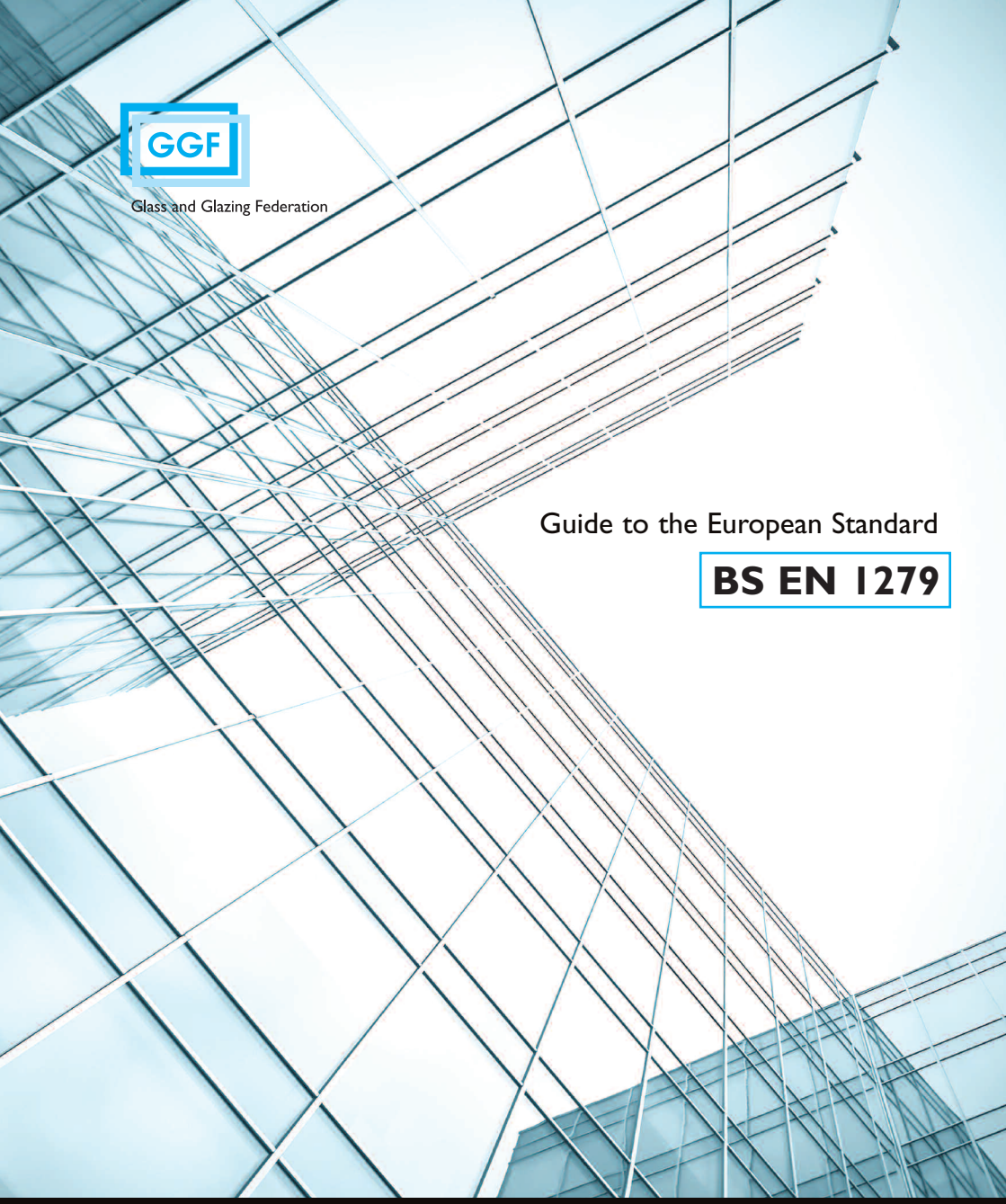

GGF

Glass and Glazing Federation

Guide to the European Standard

BS EN 1279

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Glass and Glazing Federation

Glass in Building

Insulating glass units

July 2011

1. Introduction

The following is a guide to BS EN 1279. It is an overview of the contents of the standard and explains some of the practical ramifications.

2. History

The need for this standard (and in fact all the European Standards) was as a result of the will to create a single European market. There should be no barriers to trade and free exchange of goods within the European community. The intention was to create a level playing field.

