



# Thistle plasters

## Residential



Homogeniser, Barrow-upon-Soar, Leicestershire,  
where mined gypsum is stored





British Gypsum mine, Barrow-upon-Soar, Leicestershire

## About British Gypsum

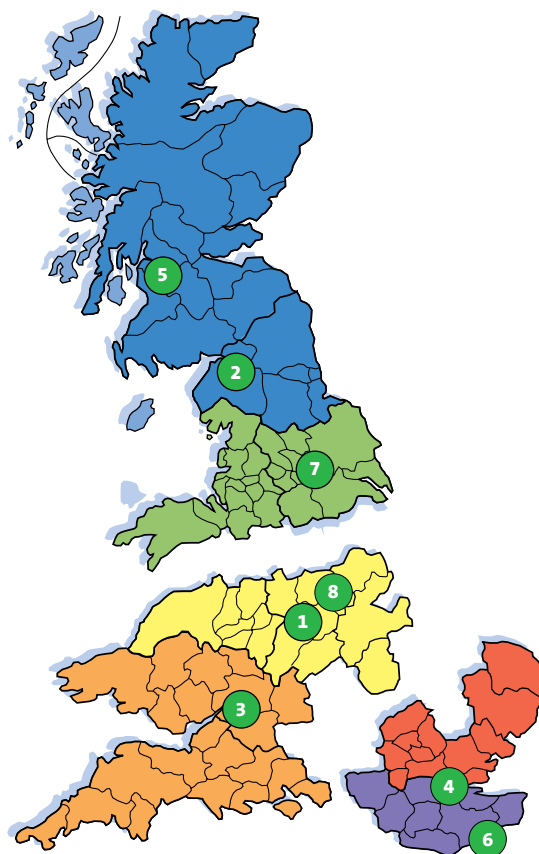
We're the only UK manufacturer to offer a full range of integrated internal lining solutions.

Whether they're plaster-based, or involve one of our many drylining systems, they meet and exceed Building Regulations, for enhanced performance and prolonged building life. We'll work alongside you and your contractors to pick the best solution for your project.

**Building** Awards 2013  
Winner

### Did you know?

We've built a business with five major UK manufacturing sites (M); four training centres (T); research, development and testing facilities that rank amongst the best in Europe; a technical support infrastructure that leads the industry and a network of 3500 stockists to ensure national product availability.



1. East Leake (M,T)
2. Kirkby Thore (M,T)
3. Clevedon (T)
4. Erith (T)
5. South Lanarkshire College (Satellite) (T)
6. Robertsbridge (M)
7. Sherburn (M)
8. Barrow-upon-Soar (M)



## Our promise: sustainable solutions

We ensure that our solutions don't just meet your needs today but that they meet all of our needs for tomorrow too.

Sustainability is a challenge we embrace. It enables us to balance our responsibilities to customers, suppliers, employees and our local communities. The way we manage our business and care for our employees is as important to our future as the way we care for the environment.

We use the *ISO 14001* standard for managing key areas, such as compliance, energy management, water usage and waste reduction, across our business. We also played a key role in developing the Ashdown Agreement; an initiative which is helping to reduce landfilled waste across the construction industry.

### Key recent achievements:

- More than 21,508 hours of employee training last year
- First UK manufacturer of plasterboards and plaster to gain ISO 14001 certification across all sites in July 2009
- First manufacturer of plasterboard and plaster to gain a rating of 'Excellent' to *BES 6001* – Responsible Sourcing of Construction Products, in October 2014
- Five years with zero plasterboard waste to landfill
- Awarded 'Best Site Product' 2014 in the House Builder Product Awards
- Supporting the workforce of the future - 69 colleges and more than 5,000 students supported in 2014 through the Thistle partnership



### Did you know...?

British Gypsum donated ancient woodland in Bunny Wood, Nottinghamshire to the Nottinghamshire Wildlife Trust





### Social

Our people are our business. We ensure a safe, healthy workplace, give them respect and nurture their talents to take our business forward. We train for leadership and build employee knowledge through a ten-stage Technical Development Programme at our Saint-Gobain Technical Academy.



