

## GGF Datasheet: Channel Shaped Glass - Annealed - Wired and Unwired

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#### Introduction

This part of the GGF Data Sheet 4.6 series gives extra information, over and above GGF Data Sheet 4.6.1 on annealed wired or unwired channel shaped glass.

#### 1. Scope

This GGF Data Sheet concentrated on the specifics of annealed wired or unwired channel shaped glass.

It gives details of methods of determining faults with the wired product. Acceptance levels for the annealed products are given.

#### 2. Definitions and Descriptions

For the purpose of this GGF Data Sheet the definition contained within 4.6.1 and the following apply:

##### 2.1 Patterned channel shaped glass

Channel shaped glass with a pattern on the web surface.

NOTE: A number of different patterns are available. See manufacturer's information.

##### 2.2 Tinted channel shaped glass

Channel shaped glass manufactured from body tinted or white glass.

##### 2.3 Wired channel shaped glass

Number of wires varies from 7 to 16 depending on glass type and channel width (see Annex A1 for examples)

##### 2.4 Wire description

The wire used for wired channel shaped glass is stainless steel. The diameter of the wire should be between 0.3 mm and 0.7 mm.

##### 2.5 Wire fault

Deviation of the wire resulting in penetration of the glass surface by the wire or break in the wire in the body of the glass

##### 2.6 Deviation of the wire

Deviation,  $y$ , of the wire relative to a reference such as a line or straight edge. [see figure 1]

##### 2.7 Wire inlay

The relationship between the width of the wire inlay, in the web, and the width,  $B$ , of the web.

##### 2.8 Sandblasted channel shaped glass

This is channel shaped glass where the web, inner surface, has been sandblasted to modify the transparency of the channel shaped glass.

(see Annex A2 )



3. Dimensional Requirements

3.1 Method of measurement

The detail for measurement of the following:

width, B, height of flange, d, length, H.

thickness, c, flange deviation, z, and squareness of cut, q.

are given in Data Sheet 4.6.1

3.2 Determination of wire inlay

This shall be determined by measurement.

The actual distance between adjacent wires should be measured together with any variation in the spacing. The diameter of the wire should be measured.

3.3 Tolerances

The tolerances on the dimensions referred to in 3.1 are given in GGF Data Sheet 4.6.1.

3.4 Wire inlay

The wire inlay shall cover at least 75 % of the web width, B. The maximum distance between adjacent wires shall not exceed 35 mm.

The allowable tolerance between adjacent wires is  $\pm 6$ mm.

3.5 Wire diameter

When the diameter of the wire is measured it shall be between 0.3 mm and 0.7 mm.

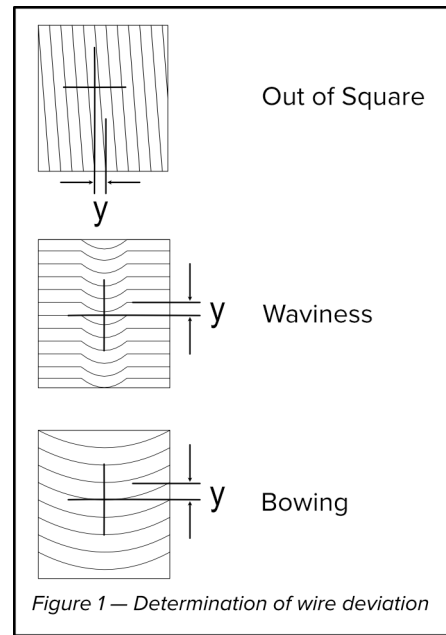
These shall be determined under the viewing conditions given in GGF Data Sheet 4.6.1.

4.1.2 Wire faults

A reference, e.g. line or straight edge, is placed parallel to the direction of the wires. The deviation, y, of the wire inlay in relation to this reference edge is measured (see Figure 1).

Any penetration of the glass surface by the wire is noted.

Any breaks in the wire are noted.



NOTE: The scale of these drawings has been exaggerated in order to be explicit about the types of deviation.

4.2 Acceptance level

4.2.1 Visual faults

Bubbles, ream, scratches or inclusions visible in the conditions defined in 4.1.1 are not allowed.

4.2.2 Wire faults

Acceptance levels of wire faults:

- The deviation, y, (see Figure 1) shall not exceed 5 mm per metre.
- In no case is the wire inlay allowed to penetrate the surface.
- Breaks in the wire are not acceptable

5. Harmonised standards for CE marking

See GGF Data Sheet 4.6.1.

## Annex A

### A1 Examples of wired channel shaped glass



Fig A1.1 - 8 Wire Channel Shaped Glass



Fig A1.2 - 16 Wire Channel Shaped Glass

### A2 Sandblasted Channel Shaped Glass

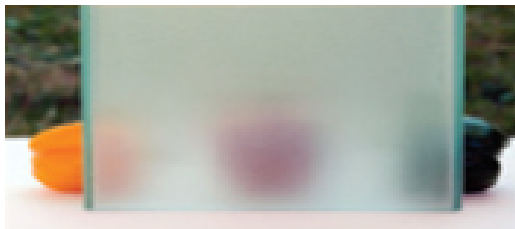


Fig A2.1 Cast Unwired Glass Sandblasted

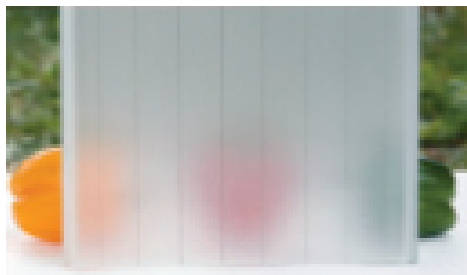


Fig A2.2 Cast Wired Glass Sandblasted

### A3 Safety performance of wired channel shaped glass

(See also GGF Data sheet 4.6.5)

Wired channel shaped glass cannot be tested/ classified using EN 12600<sup>1</sup>

However, it is feasible to test a screen manufactured from wired channel shaped glass using the methodology contained within BS 6206<sup>2</sup>/EN 12600.

For example: -A screen consisting of 'dual glazed' 8-wire channel shaped wired glass that incorporates appropriate gaskets can be tested. After impact the 'safe breakage' criteria is checked using the detail as given in EN 12600, i.e. no hole through which a 76mm diameter sphere can pass when a load of 25N is applied,.

If the sphere cannot penetrate the glass it can be deemed to satisfy the requirement of the applicable building regulations:

Part K4 for England;

Part N1 for Wales;

Part P2 for Scotland; and

Part V1 for Northern Ireland.

This screen would be classified as 3/B/3 in accordance with EN 12600.

### Bibliography

BS 6206: *Specification for impact performance requirements for flat safety glass and safety plastics for use in building*

EN 12600: 2002: *Glass in building – Pendulum test – Impact test method and classification for flat glass*

prEN 17258-1: *Glass in building – Sandblasted glass – Part 1: Definition and description*

prEN 17258-2: *Glass in building – Sandblasted glass – Part 2: Product standard*

### GGF Publications

Data Sheet 4.6.1: *Channel Shaped Glass: Generalities – Definitions, Terminology, Properties*

Data Sheet 4.6.5: *Channel Shaped Glass - Glazing and performance of Channel Shaped Glass*

<sup>1</sup>EN 12600: 2002 – Glass in building – Pendulum test – Impact test method and classification for flat glass

<sup>2</sup>BS 6206: Specification for impact performance requirements for flat safety glass and safety plastics for use in building