



## **TOUGHCOAT BESPOKE COLOURED GLASS - DATA SHEET**

### **INTRODUCTION**

Fenestration Ltd. Offers bespoke opaque, coloured, toughened glass cladding panels which have a high resistance to thermal shock to meet the requirements of architectural use. Toughcoat panels complement the range of Chromatics architectural glasses where high thermal stresses may be experienced. The colour process, known as Toughcoat, is available in any RAL colour or printed with an image supplied by the client.

### **PRODUCT DESCRIPTION**

The Toughcoat process is a multi-laminate plastics process molecularly bonded to pre-toughened glass panels. The process is applied to bespoke toughened glass panels which must be cut and/or drilled to the required shape and size before toughening.

### **POSSIBLE USES**

IGUs  
DG units  
Monolithic glazing units  
Clean rooms  
Medical facilities  
Canteens and kitchens  
Computer rooms (the composition defeats electronic surveillance)  
Low cost homes  
Corporate colour matching and branding  
Signs

### **CHARACTERISTICS**

#### **Glass types:**

- Most forms of glass that may be toughened, including clear Float, Optiwhite or other low iron, Body Tinted, many reflective glass substrates and rolled patterned glass.

#### **Glass gauge:**

- 4mm, 6mm, and, to special order, 8mm and 10mm.

#### **Sizes:**

- Minimum: 600 x 600mm
- Maximum: 2540 x 1330mm

#### **Panel weight:**

- 4mm glass substrate 10kg/m<sup>2</sup>
- 6mm glass substrate 15kg/m<sup>2</sup>



**Fire rating:**

N/A – non-combustible.

**Wind loading:**

Toughcoat can be a surface finish to monolithic glazing panels or a component within a DG unit designed to meet individual building requirements for wind loading as determined by the building engineers.

**Light transmittance:**

- Zero

**Impact resistance:**

Toughcoat meets the performance standards of the relevant toughening specification of the glass substrate and will comply with BSEN 12600 1(B)1.

**THERMAL SAFETY**

As with all Thermal Stress evaluations, all characteristics of the locality and building model must be taken into consideration when assessing the Calculated Temperature Difference.

**THERMAL INSULATION**

N/A

**SAFETY**

Should a Toughcoat panel be broken in a glazed situation, it will in some circumstances remain in place although the damaged glazing should be boarded at the earliest opportunity.

**COLOUR RANGE**

**Plain Colour**

Consistently reproducible colours are available to RAL colour specifications. NB. Where white or pastel colours are required, we recommend you specify Optiwhite or other low iron substrate.

**Print Finish**

Toughcoat may be produced to incorporate clients' supplied digital images. It is important to discuss with Fenestration the quality of the print required. The size, quality and resolution of the digital origination dictates the final quality of the image that can be reproduced on the Toughcoat panel.



## **GLAZING RECOMMENDATIONS**

Toughcoat can be glazed in a range of tried and tested systems which are widely available for other types of laminated glass products for architectural applications. Glazing systems should be drained systems and sealants such as silicone should be neutral curing.

## **INTERIOR FIXING RECOMMENDATIONS**

A variety of fixing methods may be used to fix Toughcoat including:

- lift-up and drop-in trims,
- glazed into glazing beads, where the edge has been cut to the appropriate profile, or
- bonded using proprietary building adhesives applied in horizontal bands - see Sika technical sheet.

Toughcoat incorporates an epoxy layer on the back surface which resists attack by some adhesive solvents. This enables the contractor or artisan to laminate the product to a variety of materials. Caution must be taken to ensure the substrate is thermally and hygroscopically stable or the adhesive method must allow adequate movement to absorb dimensional instability.

## **CUTTING**

N/A

## **AVAILABILITY**

Toughcoat is manufactured in the UK by Fenestration Ltd.

Orders should state: size, gauge, colour, quantity required and delivery requirements. If you have particular delivery requirements, we recommend you contact our production department.

## **POLICY**

It is the policy of Fenestration Ltd. to carry out stringent quality control. In addition to in-house testing, Fenestration Ltd. also engages independent institutions.

This website gives a general description of the product and materials. It is the responsibility of the user to ensure that any and all use of the product is appropriate for any particular application and that such application complies with all the relevant local and national legislation, standards, codes of practice and other requirements.



## **SPECIFICATION**

Architectural specifications should state:

Toughcoat panels comprising .....mm toughened glass substrate, having an opaque coloured organic coating, free from heavy metal and volatile organic content, in RAL ..... applied to the 2<sup>nd</sup> surface of the glass, the final surface being a moisture-proof barrier. (When incorporated in an IGU, the coated surface will be surface 4.)

The coating will be free from pin-holes, will be fully reproducible, will not fade or discolour, will be resistant to scratching and acid attack, remain stable under extremes of temperature and be resistant to UV degradation. Should the panel be broken due to impact, it will remain intact owing to the properties of the Toughcoat coating.

Allen Walker.            Coatings Technology  
07776 235 171  
[allen.walker@toughcoat.co.uk](mailto:allen.walker@toughcoat.co.uk)

Patricia M Wilcock.    Glass Technology  
07872 379 027  
[patriciawilcock@btconnect.com](mailto:patriciawilcock@btconnect.com)

## **FURTHER INFORMATION**

Should any further information be required regarding our range of products, please contact Fenestration Ltd. on +44 (0)844 800 9260.