

Glass plant, pipeline and fittings —

Part 4: Specification for glass plant components

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Cooperating organizations

The Glass Standards Committee, under whose direction this British Standard was prepared, consisted of representatives from the following Government departments and scientific and industrial organizations:

- British Glass Industry Research Association
- British Lampblown Scientific Glassware Manufacturers' Association Ltd.*
- British Plastics Federation
- Department of the Environment (Housing and Construction)
- Department of Transport
- Flat Glass Manufacturers' Association
- Glass Manufacturers' Federation*
- Scientific Instrument Manufacturers' Association
- Society of Glass Technology*
- The Glass and Glazing Federation

The organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

- Chemical Industries Association
- Engineering Equipment Users' Association
- Institution of Chemical Engineers

This British Standard, having been prepared under the direction of the Glass Standards Committee¹⁾, was published under the authority of the Executive Board and comes into effect on 30 April 1980

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¹⁾ On disbandment of the Glass Standards Committee in 1979, responsibility for this work was transferred to the Chemical and Petroleum Engineering Standards Committee.

Amendments issued since publication

Amd. No.	Date of issue	Comments

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National foreword

This British Standard is published in Parts which are identical with the corresponding ISO standards dealing with glass plant, pipeline and fittings as follows.

Part 1. ISO 3585	<i>Properties of borosilicate glass 3.3</i>
Part 2. ISO 3586	<i>General rules for testing, handling and use</i>
Part 3. ISO 3587	<i>Pipeline fittings of nominal bore 15 to 150 mm — Compatibility and interchangeability</i>
Part 4. ISO 4704	<i>Glass plant components</i>

BS 2598 was first published in 1955 to provide for the increasing demand for glass piping in the chemical and allied industries. The standard was revised and extended in 1966 to include spherical buttress ends and metric dimensions. The 1966 edition is now withdrawn.

The preparation of an International Standard was proposed by the United Kingdom and the ISO standards listed above were prepared by Technical Committee 128, Glass plant, pipeline and fittings, of the International Organization for Standardization (ISO). The United Kingdom took an active part in the development of these standards based on experience with the previous editions of BS 2598.

It was not found possible to reach agreement internationally on the design of a single buttress end but the ISO standards provide for compatibility and interchangeability between a wide range of components from the current and future productions of manufacturers in different countries.

ISO 4704 was approved by the ISO Member Bodies of the following countries:

Austria	Korea, Rep. of	Switzerland
Czechoslovakia	Mexico	Turkey
France	Poland	United Kingdom
Germany	Romania	
Italy	South Africa, Rep. of	

No ISO Member Body expressed disapproval of the document.

Terminology and conventions. The text of the International Standard has been approved as suitable for publication, without deviation, as a British Standard. Some terminology and certain conventions are not identical with those used in British Standards; attention is especially drawn to the following.

The comma has been used throughout as a decimal marker. In British Standards it is current practice to use a full point on the base line as the decimal marker.

Wherever the words “International Standard” appear, referring to this standard, they should be read as “British Standard”.

Cross-references

International Standard	Corresponding British Standard
ISO 3585:1976	BS 2598 <i>Specification for glass plant, pipeline and fittings</i> Part 1:1980 <i>Properties of borosilicate glass 3.3</i> (Identical)
ISO 3586:1976	BS 2598 <i>Specification for glass plant, pipeline and fittings</i> Part 2:1980 <i>General rules for testing, handling and use</i> (Identical)

International Standard	Corresponding British Standard
ISO 3587:1976	BS 2598 <i>Specification for glass plant, pipeline and fittings</i> Part 3:1980 <i>Pipeline and fittings of nominal bore 15 to 150 mm — Compatibility and interchangeability</i> (Identical)

There is no British Standard equivalent for ISO 2084. A related British Standard for this ISO standard is BS 4504 “*Flanges and bolting for pipes, valves and fittings. Metric series*” Part 1 “*Ferrous*”.

Additional information. With reference to the use of the term “nominal bore” in conjunction with the symbol “DN”, it should be noted that this symbol is being adopted for “nominal size” in connection with International Standards for metal pipe and fittings.

NOTE *Printing error.* In clause 2 “ISO 2034” has been corrected to read “ISO 2084”.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 14, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

0 Introduction

This International Standard deals with a selection of components of glass plant, mainly in nominal bores in the range from 80 to 1 400 mm. Some nominal bores and sizes which are not being manufactured at the time of drafting this International Standard have been included, with the aim of extending to future manufacture the essential requirements of compatibility and interchangeability, the achievement of which is the main purpose of this International Standard.

This International Standard should be read in conjunction with ISO 3585, ISO 3586 and ISO 3587.

This International Standard covers a limited series of components for which important elements of standardization could be agreed relatively rapidly, it may be possible subsequently to deal similarly with other components which involve greater difficulties in standardization.

Where dimensions have not been standardized but are to be given by the manufacturers, this is for one of the following reasons:

- that standardization of a dimension, or other particular feature, would apply an undesirable restriction on future development of the component;
- it has not been possible to reach agreement on a standard dimension because of the different manufacturing methods in current use, which themselves involve high capital investment;
- the standardization of a dimension would involve the cost of change without the basic advantages of compatibility and interchangeability.

1 Scope and field of application

This International Standard specifies the essential requirements for compatibility and interchangeability of components of glass plant, to the extent that these objectives are attainable, bearing in mind the differences in basic design features between the products of different manufacturers. It not only specifies standardized dimensions but, where applicable, lists additional information which should be given by the manufacturers, either in catalogues or supplied to users on request.

2 References

ISO 2084, *Pipeline flanges for general use — Metric series — Mating dimensions*.

ISO 3585, *Glass plant, pipeline and fittings — Properties of borosilicate glass 3.3*.

ISO 3586, *Glass plant, pipeline and fittings — General rules for testing, handling and use*.

ISO 3587, *Glass plant, pipeline and fittings — Pipeline and fittings of nominal bore 15 to 150 mm — Compatibility and interchangeability*.

3 Material

The components referred to in this International Standard shall be manufactured from borosilicate glass 3.3, which is resistant to both heat and chemical attack. Its properties are given in ISO 3585.

4 Working temperatures and working pressures

The maximum working temperatures and pressures of components and installed systems shall not exceed those recommended by the manufacturer.

5 Basic dimensions

5.1 Nominal bores (DN)

The nominal bores are: 80 – 100 – 150 – 200 – 225 – 300 – 400 – 450 – 600 – 800 – 1 000 – 1 200 – 1 400 min.

5.2 Length

All lengths of components shall be multiples of 25 mm if possible unless otherwise stated. The length L of components with flat buttress ends is the distance between the joint faces (see Figure 1). For spherical buttress ends see ISO 3587.