

Gyproc TriLine

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INTRODUCTION

Gyproc TriLine is a high performance laminate of 12.5mm Gyproc WallBoard bonded to a glass mineral wool slab. It is used in new or refurbishment work primarily to provide additional sound insulation.

Gyproc TriLine is applied to masonry backgrounds using the **DriLyner si** system of dry lining, and to existing plastered or smooth faced masonry walls using the **DriLyner rf** system. It is rapid to install and provides a plumb and level lining.

Gyproc TriLine is available in a standard grade and a vapour check grade. The latter contains a polyethylene/kraft membrane between the WallBoard and the mineral wool slab.

Standards

The components of Gyproc TriLine comply with:
BS 1230: Part 1: 1985 Specification for plasterboard excluding materials submitted to secondary operations.
EN13162 : 2001 Specification for thermal insulation products for buildings - factory made mineral wool (mw) products.

All British Gypsum boards and plasters are manufactured under *BS EN ISO 9002*, a quality assurance system approved by the BSI.

ENVIRONMENTAL

Water vapour resistance and condensation

The use of Gyproc TriLine considerably reduces the risk of surface condensation in intermittently heated rooms. Please refer to **White Book Section x40 - Condensation** for guidance.

The vapour check grade of the laminate incorporates a membrane with a water vapour resistance of at least 20MNs/g.

The application of two coats of Gyproc Drywall Sealer to the standard grade after installation and jointing provides a water vapour control layer.

Table 1 - Condensation risk assessment table

	Water vapour resistivity MNs/gm	Water vapour resistance MNs/g
12.5mm Gyproc WallBoard	60	0.57
Gyproc TriLine (vapour check grade)		20

Calculations using the method for assessing risk of interstitial condensation as described in *BS 5250: 2002 (Code of Practice for control of condensation in buildings)* should be carried out for particular structures.

It is feasible to design dry lined walls which will not suffer from condensation within the structure. However, when using insulated dry linings, due consideration must be taken of the overall installation to minimise perforations by services, e.g. light switches and power outlets. In addition the joints at wall / ceiling and wall / floor level must be well sealed.

Surface condensation can occur at cold bridges such as around window and door openings. When an internal insulation method is used ensure that sufficient insulation is provided at these positions. Where the insulated dry lining returns around soffits and into reveals, Gyproc ThermaLine REVEAL is recommended, subject to the thickness of window or door frame and the resultant margin.

HEALTH AND SAFETY

Please refer to White Book Section 14 - Health and Safety before specifying, handling or installing any British Gypsum products and systems covered in this publication.

British Gypsum fully accepts its responsibilities as a supplier of building materials and systems as required by Section 6 of the Health and Safety Work Act: 1974. The designer should take full account of relevant regulations and guidance. Please refer to **Section 14 - Health and Safety**, for further details.

Safety Data Sheets for all British Gypsum products, and additional copies of **Section 14 - Health and Safety** are available to download from our website: www.british-gypsum.com, or via the British Gypsum Drywall Academy Advice Centre.

When cutting boards, power and hand tools should be used with care and in accordance with manufacturers' recommendations. Appropriate personal protective equipment should be used.

PERFORMANCE

Fire

The surfaces of both Gyproc WallBoard and the mineral wool slab forming Gyproc TriLine satisfy Class 0 surface requirements for the purposes of national Building Regulations. Please refer to **Table 2**.

For guidance, please refer to **White Book Section b01** - Introduction - Dry linings.

Table 2 - Reaction to fire test performance

Test	Performance
<i>BS 476: Part 6: 1989 Method of test for fire propagation for products.</i>	Index of performance (I) not exceeding 12 and a sub-index (i ₁) not exceeding 6
<i>BS 476: Part 7: 1997 Surface spread of flame tests for materials.</i>	Class 1

EFFECT OF TEMPERATURE, THERMAL PROPERTIES AND SOUND INSULATION

Effect of temperature

Gyproc TriLine is unsuitable for use in areas subject to continuously damp or humid conditions and must not be used to isolate dampness. Plasterboards are not suitable for use in temperatures above 49°C, but can be subjected to freezing conditions without risk of damage.

