



INTRODUCTION

USG Middle East (USGME) is a Joint Venture between USG (a Knauf Subsidiary) and Juman Industrial Investment Company-Saudi investor in the Building Materials segment (juman.sa). Since being founded in Dammam, Saudi Arabia in 1985, USGME has been a leading manufacturer of Ceiling, Interior Finishing, and Drywall Partitions. Our products are supplied to more than 45 countries through 4 regional manufacturing plants via a wide network of sales and technical offices and distributors. Our product range is trusted for use in homes, offices, hospitals, schools, universities, cinemas, and retail spaces, as well as in many of the world's most iconic projects.

Our mission is to deliver innovation that helps you work smarter, do more, and build better. Architects and construction companies need safer, faster, and less costly ways to build. Building owners need better-running buildings with lower operating costs. And the need for sustainable construction to address global environmental challenges is growing fast. That's why throughout USG's history, we have continually developed innovative wall and ceiling products and systems for our customers.

At USG Middle East, we believe the best innovations start with a purpose – a focus on why the innovation is needed and who will benefit from it. Our focus is to deliver innovations that help you work smarter, do more and build better.

Through an ever-growing portfolio of groundbreaking products backed by unparalleled service, we empower our customers to grow their business, much the same way you build cities and communities the world over. We do so by investing in purposeful innovation, expanding into different markets and constantly searching for new ways to increase performance and productivity.

This commitment to innovation and focus on you, our customer, is inspired by a desire to enable architects, contractors and workers alike to improve the way we live by changing the way buildings are designed and built.

INTERIOR FINISHING

USG Middle East manufactures and supplies an extensive range of high-quality and consistent joint compounds including bedding and base compounds, finishing compounds, all purpose to patching and skim compounds to transform your plasterboard joints, angles and fastener heads into one seamless surface.



Application of joint compound over tapered edge joint

Jointing and Finishing

Jointing and finishing of plasterboard should be carried out according to the required level of finish (refer to Levels of Finish, page 5). If no level is specified then Level 4 is the default level of finish for domestic construction.

It requires all joints and external angles to be taped and coated as follows:

- Bed jointing tape into an initial coat of base compound
- Apply a second coat of base compound to fill and level joints
- Apply a coat of finishing compound

Internal angles are to be completed with a two-coat application. The joint compound should be finished smooth and be free of tool marks and ridges.

Extreme care must be taken in jointing and finishing where walls or ceilings are subject to critical lighting.

LEVELS OF FINISH

The term 'level of finish' applies to plasterboard linings prior to decoration.

As per ASTM C840 Application and Finishing of Gypsum Board defines three levels of finish: 3, 4 and 5. Level 4 is the default level of finish for plasterboard linings, unless specified otherwise.



Critical lighting condition calls for a higher level of finish

It is essential that the level of finish is determined at the design stage since each level has specific requirements for substrate tolerances and plasterboard installation, jointing and finishing. The desired level of finish may not be achieved unless all of these requirements are met through various stages of construction. Levels of finish recommended for various lighting conditions and surface decorations are shown in Figure 1, page 5.

A summary of various levels of finish is provided below:

l evel 3

This level of finish is used in areas that do not require decoration, or where finish is not important (for example, above ceiling level or inside service shafts). All joints and interior angles must have tape embedded in the joint compound and one separate coat of joint compound applied over all joints and fastener heads. Butt joints and recessed joints in walls and ceilings can be placed on framing members.

INTERIOR FINISHES

Jointing and Finishing

Level 4

This is the default and generally accepted level of plasterboard finish. All joints and interior angles must have tape embedded in the jointing compound and a minimum of two separate coats of joint compound applied over all joints, angles, fastener heads and accessories. If Level 4 surface is to be exposed to critical light, it should be covered with textured finishes or wall coverings. Smooth textured finishes and flat, matt or low sheen paints can be used when Level 4 finish is illuminated by non-critical lighting. Flat paints in this situation tend to conceal joints better. Weight, texture and sheen level of wall coverings and finishes should be carefully evaluated and joints should be adequately concealed if wall-covering material is lightweight, glossy or lightly patterned.

NOTES

- · In critical lighting conditions, surface variations may still be apparent in a Level 4 surface finish
- Gloss, semi-gloss or deep tone paints are not recommended for Level 4 finish, as they accentuate surface variations, refer to Figure 1.

