Securock® Brand Glass-Mat Sheathing.

Wet area plasterboards are also available in fire-rated formulation known as USG ME Fire Moisture Resistant (FMR) and Securock® Brand Glass-Mat Sheathing.





USG ME Moisture/Mold Resistant

Plasterboard

USG ME Securock® Plasterboard



#### **APPLICATION: WET AREA DESIGN**

Most building codes dictate that areas within a building, which are exposed to moisture such as laundries, pantries, kitchens, showers and sanitary compartments, should be constructed with building elements that are waterproof or water-resistant. USG ME's range of Moisture-Resistant Plasterboard is designed to perform to these building codes and ensure appropriate protection against dampness.





## WIFI PROPAGATION IN HOTEL **DRYWALL**

Hotel guests are demanding greater speed, more bandwidth and stronger signal throughout the facility so they can log on anywhere and be connected. Hotel reviews regarding Wi-Fi reliability are on the rise. Increasingly, guests will turn away from a hotel if their Wi-Fi is poor. This is also evident in online reviews that guests continually rely on for reviews and ratings before deciding to book a room in a particular hotel.

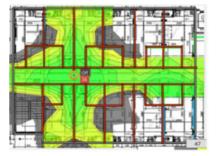
As the digital age trends towards better graphics on increasing numbers of electronic devices, Wireless Fidelity signals has to keep abreast with this development by moving to 5.0GHz. Moving these signal frequencies from 2.4GHz to 5.0GHz means that signal propagations through brick or block walls will suffer due to Wi-Fi shielding effects that increases with these dense partitions.

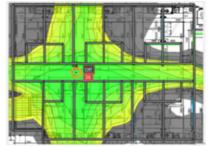
#### Wi-Fi signal propagation tests through various mediums (block wall & drywall)

USG ME has worked with reputable R&D labs of university to compare Wi-Fi propagation of partition made from block vs drywall of the same STC performance.

On top of this, collaborations were also done with reputable hotel Wi-Fi service providers to gauge the performance of Wi-Fi routers in a typical hotel's floor plan. Results show that Wi-Fi propagation through an STC 55 drywall can be up to 7 times better than a block wall of equal acoustic performance.

#### 5GHz WiFi Propagation in a hotel with AAC block wall versus drywall system





**AAC Block Partition** 

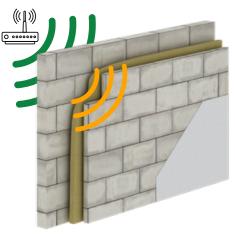
**Drywall Partition** 

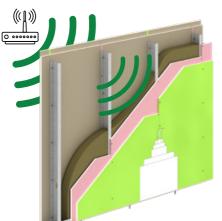
Area of Coverage

#### The results of these tests exceeded our expectations.

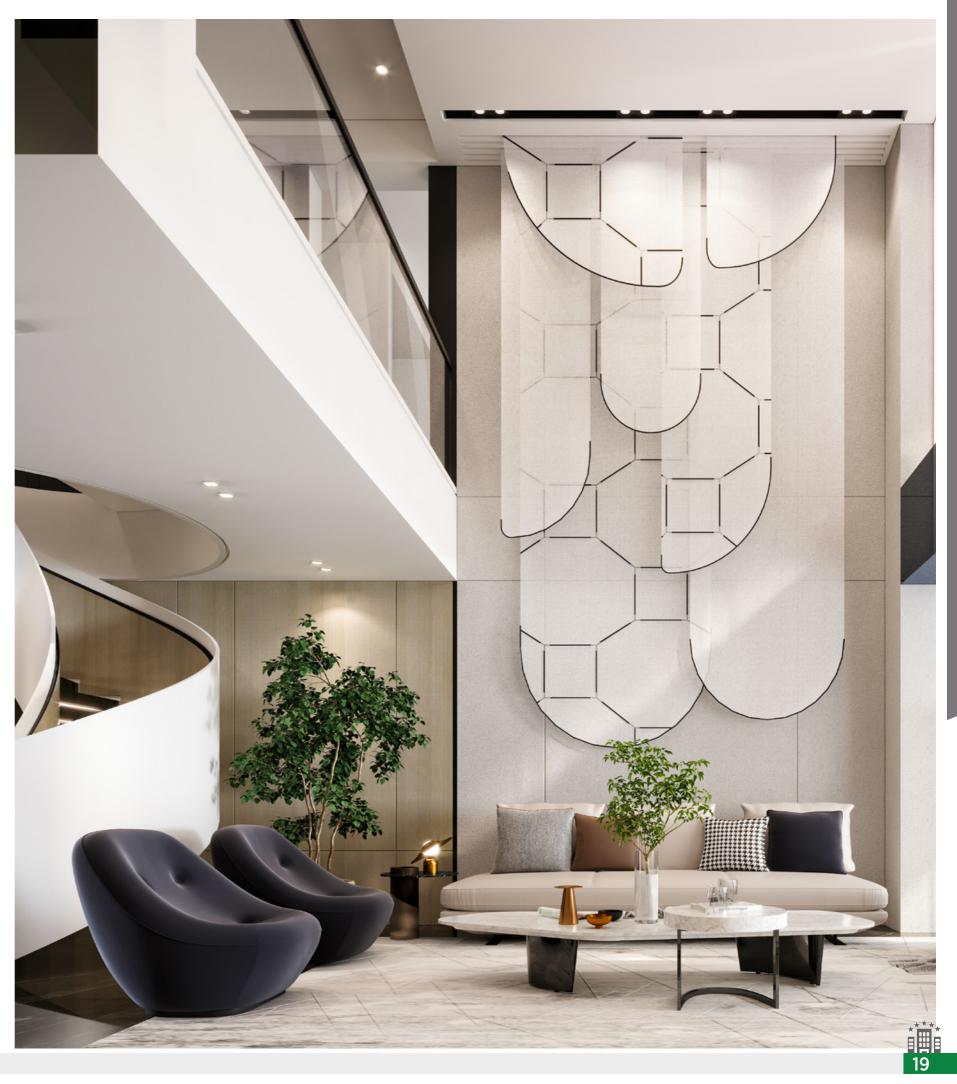
#### WiFi Shielding Increases will Block Walls

Test shows that with conventional construction, when walls are thicker or denser it improves its WiFi Shielding effects which conversely affects the propagation of WiFi.





The construct of a third-party laboratory tested STC 55 partition made from AAC block versus drywall system.







**CEILINGS, DRYWALL AND FINISHING** 







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#### **CEILINGS SYSTEM**

- **100%** SOUND CONTROL AND NOISE REDUCTION
  - **20+** ARCHITECTURAL CEILINGS DESIGNS
- CLASS FIRE SAFETY
- **89%** UP TO 89% LIGHT REFLECTANCE

#### DRYWALL ASSEMBLIES

**32%** REDUCTION IN CONSTRUCTION TIME

21% | REDUCTION USAGE OF STRUCTURAL CONCRETE

20% REDUCTION IN SUPERSTRUCTURE COST

| REDUCTION IN | SUBSTRUCTURE COST 17%

Results from 3<sup>rd</sup> party studies commissioned by USG ME for drywall and post-tension flat slab construction





# **CELEBRETTO**<sup>®</sup> SPECIALTY CEILINGS

#### **CLIP IN METAL CEILING**

- Concealed ceiling design.
- Wide range of standard perforation patterns.
- Wide range of optional wooden patterns.
- Durable and washable polyester powder finish.
- Robust and easy to clean.
- High sound absorption and sound attenuation.

#### HOOK ON

- · Concealed suspension ceiling system with a variety of configurations that can fit any contemporary interior design.
- All panels are demountable without the need for special tools, allowing easy access to plenum for simple maintenance.
- Configurable panel sizes and layouts offer the designer more freedom with their design.

#### **CORRIDOR SYSTEM HOOK ON**

- Free span solution eliminates the need for threaded rods and vertical hangers.
- Quick installation.
- · Ideal for corridors that have condensed MEP fixtures.
- Total access to ceiling void allowing easy maintenance.

#### ISLAND HOOK-ON

- Featuring a concealed island suspension ceiling system with special design configurations.
- All island panels are demountable without the need for special tools, allowing easy access to plenum for simple maintenance.
- Configurable panel sizes and layouts offer the designer more freedom with their design.

#### LINEAR TRACK

- · Concealed suspension ceiling system with a variety of configurations that can fit any contemporary interior design.
- All panels are demountable without the need for special tools, allowing easy access to plenum for simple maintenance.
- Configurable panel sizes and layouts offer the designer more freedom with their design.

# design. system. design

- Multiple panels depths lend new dimension to ceiling design • Panel depths of 7mm-200mm provide an array of possibilities for the
- 600x600mm lay-in panels are compatible with USG Middle East DONN® brand suspension systems for T24 or T15.

#### ALLURE

- multicolored options.
- - Growing range of patterns or customizable unique designs.



- Featuring a concealed suspension ceiling system with a variety of configurations that can fit any contemporary interior design.
- maintenance.

- and finishes, as per a project's requirements.
- Paraline baffles are metal baffles with easy access to enclosed plenum. • Available in a wide range of system sizes with different baffles dimensions
- Unique modern look that fits any interior design concept.
- Available in plain and perforated pattern for acoustic performance.
- Special design metal baffle integrated with linear strip ceiling to improve the space aesthetic and acoustic performance.

#### **METAL CANOPIES**

- All panels are demountable allowing easy access to plenum for easy maintenance.

#### GEOMETRIX

- architect.



- All panels are demountable allowing easy access to plenum for easy
- Configurable panel sizes and layouts, allowing the designers flexibility in their
- Available in two standard designs: triangular and rectangular.

#### PARALINE METAL BAFFLES

- Available with an optional closing strip.
- Can be installed directly onto the existing ceiling or with hanging suspension

- Featuring a concealed suspension ceiling system with a variety of
- configurations that can fit any contemporary interior design.
- Configurable panel sizes and layouts, allowing the designers flexibility in their
- Available in two standard designs: triangular and rectangular.

- Plain or perforated panels.
- Available in custom colors for design versatility.
- Panel configuration available in flat panel and wedge panel.

• Allure is a distinctive ceiling solution that unlocks innovative design capabilities like multilayered solutions, impressive curvilinear designs, and

• Fashion your ceiling design into organic, complicated, and uninterrupted

shapes that lie beyond the scope of any preconfigured architectural pattern and imprint it across your space.

· Scalable and seamless panel solutions.



## **GYPSUM & SPECIALTY CEILINGS**

#### SKYROCK<sup>™</sup> REGULAR BOARD

- · Ideal for standards interior wall and ceiling panels.
- Economical grade gypsum board.
- Quick installation and decoration.
- · Commercial or residential applications where regular panels are desired.
- New or repair and remodel construction.
- Non-fire-rated steel-framed wall and ceiling applications.

#### SHEETROCK<sup>®</sup> FIRECODE TYPE X

- · For interior walls and ceilings.
- Provide additional fire resistance over regular panels.
- Underwriters Laboratories Inc. (UL) Classification as to fire resistance, surface-burning characteristics and non-combustibility.
- Comply with ASTM C1396 physical properties for 15.9 mm Type X gypsum wallboard.
- Achieved GREENGUARD Gold Certification and gualifies as a low VOC emitting material (meets CA 01350).