### Economic

We work hard to ensure our business remains viable. We work closely with our supply chain to source materials responsibly and sustainably and drive issues such as Health and Safety and responsible business management throughout our supplier base. Our Responsible Sourcing Strategy means our plasters and UK manufactured plasterboards qualify for extra credits in leading environmental schemes.



### Environmental

We were the first UK plaster and plasterboard company to gain *ISO 14001* and use this standard for managing key areas like compliance, energy management, water usage and waste reduction across our business. For more details on our full sustainability agenda and achievements see [british-gypsum.com/sustainability](https://british-gypsum.com/sustainability)

## Choosing plasters

Thistle plasters provide technical solutions, developed to meet the changing needs of housebuilders and homeowners. Whether you choose the two-coat systems or use a plaster skim on drylined walls, you can select from a range of different products.

Thistle plasters provide the demanding lining finish properties you need, from extra durable plasters that protect against scuffs and knocks, to plasters specifically designed for different types of background.

Thistle plasters; creating wall solutions for modern homes.

### New housing

There are many factors to consider when choosing an internal wall finish for a new house or apartment. What kind of performance do I need? What level of finish is required? How will the rooms be used? If you choose two-coat systems, they'll help you meet regulations and environmental requirements, as well as mandatory airtightness standards. You can also be sure of a robust solid finish that will help improve sound performance and cut air leakage.

### Repair, maintain or improve

In social housing, walls need to work hard. Choosing the right one when repairing or maintaining homes, or when carrying out a major refurbishment, is therefore very important. In private housing, homeowners also want walls which are robust and easy to maintain.



## New housing



### Upgrading the home

Many homeowners prefer the reassuring feel of a solid wall finished with two-coat Thistle plaster. It's easier to fix to, smooth to the touch and provides additional sound proofing to help stop noise problems within the home.

With Thistle plastered walls you can make every home feel special:

- Give homeowners robust, solid walls throughout their home, or in selected rooms
- Make fixing heavy objects easier, shelves in a study, for instance, or a 50" flat screen TV in the lounge
- Resist minor knocks and enable any damage to be repaired quickly and easily
- When it's time to redecorate, wallpaper is easier to strip from plastered walls

### Size matters

The average new home in the UK is now just 76m<sup>2</sup>. This compares with an average of 115.5m<sup>2</sup> in the Netherlands for example\*.

Using a two-coat plaster finish on an external wall means there is no cavity created, saving floor space in each room.

### Two-coat plaster in social housing

The key benefits to the Registered Provider with Thistle plastered walls include:

- Two-coat plasters are highly durable and resistant to damage, reducing whole life costs and potentially extending maintenance cycles
- Less maintenance is required between tenants
- Solid, plastered walls help prevent noise problems within the home

#### A plastered wall can solve these problems:

"Fixing a new bathroom cabinet was a real challenge... the holes in the wall just got bigger and we eventually dropped our screws into the wall cavity."

#### New home buyer

"It can be a nightmare second guessing where people want to put the TV. All we can do is attach sheets of plywood inside the wall and hope we're right."

#### Jon, Builder

\*Source: RIBA



## Specifying Thistle plaster

### Acoustic performance

In new-build homes, Building Regulations Approved Document E in England and Wales puts an increased emphasis on low frequency performance.

Cavities of less than 60mm in masonry walls lined with lightweight panels should be avoided. These cavities can interact and cause a downgrade in the critical low frequency zone. Optimum performance can be achieved by lining one side of a wall with a cavity depth of at least 85mm or by using a two-coat plaster system where there is no cavity.