Thermal Conductivity

Gyproc WallBoard

Conductivity (λ) = 0.19 W/mK

Glass mineral wool = 0.033 W/mK

Thermal performance

Uncontrolled air movement through the cavity can result in excessive heat loss from the building. The quoted values in **Table 3** are based on a closed cavity between the lining and the background. This is achieved in practice if the abutting elements and background are well fitted and junctions are sealed.

Acoustic performance

Masonry walls lined with Gyproc TriLine are capable of providing high levels of sound insulation, including satisfying the requirements as given in the national Building Regulations for sound resisting walls between dwellings. The substantial contribution from the laminate lining permits increased freedom of choice in the type of masonry to achieve specific levels of sound insulation.

The performance of sound resisting floors of timber joists or lightweight concrete construction supported on or flanked by conventionally finished masonry wall can be adversely affected by structural flanking transmission in the walls. This effect can be considerably reduced by the application of Gyproc TriLine to the flanking walls. Gyproc TriLine can also be beneficial in rehabilitation work when applied to new or existing sound resisting walls. As the flanking walls are often the external walls in a new or existing building, lining with Gyproc TriLine can help satisfy the requirements for both thermal insulation and control of structural flanking sound transmission.

Table 3 - Cavity performance

Fixing / system	R value m ² K/W
DriLyner RF system	0.03
DriLyner BASIC and DriLyner TL system (with 10mm stand off)	0.11
DriLyner MF system (with 20mm stand off)	0.17

DESIGN

Gyproc TriLine boards are available with tapered edges in both grades. Joints between the boards may be taped and filled to provide smooth, flat, seamless surfaces or the entire board surface finished with a skim coat of Thistle Board Finish or Thistle Multi-Finish. The laminate is available in a range of thicknesses (please refer to **Table 4**).

Table 4 - Thicknesses available, weight and thermal resistances for Gyproc TriLine

Width	Thickness	R value m ² K/W	Approx. weight kg/m ²	Length mm
	mm			
900	42	0.95	8.5	2400
	52	1.25	8.5	

INSTALLATION

General

It is important to observe appropriate Health and Safety legislation when working on site, i.e. protective clothing and equipment, etc. The following notes are intended as general guidance only, describing the basic sequence of installation. In practice, consideration must be given to design criteria requiring specific project solutions.

Please contact the British Gypsum Drywall Academy Advice Centre for guidance.

Health and Safety

For correct Health and Safety methods, please refer to **White Book Section 14** - Health and Safety.

INSTALLATION (CONT'D)

Cutting

Gyproc TriLine may be cut wallboard surface uppermost, using a fine-tooth saw. Holes for switch or socket boxes should be cut out before the boards are fixed, using a utility saw or sharp knife.

Installation

For details of fixing the DriLyner s1 system, please refer to **White Book** and **SiteBook Section b10** - DriLyner.

FINISHING

Jointing

For joint treatment of tapered edge Gyproc TriLine, please refer to **White Book** and **SiteBook Section n15** - Jointing.

Decorating

After joint treatment or plasterwork has dried, decoration including any decorators' preparatory work, should follow with the minimum of delay. Please refer to **White Book** and **SiteBook Section n30** - Decorative effects.

Plastering

Thistle Board Finish or Thistle Multi-Finish can be applied to the decorative face of the boards to give a thin coat gypsum finish. Please refer to **White Book** and **SiteBook Section n10** - Plaster skimming for further details.

OPERATION AND MAINTENANCE

If a board is damaged, it should be repaired or replaced as described in **White Book Section 9** and **SiteBook Section 10** - Board finishing.

ACCESSORIES

For products recommended in this section, please refer to **White Book** and **SiteBook Section b10** - DriLyner. For metal and other components, please refer to **White Book Sections r20** - Board accessories and **r30** - Metal components for further details.

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

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