

Thistle Bonding Coat

Product data sheet

Introduction

Overview

Thistle Bonding Coat is a gypsum undercoat plaster for use on low suction backgrounds, e.g. some brickwork, blockwork or concrete, Gyproc plasterboard, expanded metal lath, or surfaces treated with bonding agents. With a final coat of Thistle Multi-Finish, Thistle Bonding Coat provides a smooth, inert, high quality surface to internal walls and ceilings, and a durable base for the application of decorative finishes. Thistle Bonding Coat is a lightweight, retarded hemihydrate, pre-mixed gypsum plaster, incorporating exfoliated vermiculite aggregate, requiring only the addition of clean water to prepare it for use.

¹ ThistleBond-it bonding agent may be required.

² ThistleBond-it bonding agent is required.

³ From face of lath.

Applications

Background/ lining	Coat thickness mm	Approx. weight set and dry kg/m ²	Approx. coverage m ² /1000kg
Gyproc HandiBoard, Gyproc WallBoard, Gyproc Plank	8	7.1	135 - 150
Engineering bricks (with raked joints)	11	9.8	100 - 115
Dense aggregate concrete blocks and no-fines concrete	11	9.8	100 - 115
Normal ballast concrete walls	11 ¹	9.8	
Normal ballast concrete soffits	8 ¹	7.1	100 - 115
Other aggregates concrete	8 ²	7.1	135 - 150
Pre-cast concrete units/ composite ceilings	8 ¹	7.1	135 - 150
Extended metal lath	11 ³	14.7	135 - 150
Backgrounds treated with ThistleBond-it (e.g. glazed or painted surfaces)	8	7.1	70 - 80
Expanded polystyrene soffits	8 ¹	7.1	135 - 150
Expanded polystyrene walls	11 ¹	9.8	100 - 115

Standards

Thistle Bonding Coat complies with *EN 13279-1 types B4/20/2 and C3/20*, and is manufactured under a quality system independently audited and certified as conforming with *ISO 9001: 2000*

Performance

Fire Resistance

Gypsum plasters provide good fire protection due to the unique behaviour of gypsum in fire. When gypsum-protected building elements are exposed to fire, dehydration by heat (calcination) occurs at the exposed surface and proceeds gradually through the gypsum layer. Calcined gypsum on the exposed face adheres tenaciously to uncalcined material, retarding further calcination which slows as the thickness of calcined material increases. While this continues, materials adjacent to the unexposed side will not exceed 100°C – below the temperature at which most materials will ignite and far below the critical temperatures for structural components. Once the gypsum layer is fully calcined, the residue acts as an insulating layer while it remains intact.

NB Note that bonding agents must not be used where the plaster is designed to contribute to the fire resistance.

Thermal resistance

11mm Thistle Bonding Coat with a final coat of 2mm Thistle Multi-Finish (total thickness 13mm) has a thermal resistance (R) of 0.03m²K/W.

Acoustic performance

Thistle Bonding Coat may be used within the Robust Detail construction E-WM-1, a dense aggregate block cavity separating wall. In this application the specified thickness is 13mm and attention to detail is important to achieve the required sound insulation, including plastering the complete wall surface down to finished floor level where appropriate. Refer to the current Robust Details handbook for full details.

Effect of temperature

Thistle Bonding Coat is not suitable for plastering onto frozen backgrounds but it may be used under frosty conditions provided that, after plastering, the surfaces are adequately protected from freezing. Once fully set and dry, Thistle Bonding Coat is only suitable for situations where the temperature does not exceed 49°C. Dry, bagged plaster is not affected by low temperatures. During the application of gypsum plasters in hot and/or dry conditions, care should be taken to ensure that rapid loss of water is avoided. Gypsum plasters require a proportion of the mixing water in order to set and achieve full strength. If the water is dried off too rapidly, the strength of the plaster will be impaired.

Performance

Effect of condensation and other moisture

Thistle Bonding Coat should be protected from continuous exposure to moisture. Prolonged or repeated exposure to moisture may cause a loss of strength and/or adhesion.

