

mada  
gypsum  
مدى للجبس



# MADA GYPSUM RENDERS

MADE IN KSA

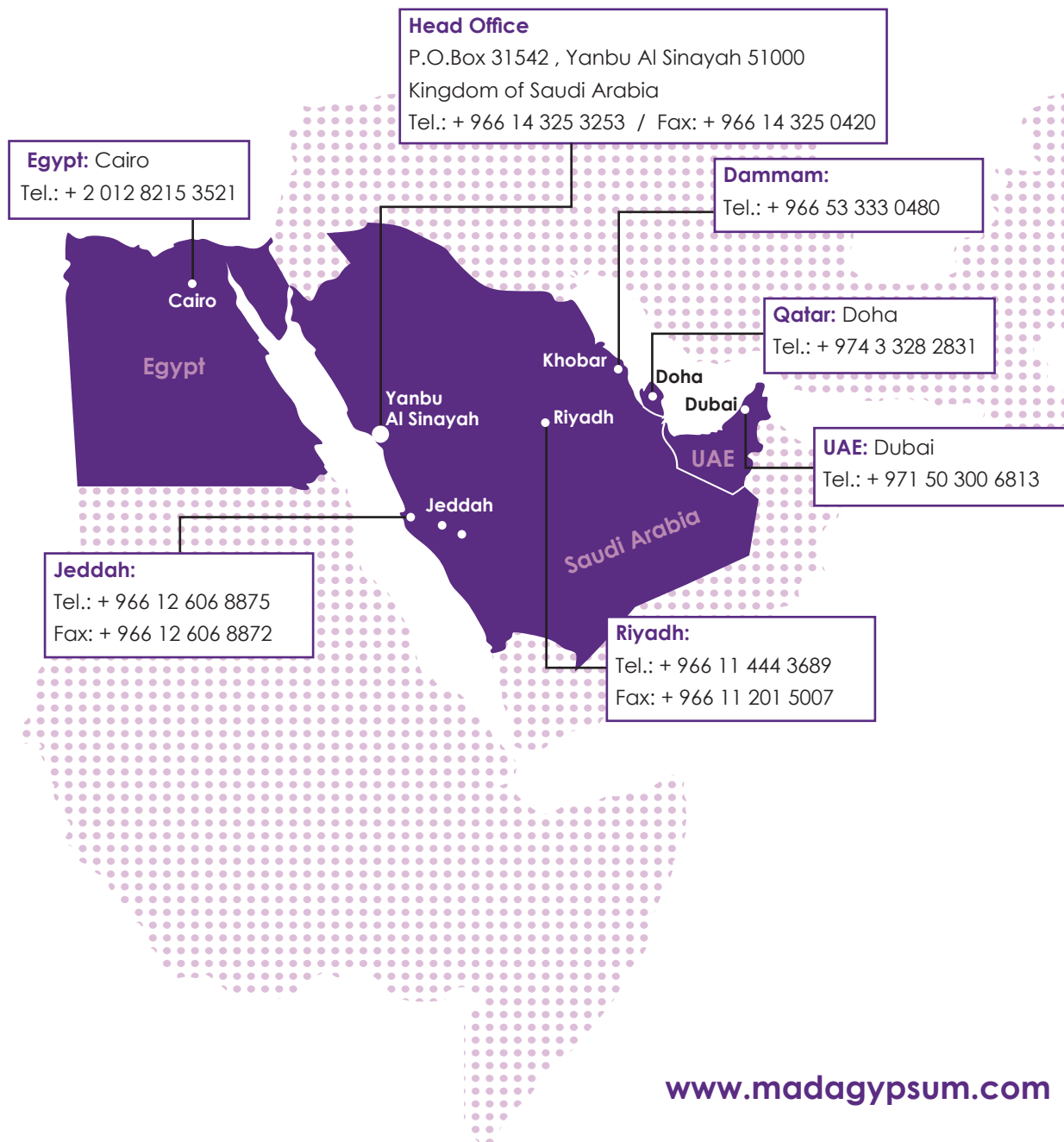
Part Of



الراجحي  
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ALRAJHI HOLDING

## OUR BRANCHES

**Sales & Marketing Office In Saudi Arabia & Middle East**



# Mada Gypsum COMPANY

The Company was established in 2005 in Yanbu and produces its products according to the international standards EN and ASTM. The production capacity is 400,000 t of plasters and 34 million m<sup>2</sup> of plasterboard, more than 7.5 million m<sup>2</sup> of Laminated gypsum Ceiling Tiles and more than 2 million m<sup>2</sup> of cement boards.