Level 5

Level 5 finish should be used where gloss or semi-gloss paints are specified or where lining surfaces will be exposed to critical lighting conditions. The Level 5 finish is characterized by a parity of surface texture and porosity. All joints and interior angles must have tape embedded in the jointing compound and a minimum of two separate coats of jointing compound applied over all joints, angles, fastener heads and accessories. The work is finished with proprietary surface preparations or skim coating to remove differential surface textures and porosity.

A suitable paint or plaster material is sprayed, rolled or trowelled over the defined area. The surface texture must be random and monolithic, concealing joints and fixing points.

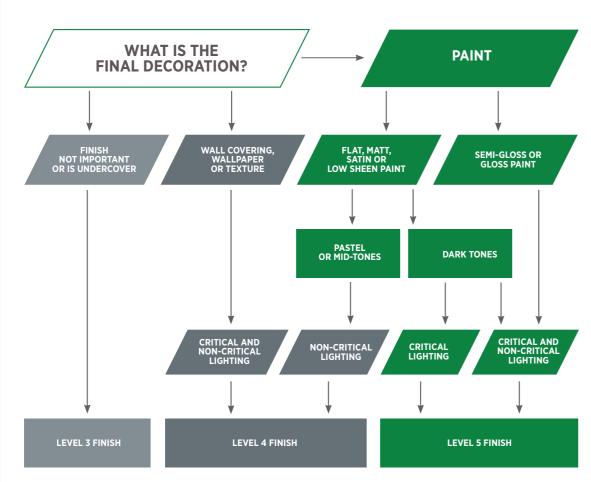


Skim coat application

NOTES:

- If Level 5 finish is desired for a decorated plasterboard surface, this must be specified at the design stage
- Level 5 finish is difficult to achieve and always requires the cooperation of the framer, plasterer and painter in establishing suitable work practices that deliver the agreed painted finish for the given project
- · Some minor surface variations may still be visible in Level 5 finish, however, these will be minimized
- The surface of the defined area may require sanding to be suitable for decoration

Jointing and Finishing





INTERIOR FINISHES

Jointing Compounds

TYPES OF JOINTING COMPOUNDS

Jointing compounds broadly fall into two types:

- Setting compounds
- Air-drying compounds

The jointing system may consist of one or both types of compounds and jointing tape (paper tape, mesh or fiberglass tape).

Setting Compounds

Setting compounds are plaster based and can be used for bedding tape, base coating and finishing coats. They are applied by hand and generally provide a stronger joint than air-drying compounds. Setting time can range from 20 minutes to 120 minutes

Air-Drying Compounds

Air-drying compounds are vinyl-based premixed compounds that can be used for base coating (all-purpose compounds only) and/or top coating. The use of air-drying type compounds in hot and dry conditions reduces the risk of premature dry out associated with plaster based setting compounds. Can be applied by hand or with mechanical tools.

- Paper tape must be used when taping with air-drying compounds
- Air-drying compounds may require 24 hours drying time between coats, depending on weather conditions
- Air-drying compounds should not be applied when the interior temperature is less than 10°C
- Application of plaster based setting compounds over premixed air-drying compounds is not recommended

STORAGE

- Compounds should be stored in a dry location in room temperate. Compounds should kept above ground and protected from freezing, expose to heat, and direct sunlight
- Storage in an unsuitable environment or once container or bag is opened can shorten the lifespan of the product

MIXING-SETTING POWDER COMPOUNDS

For best results:

- Check the 'expiry/best before' date on packaging to ensure compounds are fit for use
- Always use clean, cold potable water and clean containers and tools for mixing. Using dirty containers, water and tools may affect the setting time and set strength
- Slowly add powder to water and allow powder to soak before mixing
- Mix only enough compound for stated working time when using setting compounds
- Mix by hand or with a power mixer (max of 400rpm mixing at higher speeds may draw air into the
 mix, creating air bubbles). Mix until a smooth workable paste has been achieved. Avoid over mixing as
 this may accelerate setting and shorten the working life of the compound



Mix until a smooth workable paste is achieved

- For setting compounds, once setting has commenced, the material cannot be remixed and should not be agitated or retempered by the addition of water
- Inclusion of other materials in the mix could impair the performance of the compound and is not recommended

