

INSTALLATION MANUAL

ShaftPlus

TABLE OF CONTENTS

Risk assessment	03
Storage	04
Execution of work partition	05
Jointing and finishing works	06

RISK ASSESSMENT RECOMMENDATIONS*

Hazard	Safety Controls
General health & safety	1. Installer should be informed of specific health and safety requirements in contest via joining Instructions.
Hand tools	1. All workers should be properly trained regarding tools and provided with hand tools that meet relevant safety requirements. 2. Tools should be inspected by supervisors at regular intervals & damaged/defective tools to be taken out of use immediately. 3. The installer is instructed by joining instructions and provided with all necessary PPE.
Power tools	1. Site Supervisor to provide training & demonstration on power tools operation & safety. 2. Cables should be routed away from aisles and walkways where they could create trip hazards to other persons. 3. Periodically check tools for damage/defects and where necessary take out of action and label "Do not use".
Manual handling	1. All materials to be stored in approved and agreed locations within a working area. 2. Forklift truck/pallet truck to be provided for transport of large pallets and waste skips. 3. PPE to be worn when mixing plaster, this includes goggles, dust mask, overalls, safety shoes.
Working at height	1. Demonstration by a certified individual in the safe use of: erection, securing, stabilizing steps, hop ups, trestles. 2. Provision of safe means of access to steps, hop ups, trestles. 3. Use of warning signs at all access points to the work area where work is being carried out above ground level.
Materials	1. All materials are stored in an approved location within a working area 2. MSDS to be glued in the store. 3. Site Supervisor to instruct / explain the safe handling of materials. 4. The worker informed of personal hygiene requirements, wash hands after use/contact and before eating, drinking, and smoking.
General house keeping	1. Worker given verbal instructions to maintain clean/tidy up individual workplaces during and after competition work times. 2. Tools/equipment to be stored in lockable toolbox. 3. Wet/damp sweeping techniques to be used for general cleaning of competition area to control dust levels.

* It is the sole responsibility of the contractor to conduct an appropriate risk assessment for the site.

STORAGE

RECOMMENDATIONS*

Gypsum products shall be stored in a warehouse or other suitable structure where they will not be exposed to inclement weather, excessive humidity or to temperatures that frequently exceed 52°C. Stacks of gypsum panel products shall be stored supported evenly on a firm, dry, level, and structurally sound floor, away from traffic areas or aisle intersections without corner protection. Gypsum panel products shall always be stored flat. Stacks of gypsum panel products shall be limited to a maximum height of 5 m.

Exposure of gypsum products to rain and other high moisture levels may result in water stains, discoloration, mold, paper delaminating, and sag. This sensitivity of most gypsum panel products to adverse moisture conditions requires that gypsum panel products NOT be stored outdoors without complete protection from the weather.

The plastic covering provided for product protection during shipment or flatbed trucks is not suitable for storage of the gypsum panels and shall be removed upon arrival at the destination prior to warehouse storage. Failure to remove this plastic covering can result in damage to the gypsum panels due to moisture, condensation, wet product, and/or mold. It is not recommended to store gypsum products outside.

Metal products are available in both pack and sub-pack quantities and should be handled in accordance with the recommendations contained in Local Health and Safety at Work Principles and Practices.

Store metal products away from airborne contaminants such as acid or salt spray in an environmentally friendly area.

Stocking gypsum board on Job Sites

- Panel products placed on a job site shall be separated by Type.
- (Place the type of panel products near areas where it will be installed, e.g., Mada Regular Plasterboard, Mada Moisture Resistant Plasterboard, Mada Fire Resistant Plasterboard, etc. This system of placement reduces the chance that the wrong type of panel product will be installed, and applicators/hangers will have easy access to the stocked gypsum panel products.)
- Size (Do not place longer-length panel products on top of shorter lengths.)
- Gypsum panel products shall be stocked out of the way of construction traffic.
- Special care shall be taken to ensure that the gypsum panel products do not damage the exposed studs, windows, door frames, etc.
- Gypsum panel products shall be stocked so as not to hinder the work of construction tradesmen, such as electricians and plumbers.
- Gypsum panel products stocked on a job site shall never
- have any other materials stored or stacked on top of them.
- Gypsum panel products shall be stocked so their weight is evenly distributed, and the floor is not overloaded.
- Gypsum panel products shall not be stacked high enough to pose a danger from toppling.
- Gypsum panel products stocked in unenclosed buildings shall be placed far enough inside so that they are not exposed to inclement weather, such as blowing rain or snow.
- Special care is necessary when stocking upper floors of
- open buildings during periods of high winds.