#### SKYROCK<sup>™</sup> MOISTURE RESISTANT (MR)

- Quality interior wall and ceiling panels for wet areas.
- Score and snap easily.
- Quick installation and decoration.
- The backer for shower and bath areas.

#### SKYROCK<sup>™</sup> SOUNDBLOCK - R6 GYPSUM TILE

- Round perforation Gypsum Ceiling tiles with acoustic back fleece for high acoustic performance.
- Laminated and painted surface finish options are available.
- Various edges for modern and aesthetic look.
- Ultra-high humidity resistant; sag resistance ensures durability in standard or extreme environmental conditions.
- Scrub resistant. Dirt marks are easy to remove.
- Durable, scuff, and scratch resistant for longer life.
- · Suitable for areas with high humidity.

#### SKYROCK™ ECOBLOCK - R8-15-20/ RANDOM PERFORATION GYPSUM BOARD

#### Great Aesthetics, Excellent Noise Absorption

- Tested to achieve 0.75 NRC (Noise Reduction Coefficient) as per ASTM C423.
- Recessed edges allow for finishing to a flat and seamless ceiling or wall.
- · Complies with E84 for flame spread and smoke development.

# 43 CAC.

- Class A fire rating.
- - LISE
  - Ideal for renovation when low room reverberation time is desired.

#### TRANQUILLE

- appearance
- Features a concealed suspension ceiling system with many design configurations that can fit any contemporary interior design.
- All panels are demountable allowing easy access to plenum for simple maintenance.
- Configurable panel sizes, shapes and layouts allowing for design freedom.

#### LOUNA<sup>™</sup> SOFT FIBER BAFFLE

- An elegant acoustic solution made from stone wool for any space • Creates spacing in ceiling designs.

- Improved acoustic properties at exposed workplaces with NRC values of up to 0.90 (depending on baffle spacing from each other).
- Can accommodate existing elements such as lighting and air conditioning. • Allows chilled beams or thermal mass heating to function as intended.

#### **HALCYON™ CANOPIES**

- Fiberglass substrate with monolithic visual reduces installation time.
- Available in flat and curved system configurations.
- Exceptional Sound Absorption with NRC values up to 1.0.
- High Light Reflectance (LR-0.88) reduces light fixture and energy use. • Washable & scrubbable finish.
- Easy to install.
- mildew.

- Skynest acoustic baffles are a durable and nature friendly material made of top quality wood wool and cement.
- Certified for FSC and the Programme for the Endorsement of Forest Certification (PEFC).
- Can achieve various required sound absorption parameters. The extended sound absorption coefficient can reach w 0.65.
- Not only provides sound insulation but also absorbs excess moisture in rooms. Does not change shape or warp in high humidity rooms.







#### MONOSILENT MONOLITHIC ACOUSTICAL CEILING

• Seamless plasterboard look with acoustic performance of up to 0.95 NRC and

- Class 1 surface burning as per BS 476, Part 7.
- High light-reflective finish (LR-0.85 for white finish) reduces fixture & energy
- Acoustically transparent spray-applied finish.

• Made of Soft fiber panels and torsion spring hanging system. • Excellent for critical lighting applications for High Light Reflectance (0.88). • Excellent combination of noise reduction (up to NRC-1.0) and aesthetic

- Louna Baffle is a vertical hanging acoustic board encapsulated edges.
- Soft Fiber substrate with monolithic visual reduces installation time.
- Available in custom sizes and colors upon request.

- · Ideal for providing both visual accents and acoustical control.
- ClimaPlus<sup>™</sup> 30-year limited system warranty against visible sag, mold and

#### WOOD WOOL BAFFLES & CANOPIES

• By combining fire safety with good acoustic and heat insulation properties, this product offers the widest variety of design solutions.





## MINERAL & SOFT FIBER CEILINGS

#### SONATA

- Balanced Acoustics. High-NRC and High-CAC, providing balance to room acoustics and sound attenuation.
- Excellent combination of noise reduction (up to NRC-0.80) and sound attenuation (up to CAC-40).
- Sonata fulfills the formaldehyde emissions in accordance with EN 717-1 and achieve Class E1.
- Fine, monolithic texture offers the industry's highest light reflectance at LR 0.89. Reduces light fixture and energy usage and is part of indirect lighting.
- High impact and scratch-resistant; durable and cleanable surface.
- Rated as Class 10 for mold prevention application as per ASTM D3273.
- Available in custom sizes and different colors on request.

#### RADAR<sup>™</sup> CERAMIC

- 100% ceramic bonded mineral fiber.
- Humidity resistance up to 100% RH, 40°C without visible sag and formulated to meet Firecode® standards.
- Ensures durability and considered the highest-quality Environmental Resistant Panel.
- Withstands high heat, ultra-high humidity, corrosive chemical fumes and steam.
- Ideal to withstand the humidity and steam from saunas and steam rooms.
- Due to its high density, provides high sound attenuation for room to room privacy.

#### SKYLITE CLEAN

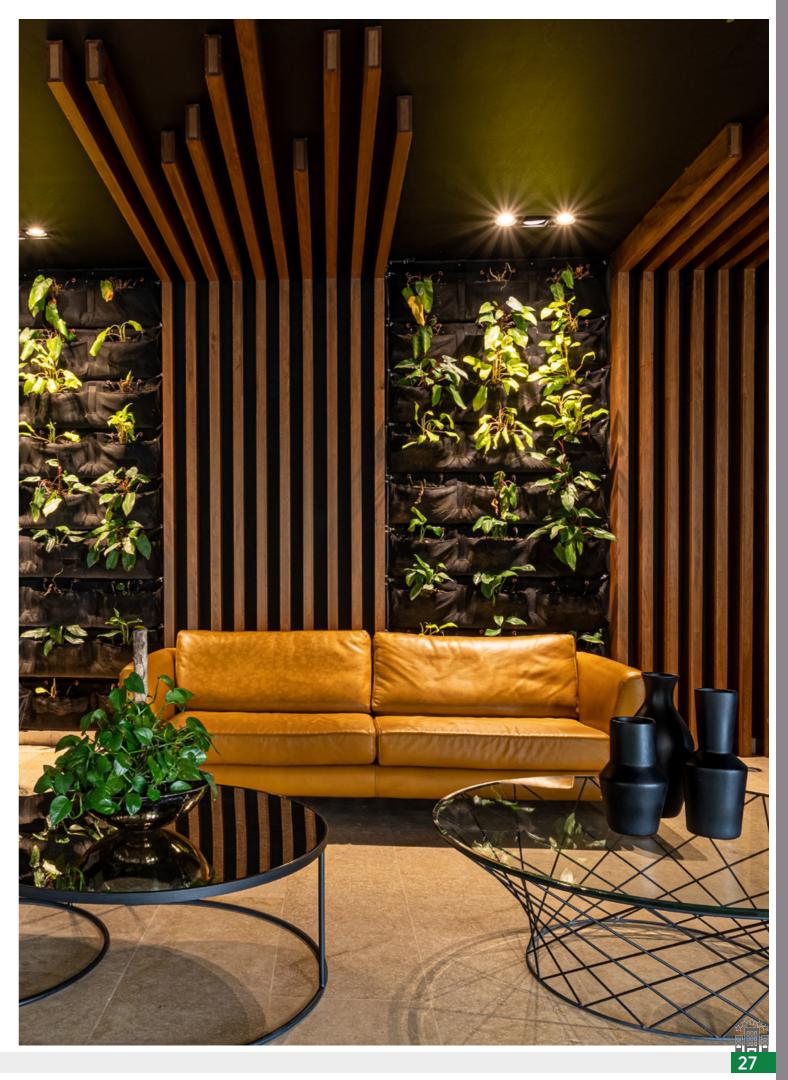
- Special R6 wetfleted laminated with vinyl face.
- Made with Firecode<sup>™</sup> base materials to meet life safety codes.
- Balanced Acoustics. High-NRC and High-CAC.
- Excellent combination of noise reduction (up to NRC-0.85) and sound attenuation (up to CAC-38).
- Classified HRC panels (High Recycled Content) as greater than 50%.
- Recommended to be used with AXCE grid (gasketed tee flanges) for laboratories areas.
- Washable, scrubbable resistance.
- High humidity resistant; is also anti-mold and resists mildew growth.
- Ideal solutions for healthcare facilities.

#### LOUNA<sup>™</sup> ELEGANT

- Top of the line ceiling panel made of stone wool substrate. Monolithic visual reduces installation time.
- Elegant and refined acoustical facing and high performance mineral fleece membrane on the backside.
- Excellent combination of noise reduction (up to NRC-0.95) and sound attenuation (up to CAC-39).
- High light reflectance (LR-0.88) reduces wear and tear on light fixtures and energy use.
- Available in plank sizes compatible with Logix<sup>™</sup> Integrated ceiling system.

#### HALCYON™ BLACK

- Fiberglass substrate with elegant and refined acoustical facing and high performance mineral fleece membrane on the backside. Planks are fully demountable, which reduces installation time.
- Light black tile for ideal application in cinemas and theaters.
- Exceptional sound absorption with NRC values up to 1 & high acoustic sound absorption performance at low frequencies, satisfying high-performance needs for cinema construction.





