

THE **SITE BOOK**

Revised 2011 Edition

Plaster skimming

Machine applied

Introduction

Machine applied skimming to plasterboard is a new method of providing a uniform, smooth, seamless surface in four easy steps (mix, spray, flatten, and trowel) ready to receive decorative treatment.

Skim plastering by machine gives the traditional Thistle plaster finish to walls and ceilings combined with a quick turnaround on site. The machine pumps plaster up to 10m vertically (e.g. up stairs or when using a cherry picker) or up to 30m horizontally.

Two British Gypsum finishing plasters are suitable for machine application using "worm-pump" type machines.

Thistle Spray Finish is suitable for machine application to plasterboard backgrounds and other suitable* backgrounds treated with ThistleBond-it. Thistle Durafinish, for areas needing a higher resistance to accidental damage, may also be machine applied.

The details overleaf apply to Thistle Spray Finish - the process is essentially the same when using Thistle Durafinish with the exception that it does not need ThistleBond-it to achieve adhesion to difficult backgrounds.



* ThistleBond-it is a bonding agent suitable for use on smooth low suction backgrounds.

www.british-gypsum.com

Technical support: T 0844 800 1991 F 0844 561 8816 E bgtechnical.enquiries@bpb.com



Key facts

Quality of finish	Uniform seamless coverage.
One visit to the wall	Each area sprayed will be finished within a few hours.
Manual handling / safety	The machine mixes and conveys the product to the wall and ceiling, eliminating much of the manual effort of hand plastering.
Consistent reliable mixing	Closely controlled mechanical mixing to minimise variability in the finished work.
Greater productivity	Saves time and cost.
110 minutes (approx.)	From spray to final trowel.
48 hours (approx.)	Before paint / decoration can be applied.





Suitable boards

Thistle Spray Finish is designed for the finishing of low-suction backgrounds such as plasterboard, Glasroc **F MULTIBOARD**, Glasroc **F FIRECASE**, Rigidur **H** and smooth surfaces treated with ThistleBond-it such as cast concrete or previously plastered surfaces.

Skim plastering should not normally be specified to Gyproc Moisture Resistant, **MR** grade and Glasroc **H TILEBACKER** boards. These types of boards are intended for use in environments of higher than normal humidity for which no gypsum plaster is designed to be suitable. If the boards have been used only for temporary moisture resistance, plaster can be applied to the face of the boards after pre-treatment with ThistleBond-it.

Pre-treating moisture resistant, **MR** grade and Glasroc **H TILEBACKER** boards with ThistleBond-it is not required when they are skimmed with Thistle Durafinish.

Components

Plaster accessories	Dimensions	Take-off quantities
 Thistle ProTape FT50 Self-adhesive glass fibre mesh tape for reinforcing plasterboard joints	50mm x 90m	150m per 100m ²
 Thistle ProTape FT100 Extra wide self-adhesive glass fibre mesh tape for reinforcing plasterboard joints	100mm x 90m	150m per 100m ²
 Gyproc Joint Tape Paper tape for reinforcing plasterboard joints and internal angles Roll length	150m	150m per 100m ²
 ThistleBond-it For pre-treatment of MR grade board Tub Contents	10 Litre	45m ² per tub

Quantities are for 100m² of straight wall lining. Quantities are approximate and for guidance only. No allowance has been made for waste, openings, abutments etc.

British Gypsum fixings



Thistle Thin Coat Angle Bead

A galvanised steel bead with perforated wings for reinforcing external angles
Lengths 2400, 3000mm



Thistle Thin Coat Mini Mesh Bead

A galvanised steel bead with mesh wings which provides an excellent key for thin-coat plaster corners.
Lengths 2400, 3000mm



Thistle Thin Coat Stop Bead

A galvanised steel bead for finishing and reinforcing edges of thin-coat plaster
Lengths 2400, 3000mm

Plaster



Thistle Spray Finish

Nominal bag weight (kg)

25kg

Take-off quantities

1 bag per 11m²



Thistle Durafinish

25kg

To provide improved resistance to accidental damage.