The Construction Products Directive 89/106/EEC (the CPD) is one of the "New Approach Directives" (European Community Laws) to create a single European market by removing technical barriers to trade between Member States. The CPD has been implemented into the United Kingdom law by the Construction Products Regulations 1991 as amended by the Construction Products (Amendment) Regulations 1994. Standards prepared at the request of the European Commission to implement European legislation are known as "mandated" standards.

EN1279-5 was published in May 2005 and CE Marking was possible from March 2006. Since 1 March 2007 compliance with EN1279 has been mandatory for all manufacturers of all insulating glass units.

3. Details of the six parts

NOTE: All the SIX Parts of this standard are inextricably linked to each other.

- Part 1

This part covers materials, the rules for the system description, the optical and visual quality, the dimensional tolerances and in an informative annex, - installation recommendations. In essence it should list the type of glass, the manufacturers and types of sealants (secondary/primary) and manufacturer and types of desiccants.

It is also to include U values, gas concentrations and other relevant technical information.
Space type and corner configuration
All internal decorative additions to be defined.
Any changes to components must include, under the substitution rules, a Periodic Test conducted within two months of making the change and be included in the System Description.
If working under a Third Party controlled system and third party should be informed.

The system description should cover all possibilities of the units design.

NOTE: The system description should cover all possible variations of the unit design.

- Part 2

This part of the standard covers the test method for moisture penetration. It is one means of verifying whether a product made in accordance with its system description (Part 1) conforms to the relevant aspect of the definition of insulating glass units.

A Notified Body Test House must carry out Initial Type Testing and these records must be retained in the Manufacturers Technical File.

- Part 3

This part of the standard covers;
- the gas leakage by testing
- the gas concentration tolerances

It is a means of verifying whether a product made in accordance with its system description, conforms to the relevant aspects of the definition of insulating glass units.

A Notified Body Test House must carry out Initial Type Testing and these records must be retained in the Manufacturers Technical File.

- Part 4

This part of the standard covers evaluation of the edge seal strength, evaluation of moisture and gas permeation through sealant, by testing and/or report examination. It is a means of verifying whether a product made in accordance with its system description, and its variations in accordance with Part 1, conforms to the relevant aspects of the definition of insulating glass units.
The Part 4 test is usually provided by the component manufacturer (testing is through a notified body test house) but if results are not available it is the responsibility of the IGU manufacturer to provide these results.

- Part 5

This part specifies requirements for the evaluation of conformity and the factory production control control of insulating glass units for use in buildings. It is the master document for all other parts of BS EN1279.

It identifies all the other relevant standards that will assist in classifying the performance of the insulating glass unit. The essential characteristics cover the following:

- **Safety in the case of fire – resistance to fire, reaction to fire, external fire performance**
- **Safety in use – impact performance, manual attack, etc**
- **Acoustic performance**
- **Thermal performance**

It also give the CE conformity marking requirements.

NOTE: Part 5 is the starting point for a manufacturer wishing to prove compliance with the standard. It cross references all of the five other parts.

- Part 6

This part covers the routine factory production control, the periodic testing and fogging inspection and test to verify that production conforms to the system description.

This Part need not be monitored by an external body but shall be audited by the manufacturer on a regular basis to ensure compliance, although auditing by an external third party is not mandatory it may be considered advisable to assure confirmation of ongoing compliance.
Please contact the GGF for further advice or recommendation.

4. Facts to be aware of

Although currently UK based IGU manufacturers are not legally required to CE mark insulating glass units placed on the market within the UK, it is generally accepted by all major trade bodies including the GGF that compliance to EN 1279 is essential. This shows compliance with the CPD which is mandatory in most Member states within the European Union and is the preferred route to demonstarte IGU's are compliant.

The likely potential change of the CPD from a "Directive" to the Construction Product Regulation (CPR) in July 2013, will confirm CE marking as a mandatory requirement for all IGU manufacturers and will mean compliance with EN 1279 is required.

Where insulating glass units are to be used for fire resistance, bullet resistance etc, special rules apply, Contact GGF for guidance.

Guide to the European Standard

BS EN 1279

This standard consists of the following parts:

PART 1
- Generalities, dimensional tolerances and rules for system description.

PART 2
- Long term test method and requirements for moisture penetration

PART 3
- Long term test method and requirements for gas leakage rate and gas concentration levels

PART 4
- Methods of test for the physical attributes of edge seals.

PART 5
- Evaluation of conformity/Product standard

PART 6
– Factory production control and periodic tests

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