Jointing Compounds

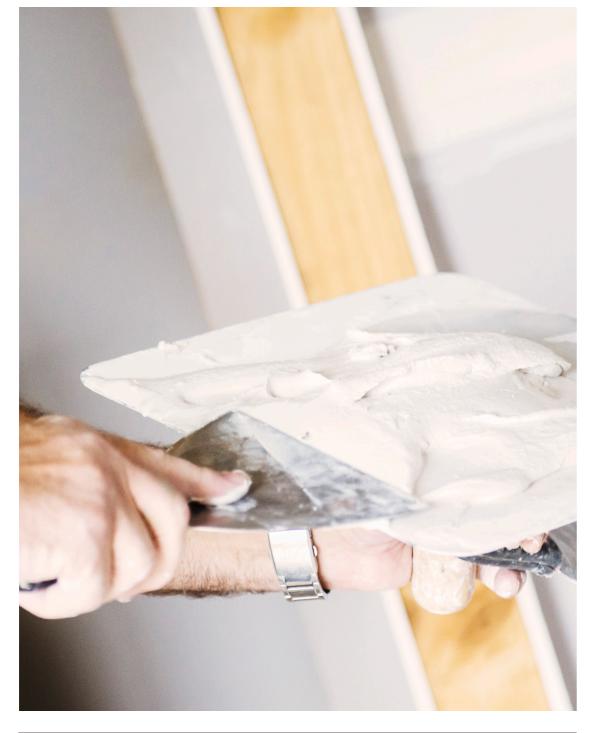
MIXING -AIR-DRYING READYMIX COMPOUNDS

For best results:

- Ready-mix compounds may appear thick in pail. Before adding water, lightly mix and test its application; if required, add water to achieve desired consistency
- · Caution: Avoid over-thinning when adding water as this may cause cracking and excessive shrinkage
- If liquid has separated from the compound, stir carefully to restore consistency
- Caution: Do not over mix; over mixing can introduce air bubbles, which can create surface imperfections

NOTES:

- Setting compounds should be used with caution in windy, dry and hot conditions as compounds may dry out before setting occurs. Faster setting compounds or air-drying compounds are recommended for such applications
- Subsequent coats of jointing compounds should not be applied 'wet on wet'. Allow each coat to dry before applying the next coat
- Overthinning of jointing compounds may cause shrinkage and hollow joints



INTERIOR FINISHES

USG Middle East Joint Compounds



Note 3 - Paper Tape

Paper tape must be used with Air-drying type compounds when jointing. (e.g SHEETROCK® Brand Paper Joint Tape).

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USG Middle East Joint Compounds



Note 3 - Paper Tape

Paper tape must be used with Air-drying type compounds when jointing. (e.g SHEETROCK® Brand Paper Joint Tape).

INTERIOR FINISHES

USG Middle East Bonding Compounds





		September 1997	0.00
	Specification	EASYBOND™ 60 Setting-Type Bonding Premium Compound	EASYFIX 60 Setting-Type Premium Cornice Adhesive
JOINTING	1st Coat	•	•
	2nd Coat	•	ø
	3rd Coat	•	•
	Finishing Coat		•
	Primer Coat	•	#
	Hand Tools	•	•
	Bonding Compound	•	•
SYSTEMS	Substrate of Application	DryWall	DryWall
	Area of Application	Interior	Interior
	Fire Rated	•	•
	Wet Area	•	•
PROPERTIES	Curing Type	Setting-Type	Setting-Type
	Curing Time	60 Minutes	60 Minutes
	Product Size	20KG (Bag)	20KG (Bag)
	Sanding	-	-
	Compound Type	Gypsum Plaster	Gypsum Plaster
	Color	White	White

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Jointing Tapes, Tools and Accessories

JOINTING TAPES

Jointing tapes are used to provide reinforcement to plasterboard joints and angles.

USG Middle East Sheetrock paper tape is a high strength special cross-fiber paper tape possessing exceptional wet strength and resisting stretching, wrinkling and tearing.

A wafer thin paper aids smooth finishing and the roughened surface produces a superior bond to jointing compounds. Centre creased for application to angles.

Paper tape is recommended by USG Middle East for jointing of gypsum wall and ceiling linings due to its high strength and suitability for all jointing compounds and applications.

Paper jointing tape must be used with air-drying type jointing compounds.

USG Middle East jointing tape is available in 75m and 150m x 50mm wide rolls.

As the two sides of paper tape are not identical, the outside of the roll should always be applied to the wet compound to ensure the best adhesion.