### Thistle plaster Robust Details

Thistle plaster solutions can be specified as part of Robust Detail constructions. A Robust Detail is a separating wall or floor construction which has been assessed and approved by Robust Details Limited (RDL). Robust Detail designs are pre-tested to higher standards than required by Approved Document E, before being approved by RDL. Therefore, if you build using Robust Details, you won't have to carry out Pre-Completion Testing.

Thistle plaster Robust Details below are capable of consistently exceeding the performance standards given in Approved Document E to the Building Regulations for England and Wales.

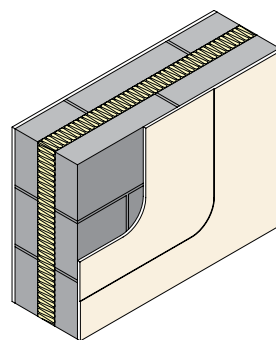
#### E-WM-1 Masonry – dense aggregate blockwork (wet plaster)

Overall construction nominal width 300mm

Dense aggregate cavity block wall minimum 100mm blocks (density 1850 – 2300kg/m<sup>3</sup>)

Minimum 75mm cavity between leaves

Finished with 13mm Thistle plaster



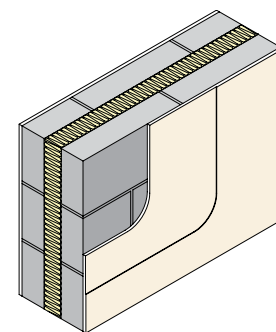
#### E-WM-2 Masonry – lightweight aggregate blockwork (wet plaster)

Overall construction nominal width 300mm

Lightweight aggregate cavity block wall minimum 100mm blocks (density 1350 – 1600kg/m<sup>3</sup>)

Minimum 75mm cavity between leaves

Finished with 13mm Thistle plaster



Code for Sustainable Homes

### E-WM-18 and E-WM-21

To achieve credits under the Health and Wellbeing section (HEA 2) of the Code for Sustainable Homes, E-WM-18 (block density 1850 – 2300kg/m<sup>3</sup>) and E-WM-21 (block density 1350 – 1600kg/m<sup>3</sup>) can be specified. Both incorporate a 100mm (minimum) cavity and achieve 3 code credits\*.

For further information on Robust Details, please refer to HomeSpec (The **White Book** Residential Sector Guide).

\* NB. The award of credits is subject to review and revision as outlined on the RD website.



## Thistle plaster performance benefits

### Airtightness – reduce heat loss

Air leakage can seriously downgrade the overall thermal performance of a home. Unwanted draughts, and uncontrolled air flow through gaps, are estimated to be the cause of considerable energy loss from modern homes. This results in higher heating bills and higher CO<sub>2</sub> emissions. With Thistle plaster linings many of these gaps and cracks are filled automatically and air loss considerably reduced.

Airtightness testing of new dwellings is now mandatory for developments of over two units under Approved Document Part L of the Building Regulations in England and Wales and Section 6 of the Scottish Building Standards. A sample of each type of dwelling must be tested and be within the air leakage rate stated in the dwelling's SAP calculations. Thistle plaster finishes will help to achieve the required standards, making homes more affordable for homeowners year after year.

### Thermal mass

Thermal mass usage in building design can help to cut CO<sub>2</sub> emissions by reducing the heating and cooling demands of the building. It may be used as part of the SAP calculations.

How thermal mass is incorporated into the design depends on the building use. It will generally slow down the rate at which internal temperatures rise or fall. A 'thermally heavy' building heats up more slowly, and retains its heat for longer, with the effect that it is cooler during the heating period (day) but warmer during the cooling period (night). This can be very beneficial for buildings such as residential care homes, where a fairly constant temperature is needed.

Thistle plaster is ideal for use where thermal mass is an integral part of the design of a building. Plaster provides the desired decorative finish whilst also enabling efficient heat transfer between the air and the fabric of the building.