Metal storage

- Products are supplied in pack and sub-pack quantities and should be handled in accordance with the recommendations of Health and Safety at Work Principles and Practice.
- Where mechanical lifting or moving equipment is required, trained and licensed operators are to be used.
- Metal products should be stored in an environmentally-friendly area away from airborne contaminants such as acid and salt sprays.

* It is the sole responsibility of the contractor to properly store all building materials in line with supplier recommendations on site.

EXECUTION OF WORK

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Initial Framing

- Align the Bottom Mada J-Track and Mada J-Deflection Head Track along the partition's setting out line at the floor and ceiling and secure them with appropriate Mada fasteners and designated centers as defined in the Mada project proposal.
- Ensure that the span for the Mada CH-Studs does not exceed maximum span defined in the Mada project proposal.
- Cut the Mada CH-Studs and E-Studs to length, allowing for spacing under the Mada J-DHT Track at the soffit to match the appropriate Mada Deflection Head detail.
- Install the Mada E-Stud on the initial adjacent wall or partition, ensuring the web is flush against the adjoining structure. Secure it with Mada-approved fasteners at the recommended vertical fixation centers. Insert the intermediate CH-Studs at the designated centers as outlined in the Proposal. Do not fix the intermediate Mada CH-Studs to the Bottom and Top Mada J-Tracks to allow for adjustments during board installation. Follow Mada system drawings for the installation of Mada ShaftPlus metal frames at corners and junctions.