This makes MGC the biggest plasterboard producer in KSA. With its product mix and approach to the market, Dry Wall Academy for market education, first system solution for Dry Wall Systems, Mada Gypsum has become a market leader in the MENA region.



## Why Mada GYPSUM?

- ▶ ISO certified
- ▶ World Class manufacturing processes
- ▶ Latest state of the art process equipment from Gyptech and Grelbex
- ▶ Quality control system
- ▶ In-house laboratory
- ▶ Production according to ASTM and EN standards
- ▶ Third party laboratories certificates
- ▶ Best gypsum product mix in GCC
- ▶ Own gypsum rock quarry for best raw material quality control
- ▶ Sustainable raw materials and input materials quality control
- ▶ Technical literature to support consultants, architects and specifiers.
- ▶ On-site technical support
- ▶ Specification (drawings) of solution based on customers need

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# Mada Gypsum PRODUCTS

- ▶ Mada Plasterboards  
Regular, Fire Resistant, Moisture Resistant  
Fire & Moisture Resistant, Acoustic,  
Shaft board, Impact resistant
- ▶ Mada Plasters  
FRENCH Molding Plaster  
Standard Plaster  
French Adhesive
- ▶ Mada Renders  
Thin Coat Render  
Hand applied Render  
Machine Render
- ▶ Mada Jointing Compound  
Ready mixed multiuse Jointing Compound
- ▶ PVC facing Gypsum Ceiling Tiles
- ▶ Mada PROCEM

# Why **MADA** RENDERS?

- ▶ Gypsum Based
- ▶ Light Weight on structure
- ▶ Fast & Easy application
- ▶ Economical
- ▶ Easy maintenance and repair
- ▶ Aesthetic
- ▶ Creates a pleasant atmosphere
- ▶ Environmentally friendly
- ▶ Time efficient



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# Gypsum-Based Renders **BENEFITS**

- ▶ **Economical** – Gypsum-based renders are applied quickly and are noted for their simple processing, quick drying and improved logistics. Gypsum-based renders are a single-layer technology which decreases the work period. The low consumption of materials is due to the increased volume of the finished mixture after mixing with water with increased coverage when compared to traditional renders.
- ▶ **Multitude of uses** – Surface finishing systems utilizing gypsum-based renders can be used on normal solid construction bases, as well as on walls and ceilings. It is also the perfect base for various surface finishes (paint, wallpapering, tiles, etc.).
- ▶ **Convenient** – Gypsum-based renders offer a number of benefits to users in terms of surface finishes on the basis of their structural and physical characteristics.
- ▶ **Creates a pleasant atmosphere** – In living areas where the air humidity is constantly changing, especially when showering, bathing, or cooking, gypsum-based renders regulate room humidity. Thanks to their high porosity, renders absorb some of the humidity during periods within higher air humidity and then slowly release this humidity when the air gets drier.
- ▶ **Fire resistant** – Gypsum-based renders offer a level of fire protection as they are fire resistant. During hardening phase of application, the water bonds with the render, meaning that the water is bonded in the plaster in crystal form. In the event of a fire the water is slowly released ensuring the protection against fire for structures and parts thereof.



- ▶ **Time efficient** – Gypsum-based renders can save up to 50% of your time by eliminating the technical breaks, ensuring high work productivity.
- ▶ **Aesthetic** – Gypsum-based renders create surfaces that are immediately and perfectly smooth and ready for the final surface finish. Gypsum-based renders better handle slight stressing in the base and do not shrink meaning that no cracks form, which cannot be said about traditional renders.
- ▶ **User friendly** – Gypsum does not pose a health threat and is hypoallergenic; gypsum has just about the same pH as human skin (6-7). Proper application ensures that no sanding is necessary leading to a reduction in generated dust.
- ▶ **Ecological** – gypsum is a natural product. Low temperatures are used during the production of burned gypsum meaning that a small amount of energy is consumed

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# Thin Coat Render

Mada Thin Coat Render is the perfect solution to create thin surfaces perfectly suitable to apply the finishing on. The thin coat render is a single layer smooth-coat render of grey-white color intended for hand processing. Being cost efficient, easy to use, and is less time consuming than cement render, this makes the thin coat render the perfect solution for creating 3-6 mm thick layers.