### Indoor air quality

Though we don't notice them, volatile organic compounds (VOCs), including formaldehyde, are often present in the air we breathe – emitted from furniture, carpets and building materials. Long-term exposure to these can potentially cause health problems and reduce general wellbeing. Clean air, on the other hand, helps speed up recovery from illnesses and increases concentration spans.

**ACTIVair** is our latest technology designed specifically to remove 70% of the formaldehyde concentration in the indoor air. This clever technology continues to work for over 50 years, and whilst alternative solutions absorb formaldehyde, they don't decompose like **ACTIVair** risking re-emission at a later date.



Thistle PureFinish plaster containing **ACTIVair** technology for skim finishing undercoats and plasterboards.



### The benefits of Thistle plaster – don't just take our word for it

"Gyproc Ireland commissioned BSRIA to carry out tests using Gyproc Hard Coat (Thistle HardWall) with a skim finish applied to a block wall. The results showed air leakage of 0.034m<sup>3</sup>/hr.m<sup>2</sup> at 50Pa, well under the 0.6 Passive House Standards. This essentially shows that applying a plaster finish dramatically reduces the porosity, thereby increasing the airtightness of the wall."

**BSRIA Air leakage tests C26698**

## Thistle plaster installation benefits



### Easy to use

Whether you are using two-coat plaster or skimming plasterboard, you'll find Thistle plasters easy to use:

- **Great consistency:** Use straight from the bag and add clean water for reliable consistency. It's much harder to achieve a consistent performance with site mixed materials (e.g. sand and cement)
- **Easy to handle:** Standard 25kg bags are easy to handle and carry, even in confined spaces. This is really helpful when working upstairs as it can be a "one man lift"
- **Low waste:** With plaster you can just mix what you need. No off-cuts to worry about and, correctly stored, part bags can generally be used on the next job
- **Stability:** With Thistle undercoat plasters there's very little shrinkage. There is no danger of cracks appearing days or weeks later due to shrinkage of the plaster



"TAS regularly receives reports concerning the problem of the plaster final (skim) coating cracking and shelling off cement-based undercoats. Because of the inherent nature of Portland cement, most rendering products shrink on drying out. If a final coat is applied too early before the undercoat has sufficiently dried out, then the problem of shelling is likely to occur. The length of time needed for the undercoat to dry out will depend on many factors including the wetness of the background, undercoat thickness and air humidity and temperature."

**Building Employers Confederation –  
Technical Advisory Service Bulletin**



## Finishing to plasterboard

Where plasterboard has a square edge, or a cut edge, skimming is the best way to provide a smooth finish ready for decorating. It is much harder to achieve a smooth result with a tape and joint method when the board edge is not tapered. Skimming with a finish plaster can also provide the installer with added flexibility where screw fixings are not perfectly flat.



## Typical semi-detached house layout - where to use a skim finish

A skim finish not only provides a better finish, it is also more robust, providing additional resistance to damage in high traffic areas or rooms subject to greater wear and tear.