**IOTEL SOLUTIONS** 

# HOSPITALITY, HOTELS AND RESORTS PARTITION FORMAT

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Assembly Reference	Construction Details	Description	Wall Width	Acoustic Performance	On Site FSTC	Fire Rating
HLW1		<ul> <li>One Layer of 12.5 mm thick USG ME Regular Gypsum Board each side</li> <li>73.5 mm C-Stud spaced at 600mm OC, 0.6mm thick</li> <li>Top Track 75x50mm deep U-track, 0.6mm thick</li> <li>Bottom Track 75x30mm U-track, 0.6mm thick</li> <li>50mm thick Glass wool insulation</li> </ul>	100 mm	40 dB	NF	NF
HLW2		<ul> <li>One Layer of 5/8" (15.9mm) thick USG ME Sheetrock* Brand Type X Gypsum Board each side</li> <li>62.5 / 90.5 mm C-Stud spaced at 600mm OC, 0.6mm thick</li> <li>Top Track 64/92 x50mm deep U-track, 0.6mm thick</li> <li>Bottom Track 64/92x30mm U-track, 0.6mm thick</li> </ul>	96/124 mm	47 dB	42 dB	1 Hr
HLW3		<ul> <li>First side: One Layer of 5/8" (15.9mm) thick USG ME Sheetrock* Brand Type X Gypsum Board</li> <li>Other side (Corridor Side): One Layer of 5/8" (15.9mm) thick USG Fiberock* board (Impact Resistant)</li> <li>90.5 mm C-Stud spaced at 600mm OC, 0.6mm thick</li> <li>Top Track 92x50mm deep U-track, 0.6mm thick</li> <li>Bottom Track 92x30mm U-track, 0.6mm thick</li> <li>75mm thick Glass wool insulation</li> </ul>	124 mm	47 dB	42 dB	1 Hr
HLW4		<ul> <li>First side: One Layer of 5/8" (15.9mm) thick USG ME Sheetrock* Brand Type X Gypsum Board</li> <li>One Layer of 5/8" (15.9mm) thick USG Sheetrock* Glass Mat Sheathing board (Impact Resistant) and 6.4mm thick Ceramic Tiles Other side</li> <li>73.5 mm C-Stud spaced at 400mm OC, 0.6mm thick</li> <li>Top Track 75x50mm deep U-track, 0.6mm thick</li> <li>Bottom Track 75x30mm U-track, 0.6mm thick</li> <li>50mm thick Glass wool insulation</li> </ul>	113 mm	50 dB	45 dB	1 Hr
HLW5		<ul> <li>Two Layers of 5/8" (15.9mm) thick USG ME Sheetrock* Brand Type X Gypsum Board, each side</li> <li>90.5 mm C-Stud spaced at 600mm OC, 0.6mm thick</li> <li>Top Track 92x50mm deep U-track, 0.6mm thick</li> <li>Bottom Track 92x30mm U-track, 0.6mm thick</li> <li>50mm thick Glass wool insulation</li> </ul>	156 mm	56 dB	51 dB	2 Hrs
HLW6		<ul> <li>First side: Two Layers of 5/8" (15.9mm) thick USG ME Sheetrock" Brand Type X Gypsum Board</li> <li>Other side (Corridor Side): One Layer of 5/8" (15.9mm) thick USG ME Sheetrock" Brand Type X Gypsum Board and, One Layer of 5/8" (15.9mm) thick USG Fiberock" board (Impact Resistant)</li> <li>90.5 mm C-Stud spaced at 600mm OC, 0.6mm thick</li> <li>Top Track 92x50mm deep U-track, 0.6mm thick</li> <li>Bottom Track 92x30mm U-track, 0.6mm thick</li> <li>50mm thick Glass wool insulation</li> </ul>	156 mm	56 dB	51 dB	2 Hrs
HLW7		<ul> <li>First side: Two Layers of 5/8" (15.9mm) thick USG ME Sheetrock* Brand Type X Gypsum Board</li> <li>Other side (Wet side): One Layer of 5/8" (15.9mm) thick USG ME Sheetrock* Brand Type X Gypsum Board and One Layer of 5/8" (15.9mm) thick USG Sheetrock* Glass Mat Sheathing board (Impact Resistant) and 6.4mm thick Ceramic Tiles Other side</li> <li>90.5 mm C-Stud spaced at 600mm OC, 0.6mm thick</li> <li>Top Track 92x50mm deep U-track, 0.6mm thick</li> <li>Bottom Track 92x30mm U-track, 0.6mm thick</li> <li>75mm thick Glass wool insulation</li> </ul>	156 mm	55 dB	50 dB	2 Hrs
HLW8		<ul> <li>One Layer of 5/8" (15.9mm) thick USG ME Sheetrock* Brand Type X Gypsum Board one side</li> <li>One Layer of 5/8" (15.9mm) thick USG ME Sheetrock* Brand Type X Gypsum Board + one layer Regular 15mm thick other side</li> <li>90.5 mm C-Stud spaced at 600mm OC, 0.6mm thick</li> <li>Top Track 92 x50mm deep U-track, 0.6mm thick</li> <li>Bottom Track 92x30mm U-track, 0.6mm thick</li> <li>75mm thick Glass wool insulation</li> </ul>	139 mm	50 dB	45 dB	1 HR
HLW9		<ul> <li>One Layer of 12.5 mm thick USG ME Regular Gypsum Board one side</li> <li>One Layer of 12.5 mm thick USG ME Moisture resistant Gypsum Board other side</li> <li>3.5 mm C-Stud spaced at 600mm OC, 0.6mm thick</li> <li>Top Track 75x50mm deep U-track, 0.6mm thick</li> <li>Bottom Track 75x50mm U-track, 0.6mm thick</li> <li>S0mm thick Glass wool insulation</li> </ul>	100 mm	40 dB	35 dB	NF

Assembly Reference	Construction Details	Description	Wall Width	Acoustic Performance	On Site FSTC	Fire Rating
HLW10		<ul> <li>Two Layers of 5/8" (15.9mm) thick USG ME Sheetrock® Brand Type X Gypsum Board, each side</li> <li>13mm Deep Resilient Channel Spaced at 600mm Horizontally</li> <li>90.5 mm C-Stud spaced at 600mm OC, 0.6mm thick</li> <li>Top Track 92x50mm deep U-track, 0.6mm thick</li> <li>Bottom Track 92x30mm U-track, 0.6mm thick</li> <li>75mm thick Glass wool insulation</li> </ul>	169 mm	61 dB	56 dB	2 Hrs
HLW11		<ul> <li>Two Layers of 5/8" (15.9mm) thick USG ME Sheetrock<sup>®</sup> Brand Type X Gypsum Board, each side</li> <li>2 x 90.5 mm C-Stud spaced at 600mm OC.</li> <li>2 x Top Track 92x50mm deep U-track.</li> <li>2 x Bottom Track 92x30mm U-track.</li> <li>Bracing 92mm track + V-brace 200mm from top spaced at 1200mm O.C.</li> <li>2 x 75mm thick Glass wool insulation</li> </ul>	300 mm	66 dB	61 dB	2 Hrs
HLW12		<ul> <li>Three Layers of 5/8" (15.9mm) thick USG ME Sheetrock<sup>®</sup> Brand Type X Gypsum Board, each side</li> <li>2 x 90.5 mm C-Stud spaced at 600mm OC.</li> <li>2 x Top Track 92x50mm deep U-track.</li> <li>2 x Bottom Track 92x30mm U-track.</li> <li>Bracing 92mm track + V-brace 200mm from top spaced at 1200mm O.C.</li> <li>2 x 75mm thick Glass wool insulation</li> </ul>	400 mm	71 dB	66 dB	3 Hrs
HLSW1		<ul> <li>Two Layers of 1/2" (12.7mm) thick USG ME Sheetrock<sup>®</sup> Brand Type C Gypsum Board, First side. Or Two layers of 5/8" (15.9mm) thick USG Sheetrock<sup>®</sup> brand Type X</li> <li>One layer of 1" (25.4mm) thick USG ME Sheetrock<sup>®</sup> brand Gypsum Liner or Securock<sup>®</sup> Liner friction fit, Other Side (Shaft Side)</li> <li>CH Stud 4" (101.6mm), spaced 600mm.</li> <li>E Stud 4" (101.6mm), installed vertically at the edge of Shaft wall</li> <li>J Runner 4" (101.6mm), installed at top and bottom of Shaft Wall</li> <li>75mm thick Glass wool insulation</li> </ul>	125/132 mm	50 dB	45 dB	2 Hrs
HLSW2		<ul> <li>Two Layers of 1/2" (12.7mm) thick USG ME Sheetrock<sup>®</sup> Brand Type C Gypsum Board, First side. Or Two layers of 5/8" (15.9mm) thick USG Sheetrock<sup>®</sup> brand Type X</li> <li>T3mm Deep Resilient Channel Spaced at 600mm Horizontally</li> <li>One layer of 1" (25.4mm) thick USG ME Sheetrock<sup>®</sup> brand Gypsum Liner or Securock<sup>®</sup> Liner friction fit, Other Side (Shaft Side)</li> <li>CH Stud 4" (101.6mm).</li> <li>E Stud 4" (101.6mm), installed vertically at the edge of Shaft wall</li> <li>J Runner 4" (101.6mm), installed at top and bottom of Shaft Wall</li> <li>75mm thick Glass wool insulation</li> </ul>	138/145 mm	53 dB	48 dB	2 Hrs
HLEWI		<ul> <li>Two Layers of 5/8" (15.9mm) thick USG ME Sheetrock* Brand Type X Fist Side (Interior)</li> <li>Two Layers of 5/8" (15.9mm) thick USG ME Securock* Brand Type X other Side (Exterior)</li> <li>75mm thick Mineral wool Density 120 kg/m<sup>3</sup></li> <li>Full Render of USG ME Durock* Base Coat with Mesh stabilizer, Primer, Texture Finish and Clear sealer (by other)</li> <li>9.0.5 mm C-Stud spaced at 400mm OC, 0.9mm thick</li> <li>Top Track 92x50mm deep U-track, 0.9mm thick</li> <li>Bottom Track 92x30mm U-track, 0.9mm thick</li> <li>75mm thick Glass wool insulation</li> </ul>	156 mm	55 dB	50 dB	2 Hrs
HLEW2'		<ul> <li>Two Layers of 5/8" (15.9mm) thick USG ME Sheetrock* Brand Type X Fist Side (Interior)</li> <li>Two Layers of 5/8" (15.9mm) thick USG ME Securock* Brand Type X other Side (Exterior)</li> <li>2 x 75mm thick Mineral wool Density 120 kg/m<sup>3</sup></li> <li>Full Render of USG ME Durock* Base Coat with Mesh stabilizer, Primer, Texture Finish and Clear sealer (by other)</li> <li>2 x 90.5 mm C-Stud spaced at 400mm OC, 0.9mm thick</li> <li>2 x Bottom Track 92x30mm U-track, 0.9mm thick</li> <li>Bracing 92mm track at 1.2m Height</li> <li>75mm thick Glass wool insulation</li> </ul>	350 mm	66dB	61 dB	2 Hrs

<sup>1</sup> Studs need to withstand External wind loads 160KMPH. Please refer to USG ME Technical Department for system design.
 For Heights exceeding 4m, please refer to USG ME Technical Department for metal framing design