Coverage

Coverage per bag m ²	Setting time hours	Water requirement litres per bag	Dry set weight kg/m ² 11mm plus 3.4 of finish	Pallet quantity kg (56 bags)
2.75 @ 11mm thickness	1.5 - 2	14.0	12.1 @ 11mm plus 3.4 of finish	1400 (56 bags)

Installation

Background preparation

Surfaces should be reasonably dry, clean and protected from the weather, and suitable for the chosen specification. In addition, before plastering concrete backgrounds, ensure that any mould oil or other agents present are removed from the surface. No-fines concrete does not require wetting prior to plastering. Normal ballast concrete should be given sufficient time to mature before applying the plaster. Plaster should not be applied onto a 'green' background or when any free water is visible. Mature concrete will require wetting to displace the air before plastering. Clean water should be applied 5-10 minutes before plaster application to control the suction. In-situ or pre-cast concrete which is exceptionally smooth or which is made from limestone, brick, granite and certain lightweight aggregates, will require pre-treatment with ThistleBond-It bonding agent.

Storage

Bags should be stored dry, as absorption of water shortens the setting time, causes set lumps to form in the bags and may reduce the strength of the set plasterwork. If storing on a concrete floor, dry timber platforms should be provided. Thistle Bonding Coat stored correctly has a shelf life of 4 months and bags are printed with the 'use by:' date in order to permit use in strict rotation.

Mixing

Thistle Bonding Coat is pre-mixed with aggregate and only clean water needs to be added to prepare it for use. Mixing should be carried out in a clean tray or bath. Excessive mechanical mixing should be avoided. Tools and water used in mixing must be clean. Contamination from previous mixes can shorten the setting time and in turn reduce the strength of the plaster when set.

Application

Thistle Bonding Coat should be applied with firm pressure, built out to the required thickness, ruled to an even surface and lightly scratched to form a key for 2mm Thistle Multi-Finish.

If Thistle Bonding Coat and a finish plaster are to be applied to Gyproc plasterboards, Gyproc Joint Tape should be used to reinforce joints and angles. Any gap between boards exceeding 3mm should be pre-filled and joints taped with Thistle Multi-Finish, with the plaster being spread along each joint. Gyproc Joint Tape is then pressed firmly into the

finish plaster, and immediately covered with a further application. The joints should be allowed to stiffen, but not dry, before plastering commences.

With pre-cast concrete units, in order to reduce the risk of cracking to a minimum, the floating coat should be applied with sufficient pressure to fill all the gaps between the units. The surface of the pricking-up coat must be wire scratched to provide a good key for the floating coat, and allowed to set, but not dry, before the floating coat of the same plaster is applied. Floating coats should be applied at a thickness of 8mm, up to a total plaster thickness of 25mm, and wire-scratched between each coat. The final floating coat should be ruled to an even surface and lightly scratched to form a key for Thistle Multi-Finish.

With composite ceilings, the concrete beams should be pre-treated with ThistleBond-It bonding agent. If required, the suction of the infill panels can be controlled with a dilute solution of Thistle GypPrime. Thistle Bonding Coat application to expanded metal lath involves first a pricking-up coat, which should be forced through the metal lath in order to provide a good key to the background.

Finishing

Finish using Thistle Multi-Finish.

Decoration

Thistle plasters can be decorated with most paint finishes and wallcoverings. Follow manufacturers' recommendations. Impermeable finishes, including tiles, should not be applied until the background and plaster are dry. A permeable paint can be used in the interim. *BS EN 13914 Code of Practice for Internal Plastering* states that plastering should be done under similar or better lighting conditions than the final work will be judged in. This is particularly important for glossy finishes and / or low-angle natural or artificial lighting.

Tiling

Tiles up to 20kg/m² can be applied directly to the Thistle finish except where the system includes a bonding agent. As the total weight of tiles and plaster applied over a bonding agent is limited to 20kg/m², consideration should be given to tiling directly to the background. If plastering to provide a background for tiles, avoid polishing the surface. Polished plaster surfaces should be roughened and a suitable primer

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used. Tiles should not be applied directly to Thistle undercoats, with the exception of Thistle Dri-Coat.

Maintenance

Thistle Bonding Coat with a final coat of 2mm of Thistle Multi-Finish provides a plastering system suitable for

moderate to high impact / wear areas. If the plaster is correctly applied, it should not require any form of maintenance.

Health & Safety

1. Identification of the substances / preparation and company

Thistle Bonding Coat

Supplier	British Gypsum Limited East Leake Loughborough Leicestershire LE12 6HX
Telephone	08705 456123

Recommended uses: Gypsum building plaster used to provide a smooth, flat surface to internal walls and ceilings.

2. Composition / information on ingredients

General composition: Calcium sulphate hemihydrate. Natural constituents may include clay, limestone and minor amounts of quartz. Additives may include minor amounts (less than 4%) of hydrated lime.

3. Hazards identification

THE MOST IMPORTANT HAZARDS ARE:

This product is **not** classified as dangerous according to CHIP.