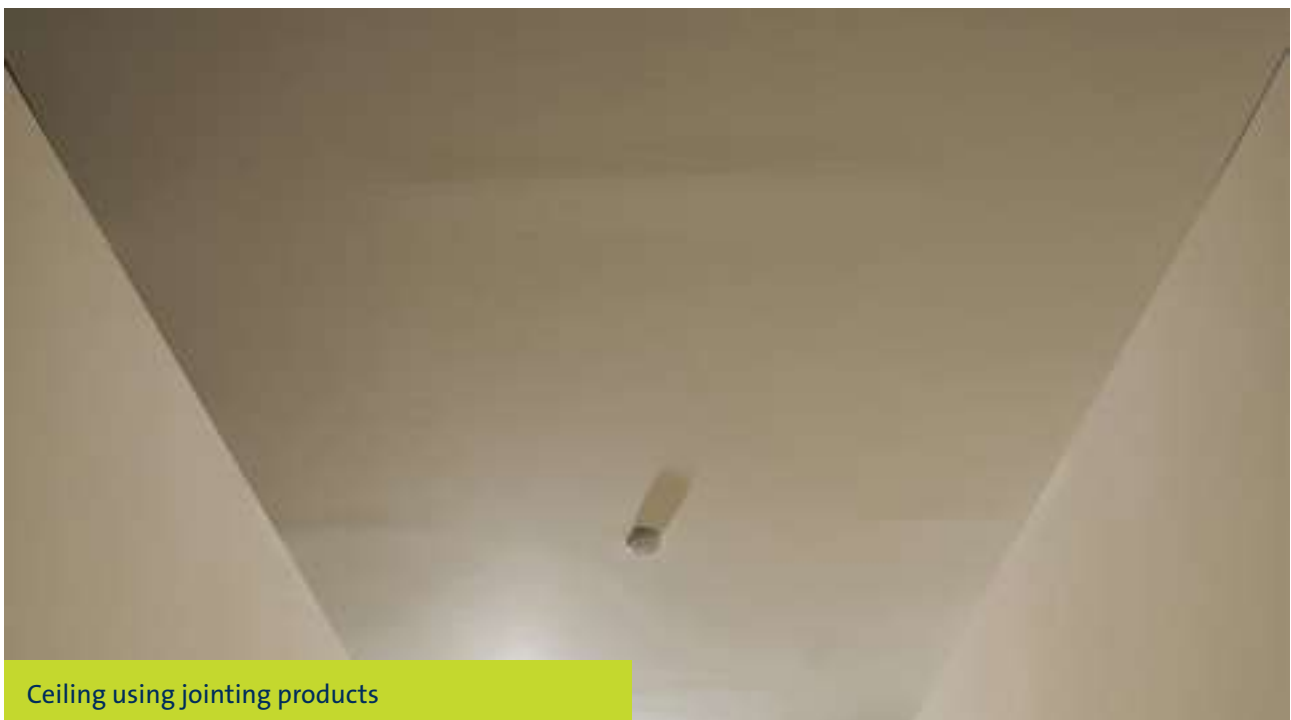
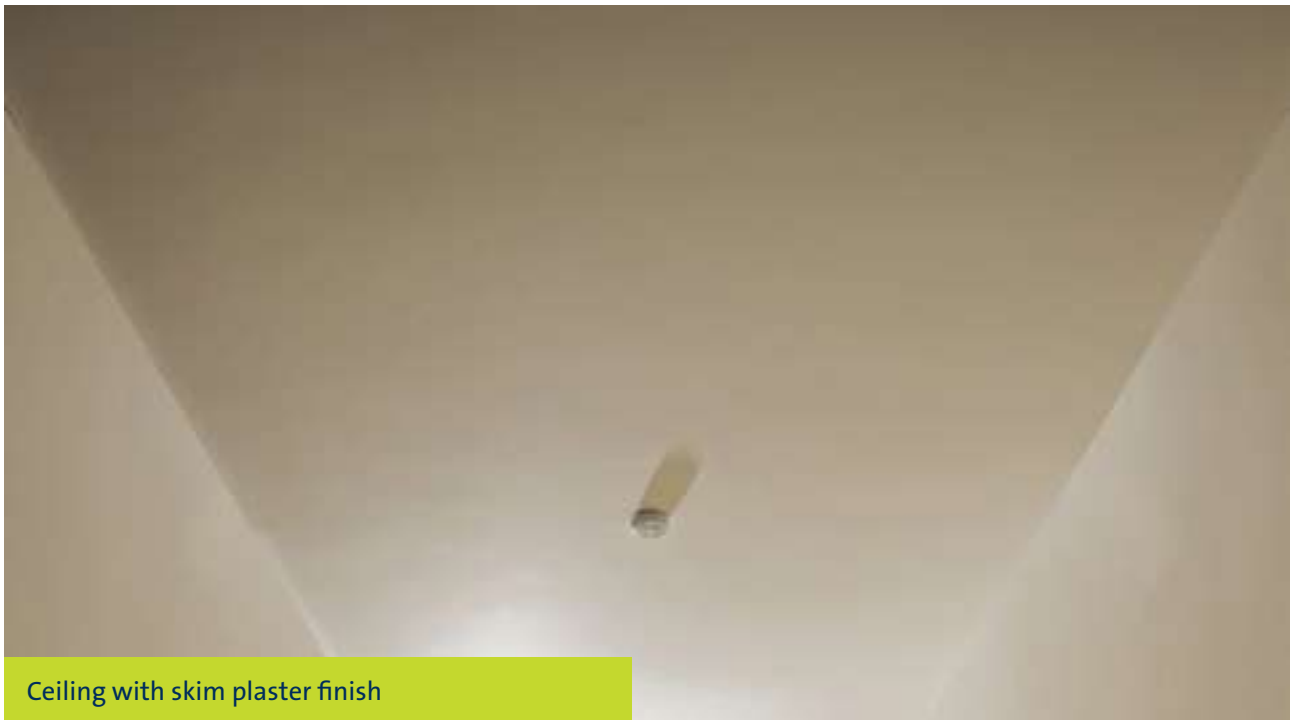
The solid green line shown on the example layouts below, indicates where a skim finish on plasterboard provides the best protection on walls which have to withstand regular abrasion.