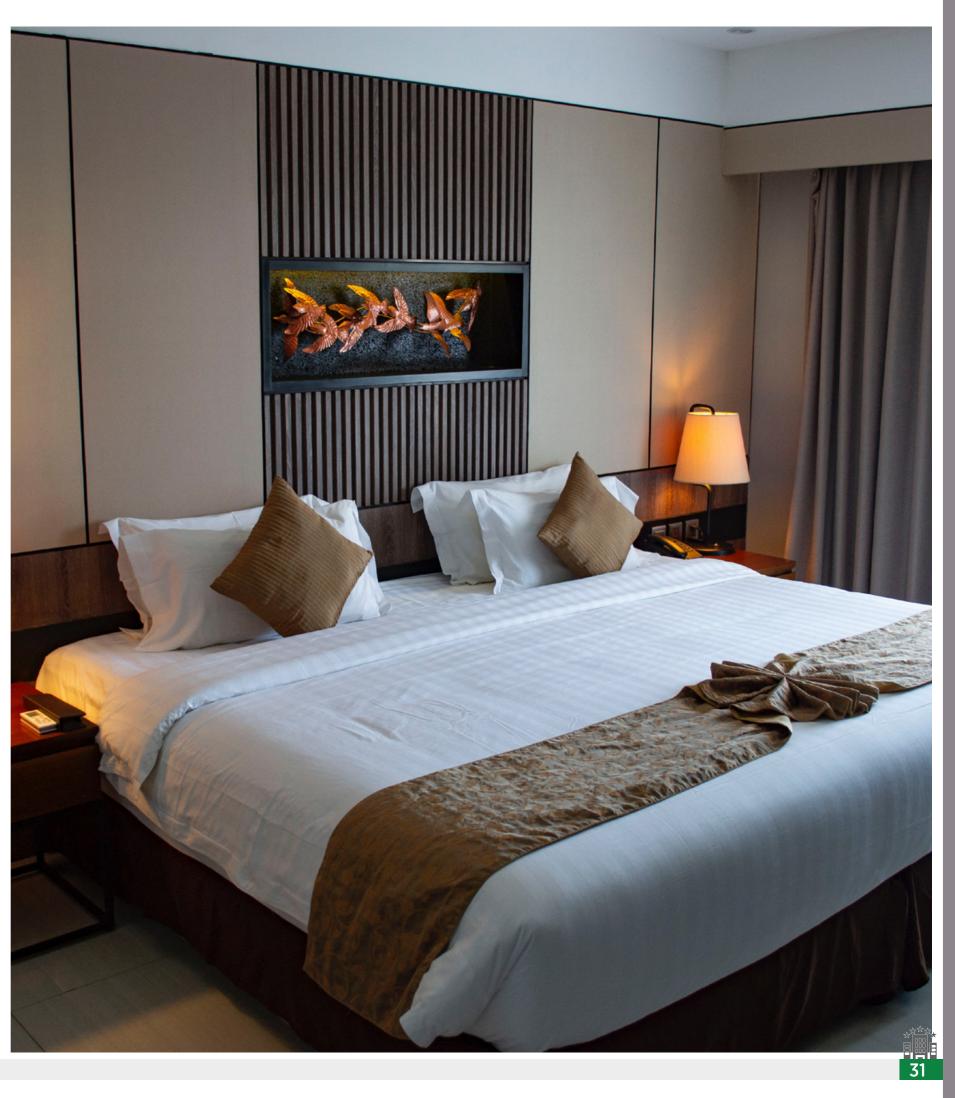
# USG ME RECOMMENDED WALLBOARDS PRODUCTS

BRAND	WALLBOARD	WALL TYPE
SHEETROCK <sup>®</sup> BRAND	REGULAR BOARD 12.7mm FIRECODE® TYPE X 15.9mm FIRECODE® TYPE C 12.7mm and 15.9mm WETSTOP 12.7mm and 15.9mm GYPSUM LINER PANEL 25.5mm	HLW2, HLW3 HLW4, HLW5 HLW6, HLW7 HLW8, HLW10 HLW11, HLW12 HLSW1, HLSW2 HLEW1, HLEW2
SECUROCK <sup>®</sup> BRAND	GLASS-MAT SHEATHING TYPE X 15.9mm GLASS-MAT SHEATHING 12.7mm GLASS-MAT MOLD TOUGH® FIRECODE® LINER PANEL 25.5mm	HLW4, HLW7 . HLSW1, HLSW2 HLEW1, HLEW2
USG ME AND SKYROCK <sup>®</sup> BRANDS	REGULAR BOARD 9.5mm, 12.5mm and 15mm FIRE RATED (FR) 12.5mm and 15mm FIRE MOISTURE RESISTANT (FMR) 12.5mm and 15mm MOISTURE RESISTANT (MR) 12.5mm and 15mm MOLD AND MOISTURE RESISTANT (MMR) 12.5mm and 15mm FIRE RESISTANT MOISTURE RESISTANT (FRMR) 12.5mm and 16mm IMPACT FIRE RESISTANT (IFR) 12.7mm and 15.9mm IMPACT FIRE MOISTURE RESISTANT (IFMR) 12.7mm and 15.9mm	HLW1, HLW2 HLW3, HLW4 HLW5, HLW6 HLW7, HLW8 HLW9, HLW10 HLW11, HLW12 HLEW1, HLEW2
SOLIDROCK® BRAND	FIBER CEMENT BOARD 6mm, 9mm, 12mm, 16mm and 18mm	HLW3

Single and Double Board System 15.9mm Standard Board Performance

			SIN	GLE BO	ARD							DOUBL	E BOAR	2D		
STUD SIZE AT 600MM CTC	60	60	70	70	90	90	148	148	60	60	70	70	90	90	148	148
Thickness (mm)	0.6	0.7	0.6	0.7	0.6	0.7	0.6	0.7	0.6	0.7	0.6	0.7	0.6	0.7	0.6	0.7
Acoustic (dB)	46	46	47	47	47	47	48	48	53	53	54	54	55	55	56	56
Max Height at 600 (mm)	3.6	3.6	4.2	4.4	4.9	5.1	6.5	6.7	4.0	4.1	4.4	4.6	5.4	5.6	7.8	8.0
Max Height at 400 (mm)	3.8	4.0	4.4	4.6	5.1	5.3	6.7	6.9	4.1	4.3	4.6	4.8	5.6	5.8	8	8.2
Duty Rating <sup>1</sup>	MD	MD	MD	MD	MD	MD	MD	MD	SD	SD	SD	SD	SD	SD	SD	SD

<sup>1</sup> • Medium duty MD • Severe duty SD Please refer to USG ME Technical Department for system design



# **LOBBIES AND RECEPTION**

#### **CEILING DESIGN OPTIONS**

Hook On Island Hook-On Linear Track Torsion Spring Paraline Metal Baffles Metal Canopies Geometrix Allure Monosilent Monolithic Acoustical Ceiling Tranquille Louna<sup>™</sup> Soft Fiber Baffle Halcyon<sup>™</sup> Canopies Wood Wool Baffles & Canopies

#### WALL DESIGN OPTIONS

#### FIVE STAR HOTEL / RESORT HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Lobbies and Receptions Areas - Restaurants	50 dB	45 dB	2 HR	156mm	HLW5
Lobbies and Receptions Areas - Business Centers and Meeting Rooms	55 dB	50 dB	2 HR	156mm	HLW5
Lobbies and Receptions Areas - Administration Offices	50 dB	45 dB	1 HR	139mm	HLW8
Lobbies and Receptions Areas - Banqueting Halls and Entertainment Center	Min 66 dB	61 dB	2 HR	300mm	HLW11
Lobbies and Receptions Areas - Elevator Shafts	50 dB	45 dB	2 HR	125/132mm	HLSW1

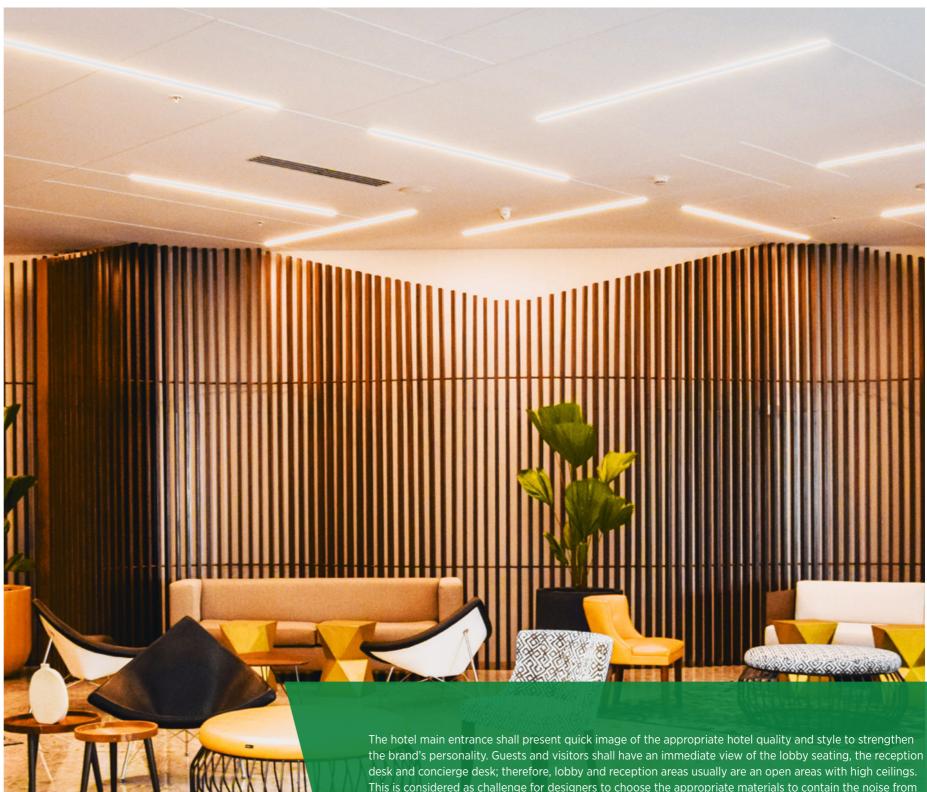
#### FOUR STAR HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Lobbies and Receptions Areas - Administration Offices	47 dB	47 dB	1 HR	96/124mm	HLW2
Lobbies and Receptions Areas - Restaurants	50 dB	50 dB	2 HR	156mm	HLW5
Lobbies and Receptions Areas - Guest Rooms and Suites	50 dB	50 dB	2 HR	156mm	HLW5
Lobbies and Receptions Areas - Banqueting Halls and Entertainment Center	50 dB	50 dB	2 HR	156mm	HLW5
Lobbies and Receptions Areas - Business Centers and Meeting Rooms	50 dB	50 dB	1 HR	139mm	HLW8
Lobbies and Receptions Areas - Elevator Shafts	50 dB	50 dB	2 HR	125/132mm	HLSW1

#### THREE STAR HOTEL / HOTEL APARTMENT

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Lobbies and Receptions Areas - Administration Offices	40 dB	35 dB	NF	100mm	HLW1
Lobbies and Receptions Areas - Restaurants	47 dB	42 dB	1 HR	96/124mm	HLW2
Lobbies and Receptions Areas - Guest Rooms and Suites	47 dB	42 dB	1 HR	96/124mm	HLW2
Lobbies and Receptions Areas - Business Centers	47 dB	42 dB	1 HR	96/124mm	HLW2
Lobbies and Receptions Areas - Banqueting Halls and Business Centers	50 dB	45 dB	2 HR	156mm	HLW5
Lobbies and Receptions Areas - Elevator Shafts	50 dB	45 dB	2 HR	125/132mm	HLSW1

\* Acoustic Design Requirements \*\* On Site Design Requirements



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The hotel main entrance shall present quick image of the appropriate hotel quality and style to strengthen the brand's personality. Guests and visitors shall have an immediate view of the lobby seating, the reception desk and concierge desk; therefore, lobby and reception areas usually are an open areas with high ceilings. This is considered as challenge for designers to choose the appropriate materials to contain the noise from guests and visitors as materials selection is extremely important during the design stage. The lobby and reception areas should be designed to allow an effective communication between reception desk and guest which requires limiting the level of reverberation through the use of sound absorbing finishes for both walls and ceilings.

USG ME recommends using wide range of specialty ceiling in the hotel lobbies and reception areas such as Monosilent Monolithic Acoustical Ceiling due to its monolithic look and high acoustic performance up-to 0.95 NRC. Or try to select one of our famous ceiling selections of Celebretto specialty metal ceiling range.