Plaster may form an alkaline solution on contact with body moistures or when mixed with water.

Dust from mixing or sanding may irritate the respiratory system, skin and eyes.

4. First aid measures

<u>Eye contact</u>	Wash eyes with clean water.
<u>Skin contact</u>	Wash thoroughly with soap and water.
<u>Ingestion</u>	DO NOT INDUCE VOMITING. Rinse out mouth thoroughly and give plenty of water.

Inhalation If irritation occurs, remove person to fresh air.

General Get medical attention if any symptoms persist.

5. Fire fighting measures

The product does not pose a fire hazard. However, packaging materials may burn.

Suitable Extinguishing Media – water, foam, carbon dioxide or dry powder.

6. Accidental release measures

Avoid creating dust – see Section 8 Exposure control/ personal protection for recommended personal protective equipment.

Plaster can be mixed with water, avoid eye contact or prolonged, repeated contact with skin – see Section 3 Hazards identification.

Prevent plasters from contaminating drains.

7. Handling and storage

Use – Minimise dust generation when opening bags, mixing or sanding plasters in poorly ventilated places. Avoid eye contact or prolonged or repeated contact with skin – see Section 8 Exposure control/ personal protection and Section 3 Hazards identification.

Manual handling – Supplied in approximately 25kg bags – use an appropriate lifting technique.

Mechanical handling – In order to maintain the stability of the palletised load, it is important that the lift truck fork length and centres are set to correctly support the load.

Storage – Store in dry conditions. All powdered products can settle in transport. To maintain stability, place pallets on firm level ground. Do not stack more than one lift high.

Health & Safety (continued)

8. Exposure control / personal protection

Workplace exposure limit

Substance	Total inhalable	Respirable
Calcium Sulphate Hemihydrate	10mg/m ³ (8hr TWA)	4mg/m ³ 8hr TWA
Hydrated Lime	5mg/m ³ (8hr TWA)	–
Quartz (silica)	–	0.1mg/m ³ (8hr TWA)

Personal protection

Respiratory Use in a well ventilated area. Where practicable use engineering methods to control dust levels. If the exposure standards could be exceeded use a disposable face mask complying with EN 149 FFP2

Skin Wear appropriate clothing to protect against repeated or prolonged skin contact.

Eye If there is a risk of material entering the eye, wear eye protection to BS EN 166

9. Physical and chemical properties

Appearance Dry powder

Odour Odourless

pH As wet plaster mix - neutral 7 to alkaline 13

10. Stability and reactivity

No special physical conditions need to be avoided. No specific restrictions regarding incompatible materials.

11. Toxicology information

Inhalation Plaster dust may irritate the respirable system. No known long term effects.

Skin contact Wet plaster may form an alkaline solution and irritate the skin. Dry powder can cause irritation.

Eye contact Wet plaster may form an alkaline solution and irritate the eye. Dry powder can cause irritation.

Ingestion Small quantities of plaster should not cause any significant reaction or long term effect.

12. Ecological information

Slightly soluble in water, forms a suspension and solidifies.

13. Disposal consideration

Wastes from gypsum products are normally classified as 'non-hazardous' but should not be co-disposed with municipal waste. Dispose at an authorised landfill site in accordance with the Waste Management Licensing Regulations (see Section 16 – Other information).

14. Transport information

Not classified as hazardous for transportation.

15. Regulatory information

Not classified under the CHIP regulations.

16. Other information

Control of Substances Hazardous to Health Regulations
The Manual Handling Operations Regulations
HSE Guidance Note EH40: Workplace Exposure Limits
Gypsum Wastes – Environment Agency Information Sheet
The British Gypsum WHITE BOOK
The British Gypsum SITE BOOK

Note to User:

This Product Data Sheet does not constitute a workplace risk assessment for COSHH.

There are a number of situations where the approach to manual handling of British Gypsum products should be considered. For further guidance, please refer to the Manual Handling section of the SITE BOOK, available to download from www.british-gypsum.com

Date of previous version: First edition.

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British Gypsum reserves the right to revise product specifications without notice. The information in this document was correct to the best of our knowledge at the time of publication. It is the user's responsibility to ensure that it remains current prior to use. The information in this document is for guidance only and should not be read in isolation. Users should read and familiarise themselves with all the information contained in this document and ensure that they are fully conversant with the products and systems being used, before subsequent specification or installation.

For a comprehensive and up-to-date library of information visit the British Gypsum website at: www.british-gypsum.com

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