Paper tape

Fiberglass Tape

APPLICATION TOOLS AND ACCESSORIES

Plastering tools and accessories required for jointing and finishing plasterboard systems:









Paper or Mesh Joint Tape

Fiberglass Tape

6" (150mm) Joint knife





8" (200mm) Joint knife Snip

10" (250mm)Joint knife or

Trowel

Large mixing bucket

Electric drill mixer



Sander

Measuring Tape







External angle-Metal or plastic bead or Flex metal

Corner Tool 6"

Snip or Shear

Corner Tool 8"

Hawk

Taping tool- Mechanical

Staple gun

Stainless steel jointing tools are recommended for the best possible finish and service longevity. Tools should be cleaned in water before compounds have fully set and stainless steel tools given a light rub with an oiled cloth to prevent rusting.

Plasterers trestles or scaffolding should be used to ensure correct working height.

INTERIOR FINISHES

Jointing and Finishing Recessed or Tapered Edge Joints

Recessed joints should be stopped and finished with a straight or curved trowel to leave a slightly convex camber over the joint.

First Coat

- Fill any gaps in joints with base compound prior to the taping process
- Fill recessed joint with a layer of base compound using a flexible 150mm broad knife
- Centre and press the paper tape into the base compound using a 150mm broad knife, drawing along the joint with sufficient pressure to remove excess compound
- Ensure all air bubbles have been expelled, taking care sufficient compound is left under the tape to provide a strong bond
- After embedding tape, apply a skim coat of compound to fill the recess
- Spot fastener heads

Second Coat

- Allow sufficient time for the first coat of base compound to set
- · Apply a second coat of base compound approximately 200mm wide, using a trowel or broad-knife
- Feather joint edges
- Spot fastener heads again, extending beyond the first coat by approximately 25mm

Finishing Coat

- Ensure base coats are set and scrape to remove any rough spots or lumps
- Using a trowel, apply a coat of finishing compound approximately 250mm wide, feathering out approximately 25mm beyond edges of the basecoat
- Use a curved trowel on the finishing coat to produce a slight convex curve. Feather out the edges
- Allow a minimum of 24 hours to dry (longer in cold, wet weather conditions)
- When dry, lightly sand to a smooth finish with sanding mesh or 150-220 grit paper, depending on sanding hardness of finishing compound used

Jointing and Finishing Recessed or Tapered Edge Joints

APPLICATION STEPS



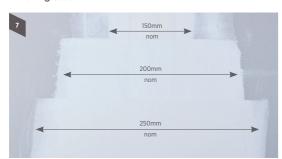
Step 1First coat - Bedding compound



Step 3First coat - Skim coat over tape



Step 5 Finishing coat



Step 7Total tapered edge joint system



Step 2 First coat - Bed tape



Step 4 Second coat



Step 6Dry sanding

INTERIOR FINISHES

Jointing and Finishing Recessed or Tapered Edge Joints

Butt or end joints should be flush-jointed and finished with a three coat system as for recessed joints. For a flatter finish, and to minimize surface build-up of compound, widen each jointing coat so that the final coat of the finished joint is about 500mm wide.

First Coat

- Fill in any gaps in joints with base compound prior to the taping process
- Using a trowel, apply a thin layer of base compound to each side of the joint (approximately 300mm total width) prefilling any recess gaps at the joints
- Centre and press the paper tape into the base compound using a 150mm broad-knife, drawing along the joint with sufficient pressure to remove excess compound
- Ensure all air bubbles have been expelled, taking care sufficient compound is left under the tape to provide a strong bond
- After embedding tape apply a skim coat of compound over the paper tape

Second Coat

- · Allow sufficient time for the first coat of base compound to set before applying a second coat
- Apply a second coat of compound to each side of the joint (approximately 400mm total width)
- Feather out joint edges
- The second coat should have a gradual convex curve

Finishing Coat

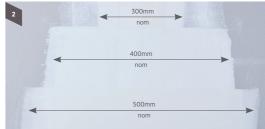
- Ensure base coats are set and remove any rough spots or lumps
- Using a straight bladed trowel, apply a coat of finishing compound to each side of the joint (approximately 500mm total width). Feather out the edges
- The finished coat should have a slight convex curve
- Allow a minimum of 24 hours to dry (longer in cold, wet weather conditions)
- When thoroughly dry, lightly sand to a smooth finish with sanding mesh or 150–220 grit sand paper, depending on sanding hardness of finishing compound used



Step 1Finishing coat for square edge joints



Step 3Dry sanding of square edge joints



Step 2 Total square edge joint system

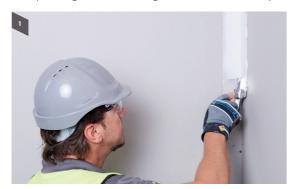
Jointing and Finishing Corners

INTERNAL CORNERS OR ANGLES

Internal corners should be jointed with a two coat system using paper tape. Gaps in excess of 4mm should be pre-filled with compound.