# **RESTAURANTS**

#### **CEILING DESIGN OPTIONS**

Hook On Island Hook-On Linear Track **Torsion Spring** Paraline Metal Baffles Metal Canopies Geometrix Allure

Skyrock<sup>™</sup> Moisture Resistant (MR) Monosilent Monolithic Acoustical Ceiling Tranquille Louna™ Soft Fiber Baffle Halcyon<sup>™</sup> Canopies Halcyon<sup>™</sup> Black Wood Wool Baffles & Canopies

#### WALL DESIGN OPTIONS

#### FIVE STAR HOTEL / RESORT HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Restaurants - Lobbies and Receptions Areas	50 dB	45 dB	2 HR	156mm	HLW5
Restaurants - Restaurants	50 dB	45 dB	2 HR	156mm	HLW5
Restaurants - Business Centers and Meeting Rooms	55 dB	50 dB	2 HR	156mm	HLW5
Restaurants - Spa Treatment Rooms and Fitness Center	55 dB	50 dB	2 HR	156mm	HLW7
Restaurants - Mechanical Equipment Rooms	66 dB	61 dB	2 HR	300mm	HLW11

#### FOUR STAR HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Restaurants - Spa Treatment Rooms and Fitness Center	50 dB	45 dB	1 HR	110mm	HLW4
Restaurants - Lobbies and Receptions Areas	50 dB	45 dB	2 HR	156mm	HLW5
Restaurants - Guest Rooms and Suites	50 dB	45 dB	2 HR	156mm	HLW5
Restaurants - Mechanical Equipment Rooms	55 dB	50 dB	2 HR	156mm	HLW5

#### THREE STAR HOTEL / HOTEL APARTMENT

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Restaurants - Lobbies and Receptions Areas	47 dB	42 dB	1 HR	96/124mm	HLW2
Restaurants - Guest Rooms and Suites	47 dB	42 dB	1 HR	96/124mm	HLW2
Restaurants - Mechanical Equipment Rooms	50 dB	45 dB	2 HR	156mm	HLW5

\* Acoustic Design Requirements

\*\* On Site Design Requirements





Hotel restaurants engages all five senses. This means any hotel guests entering the restaurant are likely to use their sight to look around, smell to enjoy the food aroma, and ears to enjoy the social conversations which they have. Thus, while designing the hotel restaurant, designers should provide a quiet, intimate and relaxing dining experience.

The restaurant should be designed to allow hotel guest to have social conversations without having to raise their voices, due to excessive levels of reverberant noise from activity within the restaurant. The noise from adjacent rooms should be contained and should not disturb guests, or impact other acoustically sensitive areas.

Absorptive materials are needed to help control the potential reverberation. Select our newly introduced soft fiber canopies with high acoustic performance or micro perforated baffles or Geometrix™ to control your hotel's restaurant reverberant noise.





# **GUEST ROOMS & SUITES**

#### **CEILING DESIGN OPTIONS**

Skyrock™ Regular Board

Sheetrock<sup>®</sup> Firecode Type X

#### WALL DESIGN

#### FIVE STAR HOTEL / RESORT HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Guest Rooms and Suites - Guest Rooms and Suites	55 dB	50 dB	1 HR	156mm	HLW5
Guest Rooms and Suites - Guest Room Corridor - Without Door	55 dB	50 dB	2 HR	156mm	HLW6
Guest Rooms and Suites - Guest Room Corridor - With Door	50 dB	45 dB	2 HR	156mm	HLW6
Guest Rooms and Suites - Guest Room Toilet	40 dB	35 dB	NFR	100mm	HLW9
Guest Rooms and Suites - Mechanical Equipment Rooms	61 dB	56 dB	2 HR	169mm	HLW10
Guest Rooms and Suites - Business Centers and Meeting Rooms	61 dB	56 dB	2 HR	169mm	HLW10
Guest Rooms and Suites - Elevator Shafts	53 dB	48 dB	2 HR	138/145mm	HLSW2

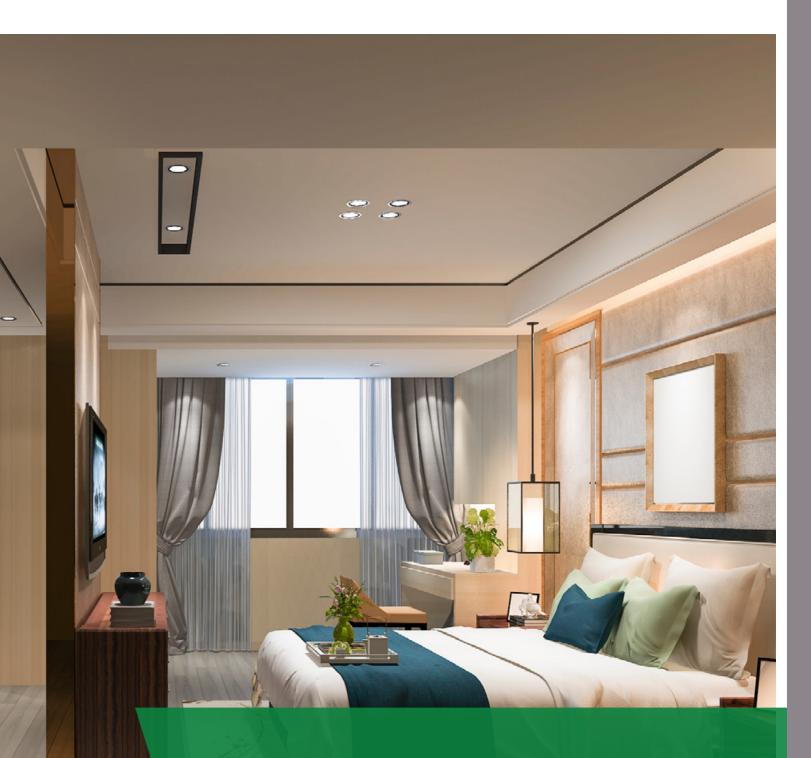
#### FOUR STAR HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Guest Rooms and Suites - Lobbies and Receptions Areas	50 dB	45 dB	2 HR	156mm	HLW5
Guest Rooms and Suites - Restaurants	50 dB	45 dB	2 HR	156mm	HLW5
Guest Rooms and Suites - Mechanical Equipment Rooms	50 dB	45 dB	2 HR	156mm	HLW5
Guest Rooms and Suites - Guest Rooms Corridor	50 dB	45 dB	2 HR	156mm	HLW6
Guest Rooms and Suites - Guest Rooms and Suites	50 dB	45 dB	1 HR	139mm	HLW8
Guest Rooms and Suites - Guest Room Toilet	40 dB	35 dB	NFR	100mm	HLW9
Guest Rooms and Suites - Elevator Shafts	50 dB	45 dB	2 HR	125/132mm	HLSW1

#### THREE STAR HOTEL / HOTEL APARTMENT

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Guest Rooms and Suites - Guest Rooms and Suites	47 dB	42 dB	1 HR	96/124mm	HLW2
Guest Rooms and Suites - Lobbies and Receptions Areas	47 dB	42 dB	1 HR	96/124mm	HLW2
Guest Rooms and Suites - Restaurants	47 dB	42 dB	1 HR	96/124mm	HLW2
Guest Rooms and Suites - Guest Rooms Corridor	47 dB	42 dB	1 HR	96/124mm	HLW3
Guest Rooms and Suites - Mechanical Equipment Rooms	50 dB	45 dB	2 HR	156mm	HLW5
Guest Rooms and Suites - Guest Room Toilet	40 dB	35 dB	NFR	100mm	HLW9
Guest Rooms and Suites - Elevator Shafts	50 dB	45 dB	2 HR	125/132mm	HLSW1

\* Acoustic Design Requirements \*\* On Site Design Requirements



Guest room design should have high level of acoustic performance and acoustic separation between adjacent rooms and between rooms to corridors. The hotel guest rooms design should ensure that residents are not disturbed from people activities in the hotel or from mechanical equipment noise or from other hotel operations.

Sheetrock<sup>®</sup> Brand gypsum board for drywall assemblies will achieve the required acoustic performance. Also it's lighter in weight compared to other conventional gypsum board and designed for higher structure stability and better WiFi connectivity between adjacent rooms and between rooms to corridors. Fiberock® is our recommended board for corridor side wall and high traffic areas due to its unique impact resistant and we recommend the Securock<sup>®</sup> Glass Mat sheathing for guest room toilet and wet areas.



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# **BUSINESS CENTERS AND MEETING ROOMS**

#### **CEILING DESIGN OPTIONS**

Geometrix Allure Skyrock™ Regular Board Skyrock<sup>™</sup> Moisture Resistant (MR) Sheetrock<sup>®</sup> Firecode Type X Skyrock<sup>™</sup> Soundblock R6 Gypsum Tile Skyrock™ Ecoblock - R8-15-20/ Random Perforation Gypsum Board

#### Monosilent Monolithic Acoustical Ceiling Tranquille Louna™ Elegant Sonata Skylite Clean

#### WALL DESIGN

#### **FIVE STAR HOTEL / RESORT HOTEL**

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Business Centers - Lobbies and Receptions Areas	55 dB	50 dB	2 HR	156mm	HLW5
Business Centers - Administration Offices	55 dB	50 dB	1 HR	156mm	HLW5
Business Centers - Restaurants	55 dB	50 dB	2 HR	156mm	HLW5
Business Centers - Spa Treatment Rooms and Fitness Center	55 dB	50 dB	2 HR	156mm	HLW7
Business Centers and Meeting Rooms - Guest Rooms and Suites	61 dB	56 dB	2 HR	169mm	HLW10
Business Centers - Auditoria / Amphitheater	71 dB	66 dB	2 HR	400mm	HLW12
Business Centers - Banqueting Halls and Entertainment Center	71 dB	66 dB	2 HR	400mm	HLW12

#### FOUR STAR HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Business Centers - Administration Offices	47 dB	42 dB	1 HR	96/124mm	HLW2
Business Centers - Spa Treatment Rooms and Fitness Center	50 dB	45 dB	1 HR	110mm	HLW4
Business Centers - Lobbies and Receptions Areas	50 dB	45 dB	1 HR	139mm	HLW8
Business Centers - Banqueting Halls and Entertainment Center	61 dB	56 dB	2 HR	169mm	HLW10

#### THREE STAR HOTEL / HOTEL APARTMENT

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Business Centers - Administration Offices	40 dB	35 dB	NFR	100mm	HLW1
Business Centers - Lobbies and Receptions Areas	47 dB	42 dB	1 HR	96/124mm	HLW2

\* Acoustic Design Requirements

\*\* On Site Design Requirements



STC rating of a wall only refers to how well a section of that wall performs in a controlled environment and does not necessarily indicate how well the system will perform in other environments; that's why at USG ME we work very close with the hotel designers to choose the optimum wall and ceiling assemblies to achieve the desired performance.