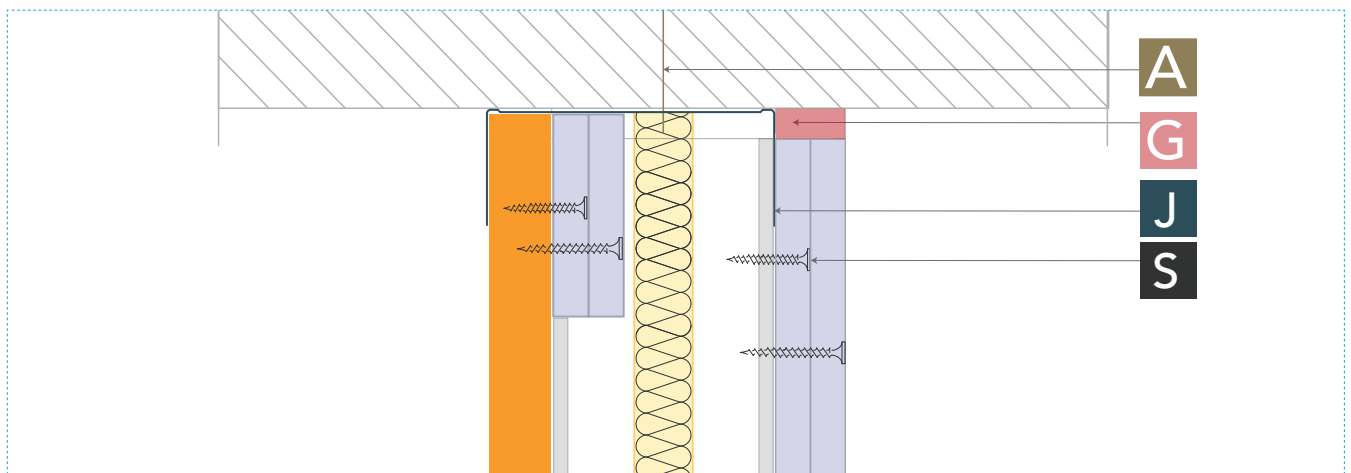
Riser Lining

- Trim the Mada Shaft Board to be slightly shorter than the wall height, accounting for the required deflection allowance. Position the first Shaft Board between the channels at the head and base, then slide it horizontally into the respective opening of the E-Stud until it reaches its full depth. Press the first Mada CH-Stud firmly onto the opposite edge of the first installed board. Continue this process with the remaining boards and CH-Studs, ensuring that the C-shaped flanges of the studs face the same direction. For the final board, slide it into the remaining peripheral E-Stud and final intermediate CH-Stud before twisting the CH-Stud into position. Secure the E-Stud to the abutting structure and fix the CH-Studs to the Bottom J-Track.
- that gypsum board widths of less than 300 mm are avoided during framing.

Head Detail

- Position two 200mm wide strips of Mada PLUS Fire Resistant plasterboard, 16mm thick, on the cavity side of the Shaft board at the level of the external flange of the top Mada J-DHT Track. These strips should close the gap between the top of the Shaft board and the web of the Mada J-DHT Track. Secure the strips to the Mada Shaft board using M3.5 x 32/38mm Laminating screws, spaced at 200mm horizontal centers along the center line of the strips.
- Install a single Mada Fixing Channel below the Mada J-DHT Track (at a depth required by the deflection allowance) along the length of the non-riser side. Secure it to the flanges of the Mada CH-Studs using Mada Wafer Head Screws. For fire-rated systems, ensure that Mada Metal backing is installed behind board joints as specified in the proposal.

- A** Mada Anchor
- G** Mada Fire Guard Acrylic Sealant
- J** Mada J - DHT
- S** Mada Drywall Screw



EXECUTION OF WORK

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Boarding

- Cut the board for the room side to the correct height (considering spacing required as per the appropriate Mada Deflection Head Detail required to satisfy the project soffit deflection allowance) and fasten with the specified screws [given in the proposal], taking care to leave the space specified in the proposal at the top and at least 8mm from the floor on all sides.
- Space screws at a maximum of 200mm centers along board edges or ends for the external layer (400mm centers for the internal layer). On intermediate studs, space screws at a maximum of 300mm for the external layer (600mm centers for the internal layer) within the field of the board.
- Choose the proper screw length so that it penetrates the metal a minimum of 10mm. When securing the boards, pay attention to the screwhead depth. The screw's head ought to be just barely visible within the board. It should never break the paper liner or fracture the gypsum core of the board, and it shouldn't protrude over the surface of the board either.

Insulation [If Required as Specified in Proposal]

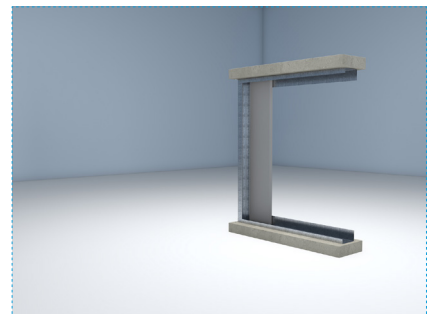
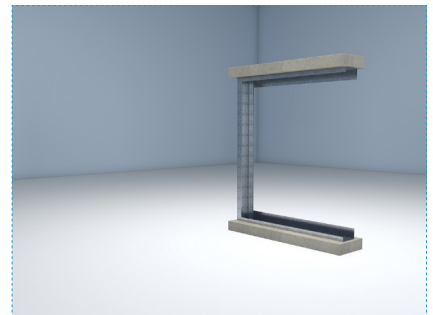
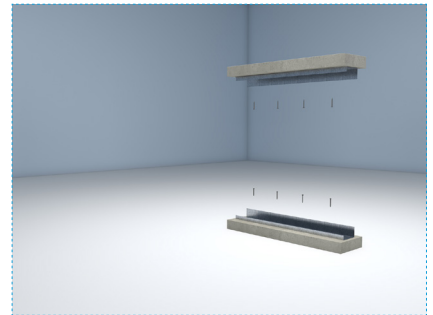
Where cavity insulation is required, use the specified quilt and secure insulation with appropriate insulation fixtures. This will prevent later sagging and loss of performance. The fixtures can be L-angles fixed horizontally at mid height of the slab or insulation pins with washers.