The dotted line denotes areas where either a skim finish or plasterboard which is taped and jointed can be used.



## A great finish

Homeowners are quick to notice a poor quality finish. With Thistle finishing plasters, you get a superior, smooth surface whether you're skimming on plasterboard or using a two-coat plaster system. And it's ready to take whatever decorative treatment you choose.







## Case Study

### Fielding Meadow Ratby, Leicestershire

A development of 26 two, three and four bedroom homes

#### Developer

Cawrey Homes

#### Products specified

Two-coat plaster system

Gyproc SoundBloc RAPID

Gypframe AcouStuds

#### Reasons for specification:

To support Cawrey Homes in going over and above Part E requirements, the products specified included: 43mm Gypframe AcouStuds and acoustic partition roll, with 15mm Gyproc SoundBloc RAPID plasterboard either side, plus one coat of Thistle MultiFinish for added airtightness.

With an understanding of the housebuilder's aims, British Gypsum provided extensive consultation at specification stage, recommending a specific combination of solutions including Thistle undercoat and Thistle MultiFinish plaster to achieve a durable, robust finish on ground floor external walls and partitions.

"By working closely with manufacturers such as British Gypsum, we've wholeheartedly achieved our vision. The properties break the mould of conventional new build homes. The integration of forward-thinking energy efficient measures, microgeneration technologies and robust traditional construction methods, means it's truly a development of homes for the future."

**Dave Walgate, Technical Director  
at Cawrey Homes**





## Case Study

### 'Housing-with-care' project Aylsham, North Norfolk

A development of 30 self contained flats and communal areas

#### Client

Wherry Housing Association

#### Developer

Lovell Homes

#### Contractor

Norfolk Drywall

#### Products specified

Two-coat plaster system:  
Thistle HardWall undercoat plaster  
and Thistle MultiFinish finish coat

#### Reasons for specification:

When it came to selecting the products for the busy care environment, durability was a key requirement. The walls of the communal areas were finished in a solid plaster that can withstand impact from trolleys and wheelchairs. They also had to be tough enough to provide a suitable fixing surface for grab rails and shower seats, which are vital aspects of a safe home environment for elderly people.

"Another benefit of the undercoat is that it doesn't need to be fully dry before the finishing coat can be applied, it just needs to have set, so the system was efficient for the contractor to apply and maximise productivity onsite. As with almost every project we're working on nowadays, the budget and timeframe on this project were tight, but the suitability of the product is always the most important factor.