Installation

- Apply compound to both sides of internal corner using a 75mm broad knife
- · Measure and cut reinforcing tape, fold along centerline and bed into corner, using broad knife
- Apply a skim coat of compound over tape
- · When dry apply a second coat of compound with the broad knife, then finish by feathering beyond edges of first coat
- Allow a minimum of 24 hours to dry (longer in cold, wet weather conditions)
- When thoroughly dry, lightly sand to a smooth finish with sanding mesh or 150-220 grit paper, depending on the sanding hardness of the compound used



First coat - Apply base compound



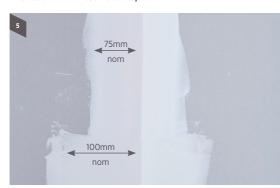
Step 2 First coat - Fold and bed tape



Step 3 First coat - Skim coat over tape



Step 4 Apply second coat



Internal corner jointing system

INTERIOR FINISHES

External Corners or Angles

External corners should be strengthened with perforated metal angles then jointed and finished with a three coat system. Suitable metal angles include Rondo Corner Beads P01 or P32.

- Cut metal angle to length and position so that the angle is both straight and in line with the wall surfaces. Ensure that there is a 10mm gap left at the concrete floor to avoid rust
- Fix with nails or staples at maximum 300mm centers along each face with nails opposite each other
- Stop and finish with a three coat system as per jointing specification
- Ensure that the first coat of compound covers approximately 150mm of angle faces and is forced through the perforations
- The second coat should extend approximately 200mm from the corner
- The final coat should extend approximately 280mm from the corner with the edges feathered out
- Ensure that the final coat is built up to the corner
- Allow a minimum of 24 hours to dry (longer in cold, wet weather conditions)
- When finishing compound is thoroughly dry, light sand to a smooth finish with sanding mesh or 150-220 grit paper, depending on the sanding hardness of finishing compound used

Other beads and angles (Shadowline, Stopping Angle etc) should be finished in the same manner.



Step 1 - Perforated metal angle Cut angle and fix to sides of corner @



Plastic corner bead



Step 1 - Alternative Flex metal tane



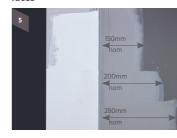
Step 2 Apply first coat to both corner



Step 3 Apply second coat to corner faces



Sten 4 Apply third coat to corner faces



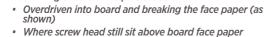
Step 5 External corner jointing system

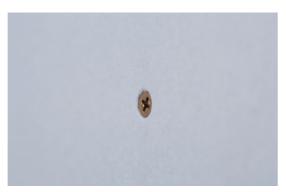
Finishing of Screw, Fasteners or Nails Fixing

A minimum of 2 separate coats of joint compounds must be applied over screw and nails fixing. Ensure proper fixing of screws, fasteners or nails into the plasterboard. Correct any poor fixing before finishing.









Good fixing of screw or fastener into plasterboard

• Screw driven into board but not breaking the face paper (as shown)

INSTALLATION

- 3 coats of joint compound is recommended.
- Ensure each coat has dried before applying the next coat.
- When finishing compound is thoroughly dry, light sand to a smooth finish with 150-220 grit sand paper



Applying 3 separate coats of joint compound over screw fixings



Finished screw fixings after sanding

INTERIOR FINISHES

Mechanical Jointing Tools

The following recommendations apply to mechanical jointing tools in addition to the general Jointing and Finishing specification.

Taping machine (mud machine)

Ready-mix (air-drying) joint compounds are recommended for use in taping machine application such as USG Middle East:

- SHEETROCK All Purpose Joint Compound
- MaxiSkim88

First Coat

- · Load the paper tape and compound into the taping machine in accordance with manufacturer's
- · Adjust the taping machine to achieve minimum 1mm compound thickness under the tape
- Apply the tape and compound in accordance with manufacturer's instructions
- · Immediately fill tapered joint with compound using 150mm broad-knife. Ensure full width of tapered edge joint is filled. For square edge joints ensure a skim coat is applied over the tape.