## SPA TREATMENT ROOMS AND FITNESS CENTER

#### **CEILING DESIGN OPTIONS**

Clip In Metal Ceiling Skyrock™ Moisture Resistant (MR) Radar™ Ceramic Skylite Clean

#### WALL DESIGN

#### FIVE STAR HOTEL / RESORT HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Spa Treatment Rooms & Fitness Center - Administration Offices	50 dB	45 dB	1 HR	110mm	HLW4
Spa Treatment Rooms & Fitness Center - Restaurants	55 dB	50 dB	2 HR	156mm	HLW7
Spa Treatment Rooms & Fitness Center - Business Centers & Meeting Rooms	55 dB	50 dB	2 HR	156mm	HLW7
Spa Treatment Rooms & Fitness Center - Elevator Shafts	50 dB	45 dB	2 HR	125/132mm	HLSW1

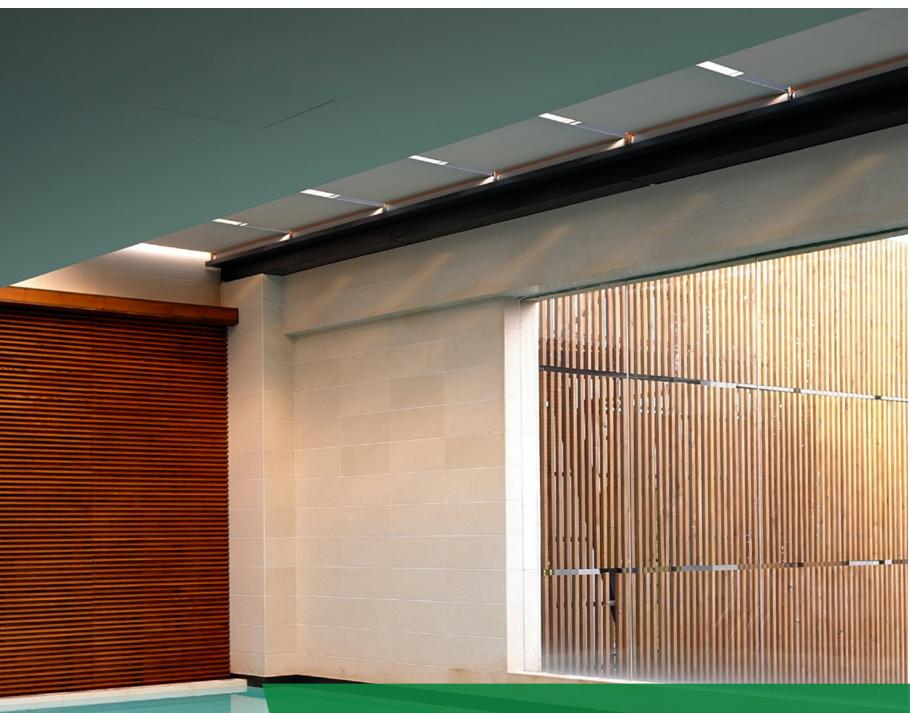
#### FOUR STAR HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Spa Treatment Rooms and Fitness Center - Restaurants	50 dB	45 dB	1 HR	110mm	HLW4
Spa Treatment Rooms & Fitness Center - Business Centers & Meeting Rooms	50 dB	45 dB	1 HR	110mm	HLW4
Spa Treatment Rooms and Fitness Center - Elevator Shafts	50 dB	45 dB	2 HR	125/132mm	HLSW1

\* Acoustic Design Requirements

\*\* On Site Design Requirements

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The hotel's spa treatment rooms and fitness center design must ensure that the guests using the spa or fitness center are not disturbed from other activities in the hotel or from mechanical equipment or from other hotel operations. Also the noise generated from guesting using these areas must be contained inside these areas.

Absorptive ceilings materials with high humidity resistance as Metal Ceiling, Metal Canopies or Radar Ceramic will most likely be necessary to achieve the required acoustic performance for wet areas. Beware of potential noise impact to the spa treatment rooms and fitness center from exterior sources as we advise to use of our EIFS Systems and Shaftwall Systems for ideal acoustic performance. Securock<sup>®</sup> Glass Mat Sheathing gypsum board are widely being used in the spa treatment rooms for wall assemblies due to the Securock<sup>®</sup> performance in wet areas.



# **BANQUETING HALLS AND ENTERTAINMENT CENTER**

#### **CEILING DESIGN OPTIONS**

Hook On Island Hook-On Linear Track **Torsion Spring** Paraline Metal Baffles Metal Canopies Geometrix Allure

Skyrock<sup>™</sup> Moisture Resistant (MR) Monosilent Monolithic Acoustical Ceiling Tranquille Louna™ Soft Fiber Baffle Halcyon<sup>™</sup> Canopies Halcyon™ Black Wood Wool Baffles & Canopies

#### WALL DESIGN

#### FIVE STAR HOTEL / RESORT HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Banqueting Halls and Entertainment Center - Lobbies and Receptions Areas	Min 66 dB	61 dB	2 HR	300mm	HLW11
Banqueting Halls and Entertainment Center - Auditoria / Amphitheater	71 dB	66 dB	2 HR	400mm	HLW12
Banqueting Halls & Entertainment Center - Business Centers & Meeting Rooms	71 dB	66 dB	2 HR	400mm	HLW12
Banqueting Halls & Entertainment Center - Banqueting Halls & Entertainment Center	71 dB	66 dB	2 HR	400mm	HLW12

#### FOUR STAR HOTEL

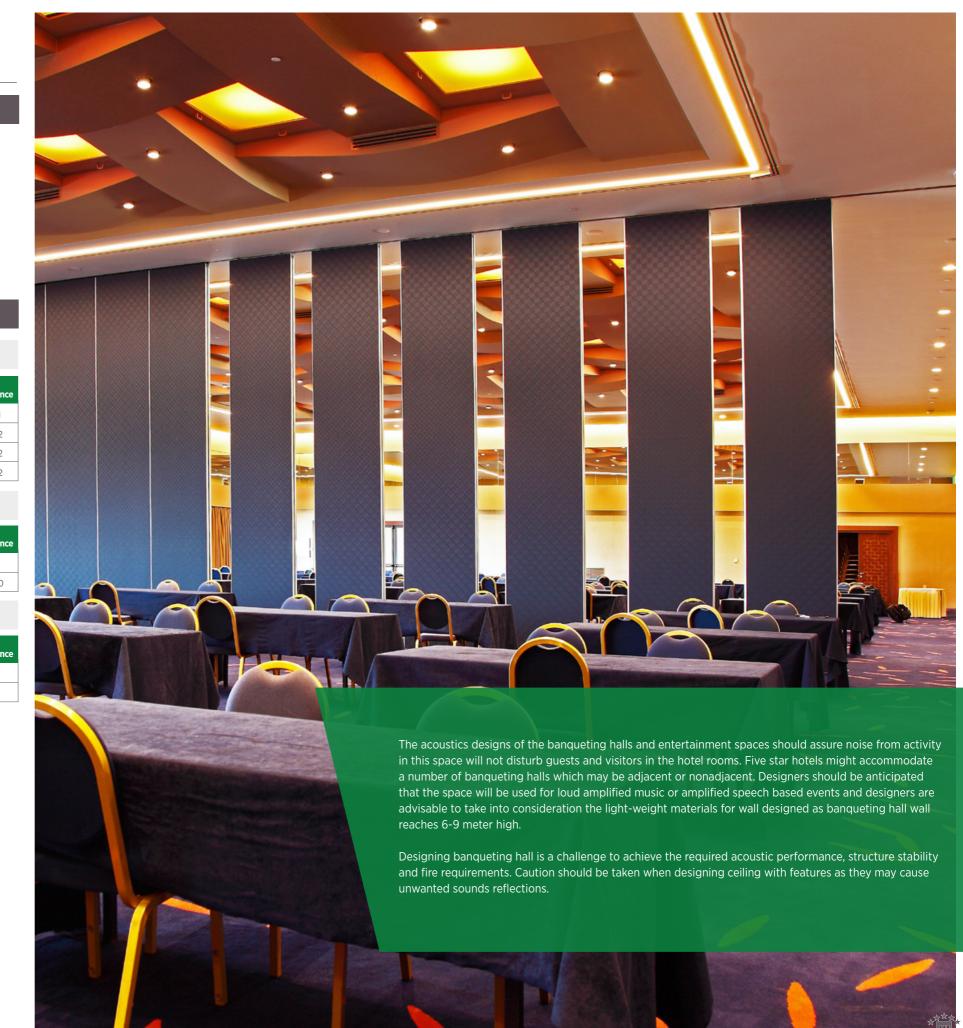
Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Banqueting Halls and Entertainment Center - Lobbies and Receptions Areas	55 dB	50 dB	2 HR	156mm	HLW5
Banqueting Halls and Entertainment Center - Business Centers and Meeting Rooms	61 dB	56 dB	2 HR	169mm	HLW10

#### **THREE STAR HOTEL / HOTEL APARTMENT**

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Banqueting Halls and Entertainment Center - Administration Offices	47 dB	42 dB	1 HR	96/124mm	HLW2
Banqueting Halls and Entertainment Center - Lobbies and Receptions Areas	50 dB	45 dB	2 HR	156mm	HLW5

\* Acoustic Design Requirements

\*\* On Site Design Requirements





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## AUDITORIA / AMPHITHEATER

#### **CEILING DESIGN OPTIONS**

Island Hook-On Torsion Spring Metal Canopies

#### Tranquille Halcyon™ Canopies Halcyon™ Black

#### WALL DESIGN

#### **FIVE STAR HOTEL / RESORT HOTEL**

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Auditoria / Amphitheater - Auditoria / Amphitheater	71 dB	66 dB	2 HR	400mm	HLW12
Auditoria / Amphitheater - Business Centers and Meeting Rooms	71 dB	66 dB	2 HR	400mm	HLW12
Auditoria / Amphitheater - Banqueting Halls and Entertainment Center	71 dB	66 dB	2 HR	400mm	HLW12

\* Acoustic Design Requirements

\*\* On Site Design Requirements





The Auditoria should have special materials and construction specification due to the potential sound transmission noise. We at USG ME recommend to install the twin framing system as this system provides many design and construction advantages to a variety of typical building projects. The superior acoustic performance of the wall enables it to be applied in many areas where high acoustic rating (sound

The acoustic performance of the twin frame wall system can be tailored to design requirements by varying plasterboard layers and thicknesses and acoustic insulation. USG ME twin frame system can reach up-to 78 dB STC rating, but we suggest a twin frame wall partition up-to 71 dB STC rating for the hotel

**DTEL SOLUTIONS** 



# **GENERAL ADMINISTRATION**

#### **CEILING DESIGN OPTIONS**

Clip In Metal Ceiling	Monosilent Monolithic Acoustical Ceiling
Geometrix	Tranquille
Allure	Louna™ Elegant
Skyrock™ Regular Board	Sonata
Skyrock™ Moisture Resistant (MR)	Skylite Clean
Sheetrock® Firecode Type X	
Skyrock™ Soundblock R6 Gypsum Tile	
Skyrock™ Ecoblock - R8-15-20/ Random Perforation	
Gypsum Board	

WALL DESIGN

#### FIVE STAR HOTEL / RESORT HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Administration Offices - Spa Treatment Rooms and Fitness Center	50 dB	45 dB	1 HR	110mm	HLW4
Administration Offices - Mechanical Equipment Rooms	50 dB	45 dB	2 HR	156mm	HLW5
Administration Offices - Business Centers and Meeting Rooms	55 dB	50 dB	2 HR	156mm	HLW5
Administration Offices - Lobbies and Receptions Areas	50 dB	45 dB	1 HR	139mm	HLW8
Administration Offices - Administration Offices	50 dB	45 dB	1 HR	139mm	HLW8