"When specifying solutions for the project, the life-cycle and durability of the products were a priority. They were for use in a busy environment with high amounts of traffic, so we needed a solid plaster system that would not only look good and perform well in application, but needed minimum maintenance once applied."

**Michael Saunders, Construction Manager for Lovell**



## Repair – Maintain – Improve

### Repairs are quick and easy

With Thistle plastered walls, small or large scale repairs are fast and effective. This enables you to manage repairs more efficiently to ensure the long term performance of the structure.

A damaged plaster wall can be repaired quickly and easily, and once done is as structurally sound as a new wall. There's no need to sand the repair to achieve a flat, decorative finish, which minimises both clean-up time and disturbance to residents. When it comes to redecoration, it's also easier to strip wallpaper from plastered walls.

Plaster will fit any hole, so there's no need to measure up the job first. Small repairs can often be completed with a part bag of plaster left over from a recent job, which helps keep costs and waste down.

Even difficult repairs to a corner, or to a door or window opening, can be easily feathered to a good finish.

Plaster is perfect for:

- Covering over scratched walls or ceilings
- Repairing and upgrading damaged surfaces
- Repairing walls after damp or flood damage using Thistle DriCoat
- Repairing walls after electrical or plumbing work

For more information, refer to **The British Gypsum Repair and Renovation Sector Guide**.

### Save time

Timescales for repairs or maintenance programmes are often tight. Plaster will set in around 2 hours.

A two-coat plaster system can generally be applied in one day and even finished with breathable paint before it's fully dry, saving you valuable time.





## Thistle DuraFinish is 60% tougher than standard Thistle MultiFinish

### Resistant to damage















Thistle plasters are great at resisting accidental damage, glancing blows or repeated abrasion. For ultimate protection you can choose Thistle DuraFinish, a plaster that protects from impacts, reducing the number, scope and frequency of repairs.

Two-coat plasters are ideal for high traffic areas, such as corridors, stairwells and entries, which often have to take the toughest treatment. In fact, they are ideal for any area that is subject to repeated wear, helping you cut down on the cost and disruption caused by responsive repairs or planned maintenance.









# Thistle Plaster Selector Guide

Undercoat solid plaster																	
			What is the background surface?														
			← High suction Low →														
			Aircrete blocks	Common bricks	Medium-density blocks	Dense blocks	Engineering bricks with raked joints	Plasterboard & Glasroc F MULTIBOARD	Cast in situ & pre-cast concrete	Painted/tiled surfaces	Metal lathing	Thickness applied – walls	Thickness applied – ceilings	Coverage per bag hand applied (at 11mm)	Water requirement (litres per bag)	Dry set weight (at 11mm)	
Two coat		<b>Thistle HardWall</b> High impact resistance for most masonry backgrounds. Can be spray applied <sup>1</sup>				NOT ON SMOOTH LOW SUCTION BLOCKS					WHEN BRIDGING COLUMNS AND LINTELS	11mm	8mm	3.0m <sup>2</sup>	15	9.3kg/m <sup>2</sup>	
		<b>Thistle ToughCoat</b> High coverage for most masonry backgrounds. Can be spray applied <sup>1</sup>				NOT ON SMOOTH LOW SUCTION BLOCKS					WHEN BRIDGING COLUMNS AND LINTELS	11mm	8mm	3.5m <sup>2</sup>	17.5	8.5kg/m <sup>2</sup>	
		<b>Thistle Browning</b> For solid backgrounds with adequate key											11mm	8mm	3.5m <sup>2</sup>	17.5	8.4kg/m <sup>2</sup>
		<b>Thistle BondingCoat</b> For smooth and low suction backgrounds											11mm	8mm	2.75m <sup>2</sup>	14	12.1kg/m <sup>2</sup>
One coat		<b>Thistle Universal OneCoat</b> For hand or spray application to most backgrounds										13mm	10mm	2.25m <sup>2</sup> at 13mm	15	15kg/m <sup>2</sup> at 13mm	

**NB** Setting times: Thistle undercoat plasters – 1½ to 2 hours. Thistle finish plasters – 1½ to 1¾ hours. <sup>1</sup> Coverage relates to hand applied.