Second Coat

• For second and finishing coats, follow as per tapered or square edge jointing and finishing application using broad-knife.



Load paper tape and pour compound into the box



First coat - Apply the tape and compounds along



For second and finishing coats apply as per tapered or square edge joint and finishing application



Adjust the nozzle to ensure at least 1mm of compound is in under the tape



Step 4 First coat - Skim coat over tape

Bonding Compound

APPLICATION

- Surfaces must be clean and free from dust
- · May be applied with either hand or mechanical tools. USG Middle East recommends a minimum 6mm and 12mm adhesive scoop thickness. Apply good initial pressure to the gypsum board during application
- Coverage will vary depending if doubs or solid application was followed (refer to product data table)
- Surface dampening or the use of a bonding agent may be required to ensure satisfactory bonding to dry
- Where the cavity between the wall surface and the back of the gypsum board consistently exceeds 40mm, USG Middle East wall furring system, utilizing steel furring on steel battens fastened to the base wall, must be used

MIXING

- Always use clean cold water, tools and containers
- · Always use potable water, never use salty water for mixing
- Do not mix with residues of previously used compounds
- Use of dirty tools or containers may reduce working time and strength
- Always add Easy Bond to water (2kg of powder to 1L of water)
- Mix only enough EASYBOND™ 60 for a 30 to 40 minute working time
- · Mix by hand or with a power mixer (max of 400rpm) until a smooth, workable paste has been achieved
- Once setting has commenced the material cannot be remixed and must be discarded

- · Do not overmix; overmixing can introduce air bubbles, which may create surface imperfections and
- · Once setting has commenced the material cannot be remixed and must be discarded



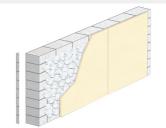
For those requiring a smooth wall over masonry and quick installation. Easy Bond or the "scoop" system is a cement render replacement system that is cost efficient and easy to chances of cracks.

System 2: Solid application



For those requiring a smooth, solid wall. Easy Solid System, applied with the Scoop tool, is a typical mortarand-sand-mix render eliminator that doubles the productivity rate. It is an excellent and innovative solution that densely places the proprietary install. It also minimizes the | EasyBond compounds in areas where the wall is subject to higher chances of impact and indentations.

System 3: Trowel application



For those requiring a smooth rocksolid wall. Typically specified in areas where solidity and durability is required, the Trowel application is a system that achieves Severe Duty class in terms of performance against large or soft body impact. The Trowel tool is tried and tested in our labs to ensure the applicators can feather out the proprietary bonding compounds with less effort and time. This patent-pending tool allows the applicator to apply the bonding compound in the right thickness to ensure that the wall leveling is straight and true.



INTERIOR FINISHES

Bonding Compound

BENEFITS

Smooth Walls

- Extraordinarily flat and smooth walls
- Joint treated with USG ME proprietary compounds for a seamless finish

Solution for Irregular Walls

- Quality, precise and accurate alignment
- Eliminate wavy walls which are enhanced by glancing light

Minimizes Cracking Reworks

- Reduce unsightly cracks that happens in most cement render finishes
- Remove the need to repair these cracks
- Deliver projects on time

Ease of Installation

- · Simple installation steps allowing more than double the productivity compared to cement render walls
- Easy and quick to install with our proprietary tools
- · Jobsites remain dry and clean

Severe Duty Performance

· Achieves severe duty performance for large body, soft body, small body and hard body impact for Easy Bond

Solid application

• Excellent load hanging capacity

Warranted Performance

- Backed by the high-quality standards and outstanding service of USG ME
- Limited warranty for USG ME Easy Bond Systems
- Green construction

LIMITATIONS

- USG Middle East Wet Area Board in tiled areas must be mechanically fastened to furring channels or timber battens and never fixed using the direct adhesive method
- For double brick walls, ensure the wall cavity is completely dry prior to installation of the gypsum board
- · On hot, windy days where the risk of early dry-out exists, surface dampening of the walls is strongly recommended
- The inclusion of other materials to a mix will impair the performance (e.g. reduced strength and poor adhesion) and void the product warranty
- Do not use EASYBOND™ 60 once setting has begun; discard the adhesive