#### FOUR STAR HOTEL

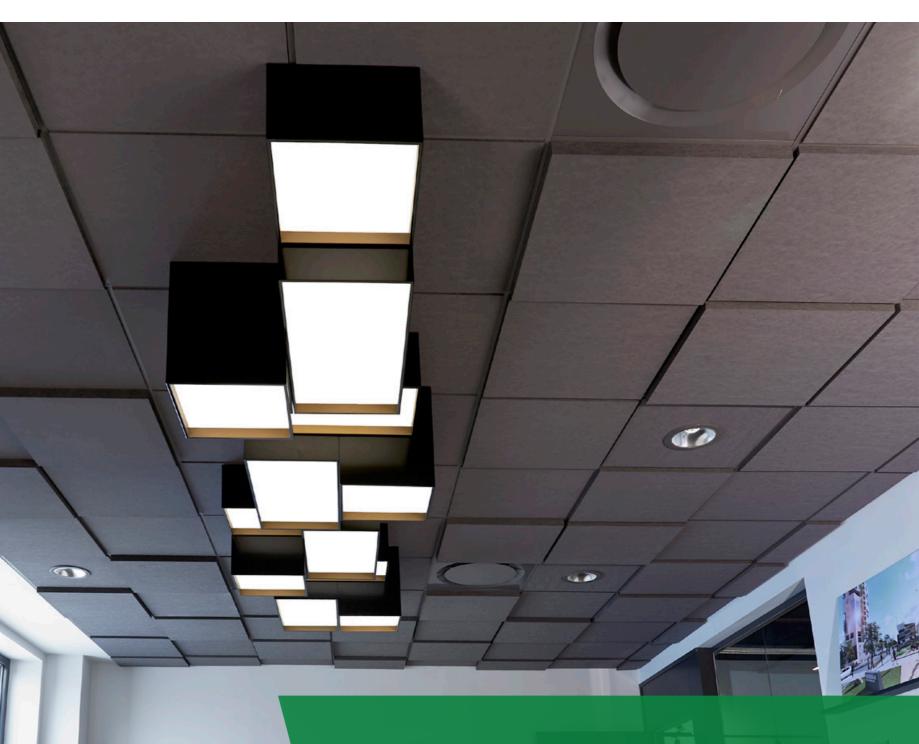
Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Administration Offices - Administration Offices	45 dB	40 dB	NFR	100mm	HLW1
Administration Offices - Lobbies and Receptions Areas	47 dB	42 dB	1 HR	96/124mm	HLW2
Administration Offices - Business Centers and Meeting Rooms	47 dB	42 dB	1 HR	96/124mm	HLW2
Administration Offices - Mechanical Equipment Rooms	55 dB	50 dB	2 HR	156mm	HLW5

#### THREE STAR HOTEL / HOTEL APARTMENT

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Administration Offices - Lobbies and Receptions Areas	45 dB	40 dB	NFR	100mm	HLW1
Administration Offices - Administration Offices	45 dB	40 dB	NFR	100mm	HLW1
Administration Offices - Business Centers	45 dB	40 dB	NFR	100mm	HLW1
Administration Offices - Banqueting Halls and Entertainment Center	47 dB	42 dB	1 HR	96/124mm	HLW2
Administration Offices - Mechanical Equipment Rooms	50 dB	45 dB	2 HR	156mm	HLW5

\* Acoustic Design Requirements

\*\* On Site Design Requirements



In administration offices avoid direct sound pathways between cubicles and offices by proper placement of wall partitions and ceilings tiles. Open office and general administration office should be designed to provide an acceptable level of speech privacy between adjacent offices. 50 dB wall partition assembly can achieve the General Administration Offices requirements, and mineral fiber ceiling as Sonata tiles will be necessary to control the reverberation time.

Reasonable precautions should be taken to insulate administration offices against noise from adjacent rooms, machinery, ducts and external noise sources such as HVAC. Installation of electronic masking system is required to achieve speech privacy in a hotel office environment.





# **MECHANICAL EQUIPMENT ROOMS**

#### **CEILING DESIGN OPTIONS**

Clip In Metal Ceiling Skyrock™ Regular Board Skyrock<sup>™</sup> Soundblock R6 Gypsum Tile Radar™ Ceramic

#### WALL DESIGN

#### FIVE STAR HOTEL / RESORT HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Mechanical Equipment Rooms - Administration Offices	55 dB	50 dB	2 HR	156mm	HLW5
Mechanical Equipment Rooms - Restaurants	66 dB	61 dB	2 HR	300mm	HLW11
Mechanical Equipment Rooms - Guest Rooms and Suites	61 dB	56 dB	2 HR	169mm	HLW10

#### FOUR STAR HOTEL

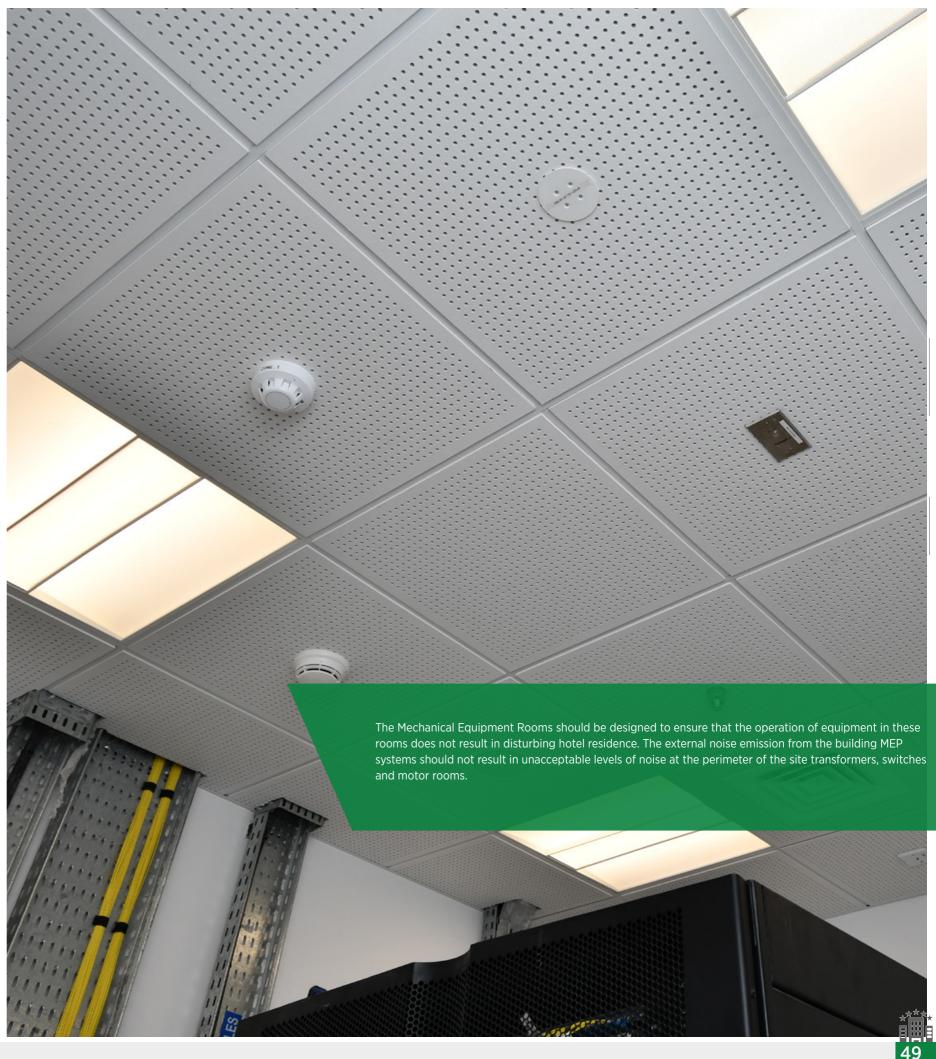
Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Mechanical Equipment Rooms - Administration Offices	55 dB	50 dB	2 HR	156mm	HLW5
Mechanical Equipment Rooms - Restaurants	55 dB	50 dB	2 HR	156mm	HLW5
Mechanical Equipment Rooms - Guest Rooms and Suites	55 dB	50 dB	2 HR	156mm	HLW5

#### THREE STAR HOTEL / HOTEL APARTMENT

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Mechanical Equipment Rooms - Administration Offices	50 dB	45 dB	2 HR	156mm	HLW5
Mechanical Equipment Rooms - Restaurants	50 dB	45 dB	2 HR	156mm	HLW5
Mechanical Equipment Rooms - Guest Rooms and Suites	50 dB	45 dB	2 HR	156mm	HLW5

\* Acoustic Design Requirements \*\* On Site Design Requirements

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# **ELEVATOR SHAFTS**

#### WALL DESIGN

#### FIVE STAR HOTEL / RESORT HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Elevator Shafts - Lobbies and Receptions areas	50 dB	45 dB	2 HR	125/132mm	HLSW1
Elevator Shafts - Spa Treatment Rooms and Fitness Center	50 dB	45 dB	2 HR	125/132mm	HLSW1
Elevator Shafts - Guest Rooms and Suites	53 dB	48 dB	2 HR	138/145mm	HLSW2

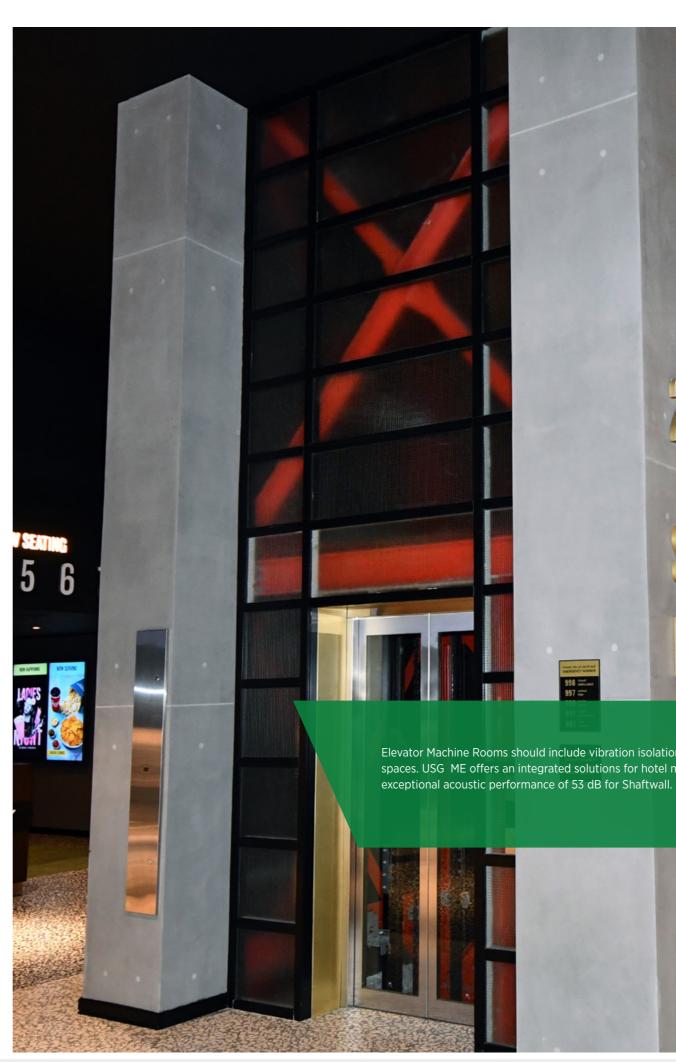
#### FOUR STAR HOTEL

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Elevator Shafts - Guest Rooms and Suites	50 dB	45 dB	2 HR	125/132mm	HLSW1
Elevator Shafts - Spa Treatment Rooms and Fitness Center	50 dB	45 dB	2 HR	125/132mm	HLSW1
Elevator Shafts - Lobbies and Receptions areas	50 dB	45 dB	2 HR	125/132mm	HLSW1

#### THREE STAR HOTEL / HOTEL APARTMENT

Separation wall between	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
Elevator Shafts - Guest Rooms and Suites	50 dB	45 dB	2 HR	125/132mm	HLSW1
Elevator Shafts - Lobbies and Receptions areas	50 dB	45 dB	2 HR	125/132mm	HLSW1

\* Acoustic Design Requirements \*\* On Site Design Requirements





Elevator Machine Rooms should include vibration isolation to control structure borne noise to the adjacent spaces. USG ME offers an integrated solutions for hotel mechanical rooms and hotel Shaftwall with



# EXTERIOR ENVELOPE

#### EXTERIOR ENVELOPE CEILING DESIGN

Ceiling		
Exterior Metal Ceiling		
Durock® Brand Cement Board		
Securock <sup>®</sup> Brand Glass-Mat Sheathing		

#### EXTERIOR ENVELOPE WALL DESIGN

U-Value	STC*	FSTC**	Fire Rating	Wall Width	Wall Reference
0.28	55 dB	50 dB	2 HR	156mm	HLEW1
0.22	66 dB	61 dB	2 HR	350mm	HLEW2

\* Acoustic Design Requirements \*\* On Site Design Requirements





## **FINISHING SOLUTIONS**

Offering the industry's broadest selection of finishing solutions, our high-quality drywall compounds, joint tapes, beads, and trims provide superior performance on every job, every time. Whether you're taping, applying a finish coat, or patching a crack, there is a USG finishing product to meet your needs. Builders, project managers, and architects can count on our broadest selection of finishing solutions to deliver.