Perimeter Sealant

Apply a minimum of 8 mm square bead of Sealant around the perimeter of the wall. Also around penetration cut-outs Sealant to be applied as per the typical detail drawings. The top gap will be having Rectangular bead as specified in the Proposal with suitable backing rod.

MEP services

The installation of MEP services should be carried out according to the Mada Standard typical detail drawings. Upon review from the concerned MEP coordinator.



JOINTING & FINISHING WORKS

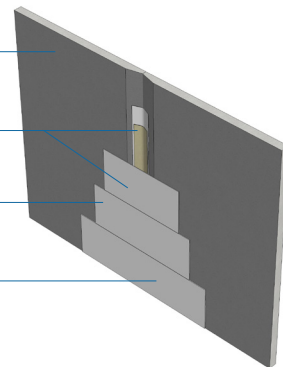
Tapered Edge Board Jointing

Mada Plasterboard

Bedding coat (150mm) using Mada tape bedded in to Mada All-Purpose Jointing Compound

Second coat (200mm) of Mada All-Purpose Jointing Compound feathered out 50mm to 60mm beyond bedding coat

Third coat (300mm) of Mada All-Purpose Jointing Compound feathered out 50mm to 60mm beyond bedding coat



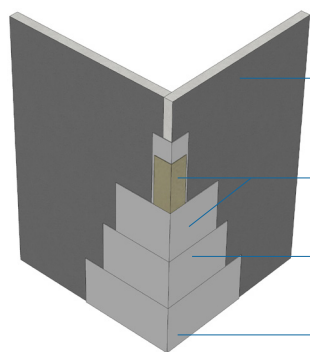
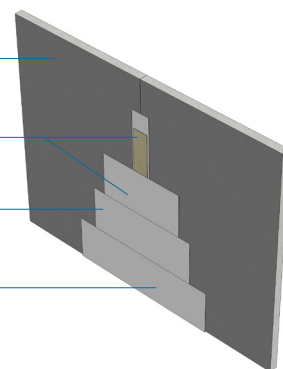
Square Edge Board Jointing

Mada Plasterboard

Bedding coat (300mm) using Mada tape bedded in to Mada All-Purpose Jointing Compound

Second coat (400mm) of Mada All-Purpose Jointing Compound feathered out 50mm to 60mm beyond bedding coat

Third coat (500mm) of Mada All-Purpose Jointing Compound feathered out 50mm to 60mm beyond second coat



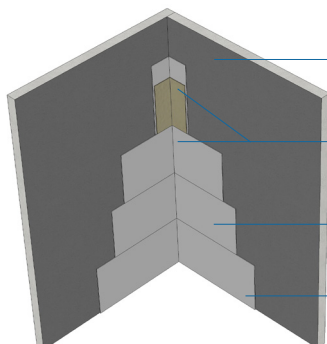
External Corner Joints

Mada Plasterboard

Bedding coat (150mm each side) using Mada Metal corner tape bedded in to Mada All-Purpose Jointing Compound

Second coat (200mm each side) of Mada All-Purpose Jointing Compound feathered out 50mm to 60mm beyond bedding coat

Third coat (300mm each side) of Mada All-Purpose Jointing Compound feathered out 50mm to 60mm beyond second coat



Internal Corner Joints

Mada Plasterboard

Bedding coat (100mm each side) using Mada tape bedded in to Mada All-Purpose Jointing Compound

Second coat (125mm each side) of Mada All-Purpose Jointing Compound feathered out 50mm to 60mm beyond bedding coat

Third coat (150mm each side) of Mada All-Purpose Jointing Compound feathered out 50mm to 60mm beyond second coat



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