1 bag per 10m²

Coverage per bag

The coverage of a 25kg bag is based on a 2mm thickness. This allows for some excess use e.g. in tapered edge joints but not for waste. A small amount of waste is inevitable at the beginning and end of the day during machine setup and cleaning. Use the waste material for intricate areas of the job such as window reveals.

Table 1 - Application

Thickness	2mm
Coverage	Thistle Spray Finish: 11m ² per 25kg bag Thistle Durafinish: 10m ² per 25kg bag
Number of coats	1 or 2

On site preparations

The work area should be clear of obstructions.

Power requirements

The machine will need two separate 110V power inputs, one small 16A for the air compressor and one large 32A for the main machine. The minimum power rating needed is a continuous 5.5kVA. Both size sockets with adequate rating are usually available from the site's transformers. The distance of the working area from the supply needs to be considered and it may help to use separate supplies for the two inputs.

Water requirements

One 25kg bag will normally use around 12 litres of water (roughly 1 litre per m²). Start-up and cleaning procedures use another 20 – 40 litres approximately. The water must be clean but does not need to be delivered under pressure. Water gravity fed from a barrel is sufficient.

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- Apply ThistleBond-it to the background if required (e.g. MR grade plasterboard).
- Joints must be reinforced with Thistle ProTape FT50 or FT100. For improved crack resistance use Gyproc Joint Tape.
- A range of corner and stop beads are available for corner reinforcement.
- Mask areas and adjacent surfaces from overspray.
- Ensure the boards are dust free prior to spraying.

Machine preparation

It is important to use a worm-pump type spray machine which mixes the product, uses a screw-like pump to move it along a hose to the nozzle and then sprays it using compressed air. Machine manufacturers provide training and servicing for their customers.

Please refer to the manufacturers' instructions for the assembly, setting up, use and cleaning of the machine. The guidance supplied in this **Site Book** applies to the m-tec M100SC machine – other machines will be similar in principle but different in detail.

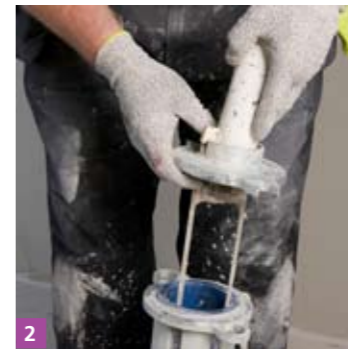


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Machine assembly



- 1
- Check the compressor is in position.
 - Place the hopper in the correct position.
 - Connect the plug from the agitator into the control panel.



- 2
- Make sure that the rotor / stator slots into the groove.
 - Place the mixing bars into the mixing chamber.
 - Assemble the after-mixer.
 - Insert and secure the mixing shaft into the mixing chamber.
 - Fit the mixing chamber onto the bottom opening of the hopper.



- 3
- Insert the motor at the top of the hopper. Turn the motor as necessary so that the grooves line up with the connection latches.

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Machine connections and settings for spraying



Machine Connections

- Connect the electrical plug, to the machine and compressor.
- Connect the pressure gauge into the connecting socket and clamp shut.
- Connect the water barrel to the machine.
- Connect the mains water supply to the water barrel and check that the two valves are shut.
- Check that the green tap is turned off.
- Fill the barrel completely with water.
- Check that the air jet holes are clear and then place the chosen nozzle end into the nozzle tip and screw into place. A 6mm nozzle is recommended.
- Connect the air and plaster hoses to the lance.
- Connect the other end of the air hose to the compressor.

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- Do not connect the other end of the plaster hose to the machine. This should be connected after the consistency check which is described later.
- Set the gear as required. The slow gear is recommended.
- Unlock the electrical panel and select the chosen speed. Speeds 3 or 4 are recommended.
- Connect the power cables to a suitable 110V supply or generator.
- Turn the electrical isolator on.
- Select OK on the wash / OK switch.