## When to chose Thin Coat Render

Mada Thin Coat Render is the best option to use when the surface is flat or perforated such as concrete and porous concrete. In such cases, the wall does not need putty, and the Thin Coat Render is used to prepare the wall for the finishing items (paint, wallpapers, etc.). The render is also perfect for repair works, and can easily be used to fill in cracks, holes, and scratches in the walls.



## Technical specifications:

|                             |                                |
|-----------------------------|--------------------------------|
| Color                       | Grey - White                   |
| Mixing ratio with water     | Approx. 1.2 kg per 1L          |
| Working period              | Approx. 60 – 90 minutes        |
| PH level                    | 7                              |
| Tensile strength            | ≥ 1.0 mpa                      |
| Compression strength        | ≥ 2.5 mpa                      |
| Adhesive strength           | ≥ 0.5 mpa                      |
| Diffusion resistance factor | $\mu = 10$                     |
| Coverage                    | 0.9 kg / m <sup>2</sup> / 1 mm |
| Application temperature     | ≥ +5 °c                        |

Easy to use

High adhesion

Low consumption

Versatile

### Application

The recommended thickness of the render is 3 to 6 mm and it can be used for full plastering of concrete blocks. it does not require surface mesh reinforcing.

Thin coat render also saves time by fast processing, it is simply mixed with water, and after about three minutes a smooth mixture is prepared.



| Description                  | Thin Coat Render                                       |
|------------------------------|--------------------------------------------------------|
| Composition                  | Gypsum, additives to improve adhesion to base material |
| Usage                        | Interior walls, ceilings at temperatures above +5 jC   |
| Application                  | Manual – approx. 60 to 90 minutes                      |
| Base Surface Material        | Concrete, porous concrete, render                      |
| Recommended render thickness | Manual 3 – 6 mm                                        |
| Surface finish               | Paint, wallpaper                                       |
| Packaging                    | 40 kg bag                                              |
| Storage term                 | At least 12 months                                     |

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# Hand Applied Render

Mada Hand Applied Render is your go-to product for projects that require versatile thicknesses of renders within small areas. The Hand Applied Render is a mixture of hemihydrates calcium sulfate, calcium hydrate, perlite and various additives that improve its workability and surface adhesion. Being quick to prepare, efficient, and versatile, this makes the Hand Applied Render the perfect solution for creating 5-30 mm thick layers.

## When to chose Hand Applied Render

Mada Hand Applied Render is the best option to use when the surface requires thick, small layers of renders. The Hand Applied Render is primarily applied to brick walls, concrete, stable mortar and other concrete structures. Applications can also be found in interiors with regular humidity as well as in kitchens and in bathrooms as the render has the same advantages our gypsum plaster boards possess.



## Technical specifications:

|                             |                                |
|-----------------------------|--------------------------------|
| Color                       | Grey - White                   |
| Mixing ratio with water     | approx. 1.6 kg per 1 L         |
| Working period              | Approx. 60 – 90 minutes        |
| PH level                    | 7                              |
| Tensile strength            | ≥ 1.0 mpa                      |
| Compression strength        | ≥ 2.5 mpa                      |
| Adhesive strength           | ≥ 0.5 mpa                      |
| Diffusion resistance factor | $\mu = 10$                     |
| Coverage                    | 0.8 kg / m <sup>2</sup> / 1 mm |
| Application temperature     | ≥ +5 °c                        |

Quick preparation

High work efficiency

Cost efficient

Various Thicknesses

### Application

Working with Mada Hand Applied Render is surprisingly simple, and its universality is a true benefit. It is easy to prepare, and requires no special training; simply add water, wait three minutes, and mix until smooth.