<b>Suction control</b>		<b>Thistle GypPrime</b> Suction control primer used to reduce suction on very dry backgrounds. Use diluted (up to 5 parts water to one part Thistle GypPrime) or undiluted if severe suction control is required. Plaster is applied after Thistle GypPrime has soaked into the background.  Use Thistle GypPrime where you see this symbol
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<b>Bonding agent</b>		<b>Thistle Bond-It</b> Bonding agent for smooth low suction backgrounds. Apply undiluted, in one coat. Plaster when dry.  Use Thistle Bond-It where you see this symbol
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 Recommended for use

## Skim finish plaster

			What is the background surface?								
			← High — suction — Low →								
			Dry undercoats	Damp undercoats	Plasterboard	Flat, smooth concrete	Waterproofed cement-based undercoats	Thickness applied	Coverage per bag (at 2mm)	Water requirement (litres per bag)	Dry set weight (at 2mm thickness)
Essential finish		<b>Thistle MultiFinish</b> A versatile plaster for skim finishing undercoats and plasterboards	DAMPEN BACKGROUND FIRST		 USE ON MR BOARDS			2mm	10m <sup>2</sup>	11.5	3.4kg/m <sup>2</sup>
		<b>Thistle BoardFinish</b> For low to medium suction backgrounds especially plasterboard			 USE ON MR BOARDS			2mm	10m <sup>2</sup>	11.5	3.4kg/m <sup>2</sup>
		<b>Thistle SprayFinish</b> Gypsum finish plaster for spray or hand application			 USE ON MR BOARDS			2mm	11m <sup>2</sup>	12	2.4kg/m <sup>2</sup>
Performance finish		<b>Thistle DuraFinish</b> A versatile plaster that is 60% tougher than standard skim plasters						2mm	10m <sup>2</sup>	12	3.4kg/m <sup>2</sup>
		<b>Thistle PureFinish</b> Finish plaster containing <b>ACTIVair</b> technology for finishing undercoat plasters and plasterboard	DAMPEN BACKGROUND FIRST		 USE ON MR BOARDS			2mm	10m <sup>2</sup>	11.5	3.4kg/m <sup>2</sup>
		<b>Thistle UniFinish<sup>2</sup></b> The plaster that works without PVA <sup>2</sup> See <a href="https://british-gypsum.com/thistle-unifinish">british-gypsum.com/thistle-unifinish</a> for full details.						2mm	11m <sup>2</sup>	12	2.4kg/m <sup>2</sup>

**NB** Minimum temperature to be maintained until dry is 2°C for Thistle BoardFinish, Thistle MultiFinish and Thistle SprayFinish, and 5°C for Thistle DuraFinish.

**NB** On flat surfaces, 2mm is recommended, If the surface is very uneven, consider dubbing it out with an undercoat.

Specialist plasters		<b>Thistle Magnetic Plaster</b> A Thistle plaster that attracts magnets leaving a quality surface for internal walls and a durable base for applying decorative finishes. Can be used to finish a wide range of backgrounds, including undercoat plasters and plasterboard. A minimum of 3mm thickness should be applied and coverage is 5.1m <sup>2</sup> per bag.		<b>Thistle DriCoat</b> Cement based plaster for replastering after a damp proof course. Finished with Thistle BoardFinish.

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British Gypsum reserves the right to revise product specification without notice. The information herein should not be read in isolation as it is meant only as guidance for the user, who should always ensure that they are fully conversant with the products and systems being used and their subsequent installation prior to the commencement of work. For a comprehensive and up-to-date library of information visit the British Gypsum website at: [british-gypsum.com](http://british-gypsum.com). For information about products supplied by Artex Limited or Saint-Gobain Isover please see their respective websites.

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