

Thistle Hardwall

Product data sheet

Introduction

Overview

Thistle Hardwall is a gypsum undercoat plaster for use on most masonry. With a final coat of Thistle Multi-Finish, it provides a smooth, inert, high quality surface to internal walls. The combination has superior impact resistance, earlier surface drying, a higher than normal resistance to efflorescence, and gives a durable base for the application of decorative finishes. Thistle Hardwall is a lightweight, retarded hemihydrate, pre-mixed gypsum plaster, incorporating special aggregates and additives, requiring only the addition of clean water to prepare it for use. It is suitable for application by hand or by plaster projection machine.

Applications

Background/ lining	Coat thickness mm	Approx. weight set and dry kg/m ²	Approx. coverage m ² /1000kg
Common brick walls and concrete bricks (with raked joints)	11	9.3	115 - 130
Engineering bricks (with raked joints)	11	9.3	115 - 130
Dense aggregate and lightweight aggregate concrete blocks.	11	9.3	115 - 130
Aerated concrete blocks (pre-treatment may be necessary to control high suction)	11	9.3	115 - 130
No-fines concrete	11	9.3	115 - 130

NB When applying by plaster projection machine, an allowance should be made for a reduction in coverage of approximately 10%.

Standards

Thistle Hardwall 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.

Thermal resistance

11mm Thistle Hardwall with a final coat of 2mm Thistle Multi-Finish (total thickness 13mm) has a thermal resistance (R) of 0.04m²K/W.

Acoustic performance

Thistle Hardwall may be used within the Robust Detail constructions E-WM-1, dense aggregate block cavity separating wall, and E-WM-2 lightweight aggregate block cavity separating wall. In these applications 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 Hardwall 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 Hardwall 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.

Effect of condensation and other moisture

Thistle Hardwall 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	Dry set weight kg/m ²	Pallet quantity kg
3.0 @ 11mm thickness (applied by hand) Approx 10% less if sprayed	1.5 - 2	15.0 per bag	9.3 @ 11mm + 3.4 (finish)	1125 (45 bags)

Installation

Background preparation

Surfaces should be reasonably dry, clean and protected from the weather, and suitable for the chosen specification. In addition, some masonry backgrounds of exceptionally high suction may require pre-treatment with Thistle GypPrime to control their suction.

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 Hardwall 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 Hardwall is pre-mixed with aggregate and only clean water needs to be added to prepare it for use. Hand 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 Hardwall 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 Thistle Multi-Finish. For machine application, the plaster should be sprayed on to the background in the form of a ribbon. The consistency should allow the ribbons to run together. When a substantial area is covered, Thistle Hardwall is worked and ruled as in hand plastering. It is easier to attain the required thickness of plaster in one application by machine, but the total thickness should not normally exceed 25mm (subject to background suitability).

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. Take care with Thistle Hardwall which dries from the surface, appearing surface dry before it is fully dry in depth. *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. If plastering to provide a background for tiles, avoid polishing the surface. Polished plaster surfaces should be roughened and a suitable primer used. Tiles should not be applied directly to Thistle undercoats, with the exception of Thistle Dri-Coat.

Maintenance

Thistle Hardwall with a final coat of 2mm Thistle Multi-Finish provides a plastering system suitable for high impact/wear areas. If the plaster is correctly applied, it should not require any form of maintenance.

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Health & Safety

1. Identification of the substances / preparation and company

Thistle Hardwall

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 1%) of hydrated lime or small amounts (less than 3.5%) of cement. Thistle Hardwall also contains ground blast furnace slag and perlite aggregate.

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

Eye contact Wash eyes with clean water.

Skin contact Wash thoroughly with soap and water.

Ingestion 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.

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
Cement	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)

Health & Safety (continued)

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 EN149 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 Slight musty odour.

pH As wet plaster mix - 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

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

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