The application process begins with applying a primer layer, followed by applying the mixture. The mix can be applied to a wide range of thicknesses, varying from 5mm up to 30 mm. contact bridge on smooth surfaces and absorption regulator on high absorptive materials



| Description                  | Hand Applied Render                                    |
|------------------------------|--------------------------------------------------------|
| Composition                  | Gypsum, additives to improve adhesion to base material |
| Usage                        | Interior walls, ceilings at temperatures above +5 jC   |
| Application                  | Manual – approx. 60 to 90 minutes                      |
| Base Surface Material        | Brickwork, Concrete, porous concrete, render           |
| Recommended render thickness | Manual 5 – 30 mm                                       |
| Surface finish               | Paint, wallpaper                                       |
| Packaging                    | 25 kg bag                                              |
| Storage term                 | At least 12 months                                     |

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# Machine Render

Mada Machine Render is our solution for covering big areas using regular plastering machines. By slightly changing the chemical formula of our other render, the Machine render is designed to have higher thicknesses and handle more weight. The Machine Render has a higher application period, and with the other advantages mentioned, this makes the Machine Render perfect for creating layers starting from 6mm over a large area.

## When to chose Machine Render

Mada Machine Render is used when the designated area is big, and the thickness required exceeds 30mm. The Machine Render can be used when the surface is made of brickwork, concrete and porous concrete. Much like the Hand Applied Render, Machine Render shares the same core usage requirements, with the addition of being used by machines for a quicker coverage of the designated area.



## Technical specifications:

|                             |                              |
|-----------------------------|------------------------------|
| Color                       | Grey - White                 |
| Mixing ratio with water     | Approx. 1.5–2.0 kg per 1 L   |
| Working period              | Approx. 120 to 150 minutes   |
| PH level                    | 7                            |
| Tensile strength            | ≥ 1.0 mpa                    |
| Compression strength        | ≥ 2.5 mpa                    |
| Adhesive strength           | ≥ 0.5 mpa                    |
| Diffusion resistance factor | $\mu = 10$                   |
| Coverage                    | 1 kg / m <sup>2</sup> / 1 mm |
| Application temperature     | ≥ +5 °c                      |

Easy to use

High adhesion

Low consumption

Versatile

### Application

Mada machine Render is a universal render, thus it may be used with all ordinary plastering machines, provided that the instructions and guidelines specified by the machines' manufacturer are followed.

Changes in water-mixture ratio affect properties of the mixture; they have impact mainly on the time of setting and strength of the render.



| Description                  | Machine Applied Render                                                                     |
|------------------------------|--------------------------------------------------------------------------------------------|
| Composition                  | Gypsum, calcium hydrate, sand, perlite and additives to improve adhesion to base materials |
| Usage                        | Interior walls, ceilings at temperatures above +5 jC                                       |
| Application                  | Machine – approx. 120 to 150 minutes                                                       |
| Base Surface Material        | Brickwork, porous concrete, render                                                         |
| Recommended render thickness | Manual starting at 6mm                                                                     |
| Surface finish               | Paint, wallpaper, tiles                                                                    |
| Packaging                    | 40 kg bag                                                                                  |
| Storage term                 | At least 12 months                                                                         |

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# Principles of Base Surface Material Preparation

## General

In general the base surface material must be solid, dry, free of dust and corrosion and clean so as to ensure long-term render adhesion. For this reason, walls that are to be treated with render must be protected against moisture. Visible steel components in the base surface material must be insulated as a failure to do so could cause discoloration of the render layer.

Strongly absorbent base surface materials including porous concrete (aerated autoclaved concrete) must be treated with an absorbency regulator in order to avoid the rapid dissipation of water from the render.

## Loose base materials and load bearing plaster bases

Solid foam panels with smooth surfaces must be treated with a coating to improve adhesion of the gypsum-based material, and a fiberglass

reinforcing mesh must be applied with the render. Wood and steel are not suitable base surface materials for the render and must also be treated with the reinforcing fiberglass mesh. The reinforcing mesh must overlap a suitable render base by at least 20 cm on all sides and must be as securely fastened to the base as possible.

The connection between the load bearing render and the base render coat must be applied so as to avoid the excessive transmission of force onto the base render coat. Reinforcing fibers and similar products are suitable for use as a load bearing render layer when they can be interlocked.