Water pressure

- Make sure there is adequate water pressure. Bleed the system via the green tap and adjust the water flow rate by using the gear and speed selected previously. See Table 2 to obtain an initial indication of the water flow rate required.
- Connect the water pipe to the mixing chamber. Fill the chamber to the level plug and replace the plug.

After assembling the machine, set the initial water flow as per the following table:

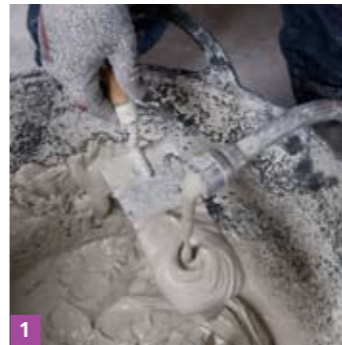
Table 2 Gear	Speed	Water flow rate (litres / hour)
Slow	1	N/A
	2	115
	3	160
	4	220
	5	280
Fast	1 – 5	N/A

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Adding the plaster to the hopper

- Just prior to starting the machine, add the product to the hopper slowly. Avoid splashing water into the upper part of the mixing chamber.
- Place the bag of plaster on the top of the hopper (Wearing of a mask is optional).



Consistency check

- Mix the plaster powder and water to a consistency that is a little thinner than for hand application.
- It will thicken up then stabilise as it mixes. Small adjustments are made using the water flow meter at this stage.
- When satisfied with the consistency, stop the machine. Connect the plaster hose back onto the machine and switch on.



- Wait for the correct consistency of plaster to come out of the nozzle.
- Ensure that the pressure gauge reads approx. 10 bar, no lower than 8 bar.
- The absolute maximum pressure gauge level is 20 bar – if pressure reaches 15 bar the water flow rate should be increased slightly.



Application

- Joints should be re-inforced with either Thistle ProTape or Gyproc Joint Tape.
- Spray the tapered edge joints of plasterboard twice to suitably fill them out.
- Trowel the joints flat.



2

Spray:

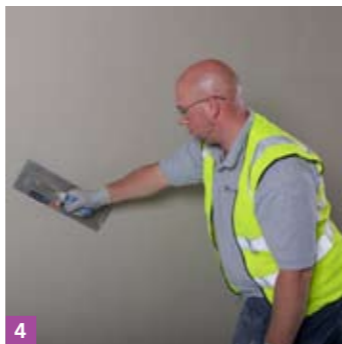
- Spray the plaster onto the wall / ceiling using the lance and selected nozzle. The ceiling is normally applied first.
- Spray to an even thickness of 2mm. The first 1mm layer is sprayed horizontally and the second 1mm layer is sprayed vertically (known as cross-hatching). Cross-hatching encourages an even application of plaster.



3

Flatten:

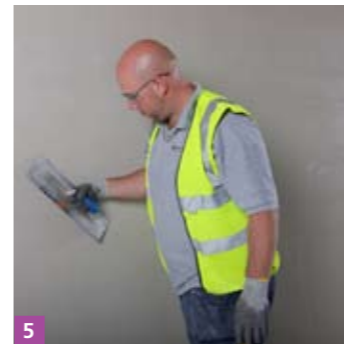
- After 5 to 10 minutes has passed, flatten the plaster without moving the material too much or taking it off the surface.
- This can be done by trowel, but an 800mm wide spatula is recommended.
- At this stage, the surface may contain trapped air bubbles / blisters. It is best to leave them at this stage as they will come out more easily later. This is a key difference between the spray and hand application.



4

First Trowel:

- Approximately 30 minutes after first flattening (35 – 40 minutes since being sprayed), flatten again using a trowel or spatula to remove any air bubbles, hollows, or trowel / tool marks.



5

Second Trowel:

- Approximately 30 minutes after the first trowel (65 – 70 minutes since being sprayed), or when the surface has taken on a matt / dull finish, the plaster should be stiff enough to allow a little more pressure than before.
- Trowelling will bring the moisture to the surface.
- Sweep across the area systematically with a trowel or spatula.