#### GYPSUM SURFACE FINISHING SOLUTIONS

USG Middle East gypsum surface finishing solutions provides professionalgrade performance. Sheetrock<sup>®</sup> Brand All Purpose Joint Compound and Premium Premix are combines single-package convenience with good taping and topping performance. Recommended for laminating and repairing cracks in interior plaster and masonry not subject to moisture, these compounds feature great open time and cold bond, and has smooth and slick properties. This joint compound qualifies as a low VOC emitting material and complies with ASTM C475.

The Gypsum Plaster Setting-Type of Easycoat 30 and Easyjoint<sup>™</sup> 60 provides quick set times allow for one-day drywall finishing and next-day decoration of drywalls in interiors and exterior areas. Let our setting-type collection set the pace with a range of formulations that provide a choice in setting times. They provide low shrinkage and superior bond, which make them excellent for projects like laminating gypsum panels, acoustical gypsum boards and abovegrade all gypsum surfaces.

#### **CEMENT SURFACES FINISHING SOLUTIONS**

Concrete plaster is a type of plaster that is made from a mixture of Portland cement, sand, and water. It is a strong and durable material that is often used as a finish for walls and ceilings. Unlike traditional plaster, which is made from gypsum, concrete plaster is not as brittle and is more resistant to water damage. It is typically applied in multiple layers and can be finished with a variety of textures, depending on the desired look.

Our concrete plaster includes Durock<sup>®</sup> & General Purpose Setting-Type Basecoat, Easycoat Advanced Formula Ready-Mix and other cementitious surfaces finishing products are commonly used as a finish for both interior and exterior walls and ceilings. This range is often applied to concrete, brick. or masonry surfaces to create a smooth, durable finish. Concrete plaster is also used to repair and resurface damaged walls and ceilings, and to cover up imperfections in the underlying surface. In addition, concrete plaster can be used to create decorative elements such as moldings, cornices, and ceiling medallions.Used in the construction of swimming pools, to create a smooth, waterproof finish.

#### ACOUSTICAL CEILINGS FINISHING SOLUTIONS

Acoustical plasterboard ceilings require special finishing materials to achieve the required acoustic performance. We offer the Monosilent Compound for the acoustical ceiling joint treatment which is specially formulated to achieve very low shrinkage joint compound for acoustical plasterboard ceilings. USG ME also offers highly engineered, acoustically transparent spray-applied finish of Monosilent Spray-Applied Finish and Mac Spray-Applied Finish. Sprayed with pneumatic spray texture equipment and yields a fine finish, with a monolithic appearance. The Acoustical transparent finish is available in a standard white color and available in other RAL colors to meet the architect choice.



Our Setting-Type Bonding Premium Compounds are a plaster-based adhesive formulated to bond gypsum board to masonry, brick or concrete walls and for bonding decorative cornices to plaster surfaces and for reinforcing joints in cornices. These Premium Compounds have high bond strength and offers a long working time, mixes easily to a creamy, lump-free gauge, high strength, excellent adhesion to masonry, brick and concrete walls and decorative cornices. Easybond<sup>™</sup> 60 Setting-Type Bonding Premium Compound Provides enhanced plaster adhesion to surfaces like gypsum plaster, cinder block, stone, drywall panels, and other similar materials. Fastbond Hightack Formula is easily applied by Sealant Gun for quick and instant bonding requirements. The Fastbond Hightack Formula has extremely high initial tack and can be applied as a universal adhesive for bonding many building materials such as: stone, concrete, glass, plasterboard, PU, PVC, hard plastics, enamel, ceramic, copper, lead, zinc, tin, aluminium, metals, alloys, stainless steel, HPL and cement fiber panels, wood and paints stems.

#### SEALANT

USG ME sealants are acrylic-based for use as sealants in fire-rated partitions, smoke barriers and sound-rated assemblies as acoustical barrier. The sealant exhibits exceptional structural integrity, forms a continuous flexible bead that resists collapse and flows into all but the most intricate joints, resists water penetration and offers excellent resistance to thermal shock. These sealants are low-flowing, forming a dense and continuous barrier against air and other gases. It provides excellent resistance to vibration and movement, making it ideal for joints in fire-rated assemblies that have little or no movement, they're produced with high fire rating and acoustical performances. Where the acoustical sealant which is a type of sealant that is specifically designed to reduce the transmission of sound through gaps or cracks in walls, ceilings, and floors. It is often used in construction and renovation projects to improve the acoustics of a space and reduce noise pollution.

#### ACCESSORIES

USG Middle East offers a full range of accessories for the project's builders. The accessories range of varieties from jointing tapes for interior and exterior use that add strength and crack resistance for smooth concealment at flat joints and inside corners, to the durable beads and trims that installs easily by screwing, nailing or tapping to steel or wood framing. Our corner beads and trims protect external corners, angles and panel intersections in drywall construction. It is concealed with our joint compounds, delivering a smooth finished surface and even that protects corners from impact.

#### **ACCESS PANELS**

Offering wide range of access panels and doors. For wet areas, USG Middle East offers moisture- and mold-resistant access doors and plumbing accessories with plasterboard inlay, circumferential rubber lip seal, hidden snap locks, and self-adjusting safety catch arms. These moisture resistance access panels are panels that are designed to prevent the ingress of moisture. They are often used in buildings where access is needed to areas that may be exposed to water or damp conditions, such as bathrooms or kitchens. Smoke, air, and dust-tight requirements are met by USG ME Smoke Control and Acoustic Access Doors and Plumbing Accessories, includes an EPDM hollow chamber seal for installation on walls and ceilings. Where the smoke control access panels are panels that are designed to prevent the spread of smoke in the event of a fire. They are often used in buildings to provide access to areas that are part of a smoke control system, such as ducts or shafts. Smoke control access panels are an important component of a building's \* fire safety system, and are typically installed in ceiling or floor areas.

#### **BONDING SOLUTIONS**



## **SUSTAINABLE SYSTEMS**



#### **GREEN MANUFACTURING**

Flexible and scalable production options with quicker delivery time. Our regional manufacturing facilities reduce the supply chain costs, energy consumption and transportation. USG ME is an excellent source of ceiling solutions for the regional community helping the environment with lesser emissions and energy usage.

We care about earth: we provide green and sustainable products.



#### **ENVIRONMENTAL PRODUCT DECLARATION**

The Environmental Product Declaration (EPD) relies on the assessment tool-following ISO series 14040-to provide information on a number of environmental impacts of a product

over its life cycle. EPD's are primarily intended to facilitate business transactions with clients who are focused on sustainable environmental practices.

Since adhering to the ISO series 14040, we have improved our goals for sustainability and demonstrated our commitment to sound environmental practices and our customers.



#### GREENGUARD

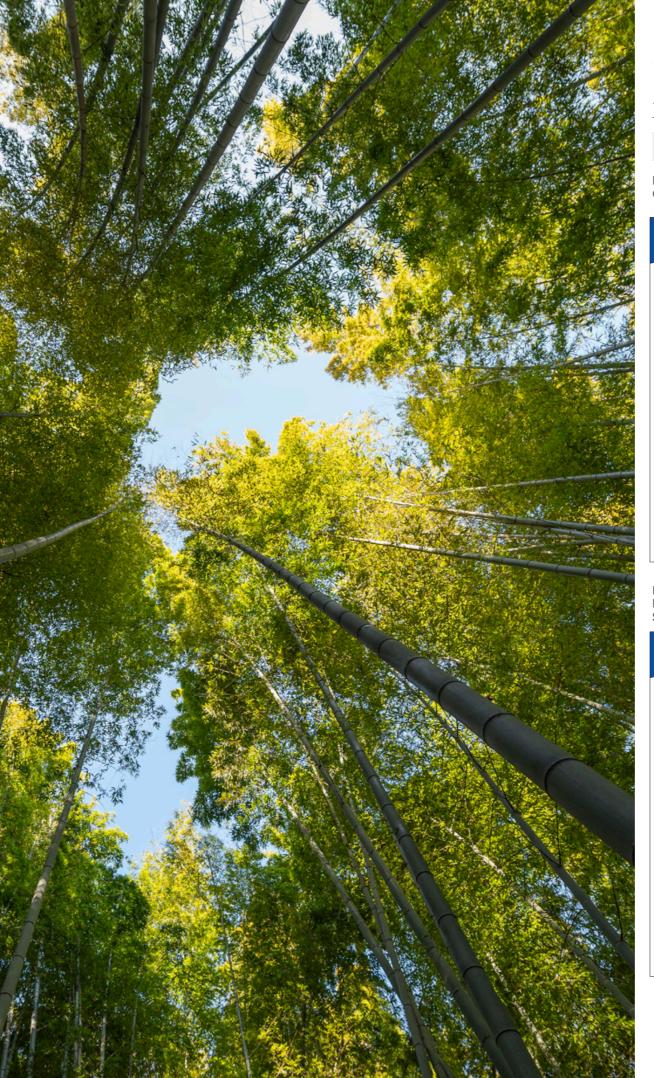
GREENGUARD Certification Program is for Products that have scientifically been proven to meet many of the world's most rigorous third-party chemical emissions standards, helping to improve indoor air quality. By choosing products with GREENGUARD Certification, you are creating a healthier indoor environment for your home, office, or institution and reducing chemical exposure. USG Middle East's Ceiling Systems are certified as GREENGUARD Gold as per the UL 2818 – 2013 Gold Standard for Chemical Emissions for Building Materials, Finishes, and Furnishings.



#### **ENVIRONMENTAL AIR QUALITY**

USG ME's ceiling panels do not contain asbestos, carcinogens, mutagens, or toxic substances.

Our ceiling products are classified and certified to have low impact on indoor air quality. Even when installed in a fully furnished room with little fresh air, the concentration of VOCs and Formaldehyde are well below accepted standards.





ISO 9001:2015



ISO 14001:2015 SYSTEM

CERTIFICATE Management system as pe ISO 14001 : 2015

IAF IAS



## **COMPANY CERTIFICATION AND COMPLIANCE**

#### **ISO CERTIFICATION**

**QUALITY MANAGEMENT SYSTEM** 

#### ISO 45001:2018 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM

## **ENVIRONMENTAL MANAGEMENT**







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USG ME

INNOVATIVE SOLUTIONS. EVERYTIME.