## Concrete

In order to successfully apply the render to the ceiling of a structure, the creation of a condensate, thermal insulation and vapor barriers must be secured, as well as ensuring the protection against the separation of gaps and connecting layers

In all cases, it is necessary to consider a suitable joining layer for prefabricated ceilings and wall elements, walls made from light concrete, and flat ceilings. The concrete must be completely dry when starting the application of any render. The moisture content must be less than 2 to 3% by weight.

This can be achieved under favourable conditions in around four weeks and will take up to eight weeks under unfavorable conditions (high air humidity).



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# Base surface material

## Base surface evaluation and preparation

Make a visual inspection of the base surface material before starting the work to ensure that there are no wet spots, or other contamination (separation oil) remaining on the ceiling or wall. Next, a further inspection involving running a hand over the wall must be performed in order to make sure there is no dust on the surface and that the surface of the material is not loose. Base surface materials that are not suitable must be corrected before any render is applied – i.e. remove loose materials, reinforce the material and remove all grease and oil. A damp brush can be used to remove dust from the surface of the material. Any loose materials, contamination or other debris (cement milk, residual mortar, etc.) should be removed using a trowel or scraper.

The next step is to determine the absorbency of the base surface material. Absorbency is verified by making a small area of the surface damp. If the water drips in drops then the material is still damp. If the base quickly absorbs the water, the material is dry and absorbent.

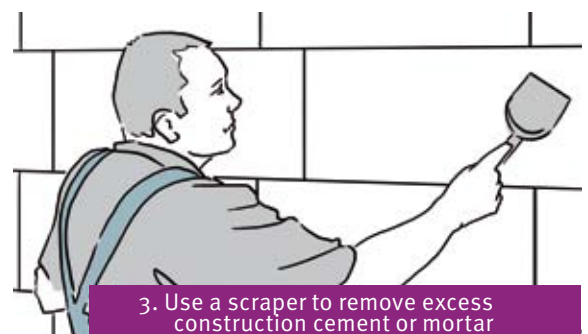
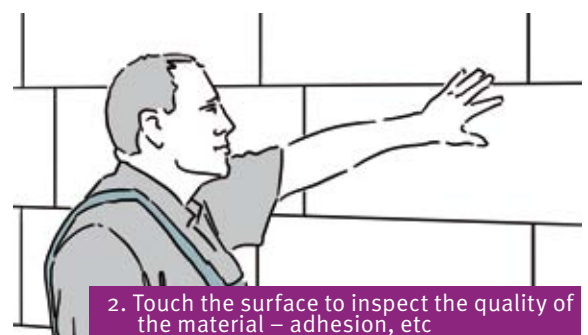
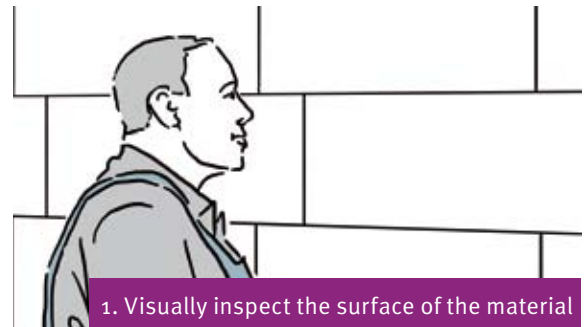
Materials that are extremely absorbent (porous concrete and plasterboard) must be treated with an absorbency regulator. The absorbency regulator may need to be thinned depending on the absorbency of the base surface material and should be thinned following the instructions on the packaging. It is most frequently applied using a paint roller or a spray gun.

Non-absorbent smooth materials with glossy surfaces (e.g. solid concrete structures, polystyrene work pieces and blocks) must be treated with a contact bridge in order to increase the adhesion of the render to the base surface material.

The contact layer must be well mixed before application and remain so during actual application. This limits the settling of larger components in the dispersion. The contact layer is only applied using a roller and is never thinned with water! The time needed for the contact and penetration layers to dry before the application of Mada products is at least 12 hours.