6

Final Trowel:

- Approximately 30 minutes after the second trowel (95 – 110 minutes since being sprayed) cross trowel to finish the surface.

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- The setting time of Thistle Spray Finish is longer than Thistle Multi-Finish by approximately 15 minutes, as this helps the plasterer keep control of larger areas. The set is very gradual, which allows flexibility around the timing of flattening / trowelling operations.
- Similar to other finish plasters, the above times will be slower in cold conditions and faster if the background has suction.

Cleaning the machine

If a break of 15 minutes has passed without spraying, or the job has been completed, then it is recommended that the machine is cleaned out - please refer to the manufacturer's manual for more specific instructions.

Cleaning out can be postponed during the working day by running the machine for approximately 1 minute, every 15 minutes, to pass material through the machine to preventing it from setting inside.

If the machine will be required again within 2 – 3 hours, omit steps 1 – 3 and 10 from the full cleaning out procedure that is described.



Cleaning

1. Run out any remaining plaster until the hopper is empty. Do not allow the machine to pump clean water as this reduces the life of the pump considerably.
2. With the 'wash / OK' switch set to wash, connect the pressure washer to the green tap and wash the hopper sides and grille.



3. Turn the machine on and pump the water from the hopper and mixing chamber out through the machine. Turn the machine off as soon as the water has been pumped out of the hopper to avoid pumping clean water.
4. Detach, dismantle and clean the mixing chamber, pressure gauge and after mixer components, using the machine's pressure washer.
5. Switch the compressor off and decompress the air hose.



6. Detach the plaster hose from the machine and clamp it to the geka connection. Connect to the washer coupling (green tap).
7. Detach and clean the nozzle, including the air jet holes.
8. Clean the plaster hose by running the sponge ball through the hose, repeat.
9. Detach the air hose from the compressor and the plaster hose from the tap.

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10. Drain the machine by opening the two drain valves. Close when completed.

Decorating

- The finished surface can be painted on to as little as 48 hours after spraying, dependent on the ambient temperature and humidity.

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Health and Safety Information

Manual handling / safety

The machine mixes and conveys the product to the wall / ceiling, eliminating much of the manual effort of hand plastering.

Bags should be located close to the machine for easy loading into the hopper.

The key differences for spraying compared to hand application are:

- Management of hoses and cables.
- Moving the machine and associated equipment around.
- Keeping passers-by safe from inadvertently being sprayed.

All of these risk areas are easily manageable with simple precautions.

In general, manual handling (of both dry and mixed material) is significantly reduced compared to hand application.

Risks associated with the product itself are essentially the same as for hand applied finish plasters. The increased likelihood of eye contact makes safety glasses essential, particularly during the spraying and cleaning phases of the work.

Environmental risks:

- Dust may be raised in normal operation while bagged plaster is loaded into the hopper, or dropped around the machine (especially below the mixing chamber) in the event of clearing a blockage. To ease collection and disposal, the machine can be sited on a "drip-tray" or sheet to collect any dry or wet plaster spillages, and the area swept after work is complete.
- Waste plaster is created in relatively small quantities while checking for consistency. This can be collected in a bucket for use (e.g. pre-filling joints) or disposal. Any waste plaster in wet form should be allowed to set and disposed of with other gypsum waste for recycling (e.g. plasterboard off cuts). Contaminated water may have dry waste plaster mixed into it and must be disposed of in the same way.
- Dry or wet plaster waste must not be allowed to enter drains.
- Empty plaster bags may be recycled with other paper waste or disposed of in the general waste.

Disclaimer

Please see manufacturers' instructions for full details on how to operate the machine.

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Technical Enquiries

British Gypsum
Technical Advice Centre
East Leake
Loughborough
Leicestershire
LE12 6HX

Telephone: 0844 800 1991

Fax: 0844 561 8816

E-mail: bgtechnical.enquiries@bpb.com

Training Enquiries: 0844 561 8810

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