## Preparing the mixture

Slowly add the mixture to a clean container holding clean water. Once the powder mix is completely dissolved in the water, allow it to sit for 3 to 5 minutes. Then completely mix the material using a hand or electric mixer. This allows the material to reach optimum thickness for application, e.g. it will not run or ball up. If necessary, the mixture can be thinned with water but never add more powder mixture. Adding extra dry mixture to the water could cause the material to ball up.



# APPLICATION

Mada gypsum-based renders are applied by hand using a stainless steel trowel. It is best applied as a single layer to the necessary thickness based on the levelness of the base material. In some cases two layers can be applied, e.g. on granular renders, with increased thicknesses or when the gaps in brickwork are not fully filled in.

The second layer is always applied once the first layer has hardened but is still damp, “wet on wet”. This ensures a quality bond between both layers. The individual application steps are the same for walls and for ceilings.

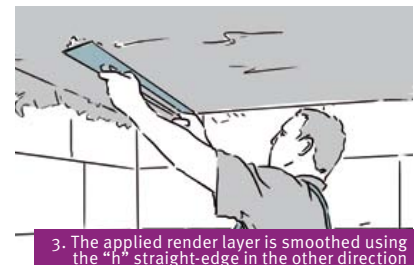
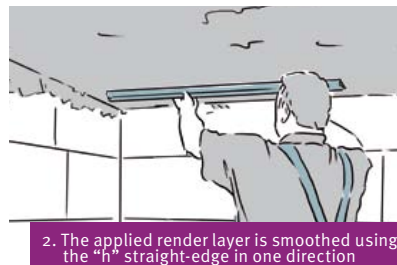
The application procedure for walls is to start from the bottom and work in an upwards direction. Always apply the product in the same direction – from “wet to dry” and proceed ensuring that the entire surface is covered or as much of the surface that can be covered in the working period for the

product (at least 60 minutes). When applying a layer that is 5 mm or thicker, it is best to use an aluminum “h” straight-edge to smooth the surface.

When applying greater thicknesses, the surface is leveled by pulling the trowel in a crisscross manner, from the bottom to the top and then from side to side.

If a leveled surface shows any imperfections, the render on the surface is “twisted” into the damp solid layer. If the imperfections persist, the created “plaster milk” is smoothed on the surface using a stainless steel trowel or the edge of a finishing trowel. This ensures optimum smoothness of the layer.

Corners are to be completed using a special stainless steel corner trowel for internal corners.



# FINISHING WINDOW CASINGS

The protective corner molding is installed into the gypsum layer and is leveled using a spirit level against the frame of the window. A PU molding is installed on the window/door frame in order to take the load off the casings and separate the frame from the gypsum. This eliminates cracks from forming where the frame contacts the render.

Mada gypsum-based render can be applied after around 1 hour.

After the applied render has settled the surface is rubbed using a damp foam sponge. Complete the final smoothing of the surface using a trowel or the edge of a trowel once the surfaces are smooth.

No other adjustment to such casings is required thanks to the smoothness of Mada Renders.



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# APPLICATION ON BRICKWORK

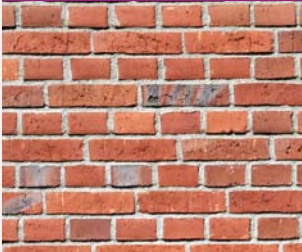
1. An absorbency regulator should be applied to brickwork before gypsum-based manual and machine renders are applied.
2. Use a wide stainless steel trowel for application. Smooth the render mixture as it is applied on the brickwork structure.
3. Level the applied render layer using an aluminum "h" straight-edge; smooth in all directions.
4. Moisten the surface with water once the render surface has set. We recommend using a water sprayer in order to ensure equal application.
5. Smooth the surface in a circular manner using a foam sponge float so that the "plaster milk" remains on the surface.
6. Use a wide stainless steel trowel to complete the final surface treatment in order to smooth out the "plaster milk".



# Material Consumption

When preparing a project, it's necessary to ensure the exact calculations of materials needed for the work. The less left over material you have after finishing, the more you'll be able to keep your costs down.

Consumption is informative and depending by the disparity and type of substrate.

| All the calculations are done on approximate base. | Base surface material                                                             |                                                                                    |                                                                                     |
|----------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                    | Brickwork                                                                         | Porous Concrete                                                                    | Concrete                                                                            |
|                                                    |  |  |  |
|                                                    | Consumption (kg/m <sup>2</sup> )                                                  | Consumption (kg/m <sup>2</sup> )                                                   | Consumption (kg/m <sup>2</sup> )                                                    |

## Thin Coat Render



Suggested thickness **3-6 mm**

0.9 kg at 1 mm thick

0.9 kg at 1 mm thick

## Hand Applied Gypsum Render



Suggested thickness **5-30 mm**

0.8 kg at 1 mm thick

0.8 kg at 1 mm thick

0.8 kg at 1 mm thick

## Machine Render



Suggested thickness **6-15 mm**

1 kg at 1 mm thick

1 kg at 1 mm thick

1 kg at 1 mm thick

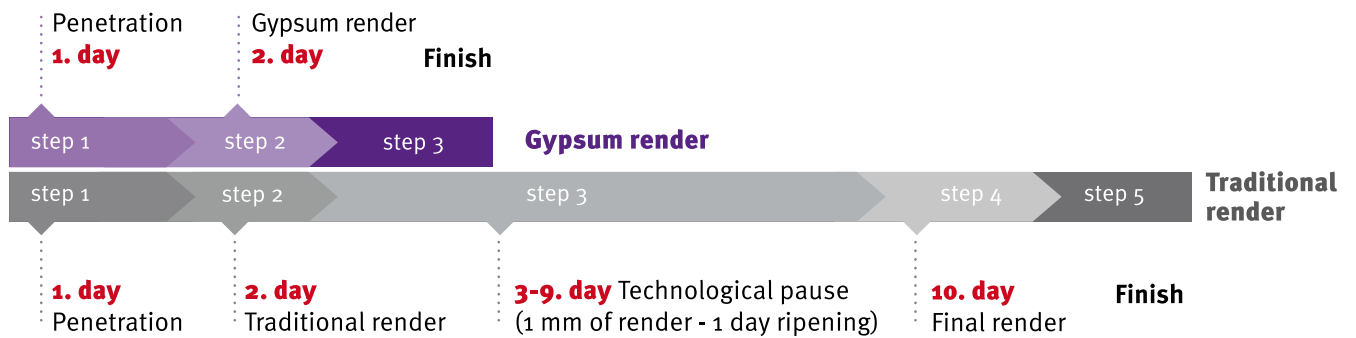
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# Application Areas And Technical Parameters

|                              |                                                                                   |                                                                                    |                                                                                           |
|------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
|                              |  |  |        |
|                              | Thin Coat Render                                                                  | Hand Applied Gypsum Render                                                         | Machine Render                                                                            |
| Type of render               | Grey-white gypsum-based render                                                    | Grey-white gypsum-based render                                                     | Grey-white gypsum-based render                                                            |
| Description                  | Thin coat render with a smooth surface                                            | Render with a smooth surface                                                       | Render with a glossy surface                                                              |
| Composition                  | Gypsum, additives to improve adhesion to base material                            | Gypsum, additives to improve adhesion to base material                             | Gypsum, calcium hydrate, sand, perlite and additives to improve adhesion to base material |
| Usage                        | Interior walls, ceilings at temperatures above +5 jC                              | Interior walls, ceilings at temperatures above +5 jC                               | Interior walls, ceilings at temperatures above +5 jC                                      |
| Application                  | Manual – approx. 60 to 90 minutes                                                 | Manual – approx. 60 to 90 minutes                                                  | Machine – approx. 120 to 150 minutes                                                      |
| Base surface material        | Concrete, porous concrete, render                                                 | Brickwork, Concrete, porous concrete, render                                       | Brickwork, porous concrete, render                                                        |
| Recommended render thickness | Manual 3 – 6 mm                                                                   | Manual 5 – 30 mm                                                                   | Machine starting at 6 mm                                                                  |
| Surface finish               | Paint, wallpaper                                                                  | Paint, wallpaper                                                                   | Paint, wallpaper, tiles                                                                   |
| Packaging                    | 40 kg bag                                                                         | 25 kg bag                                                                          | 40 kg bag                                                                                 |
| Storage term                 | At least 12 months                                                                | At least 12 months                                                                 | At least 12 months                                                                        |

# Work Procedure Comparison



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