

**BRITISH STANDARD**

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**BS EN  
1514-3 : 1997**

# **Flanges and their joints — Dimensions of gaskets for PN-designated flanges**

## **Part 3. Non-metallic PTFE envelope gaskets**



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The European Standard EN 1514-3 : 1997 has the status of a  
British Standard

ICS 23.040.80

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## Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee PSE/2, Jointing materials and compounds, upon which the following bodies were represented:

Asbestos Information Centre Ltd.  
 British Adhesives and Sealants Association  
 British Compressed Gases Association  
 British Hydromechanics Research Group  
 Chartered Institution of Water and Environmental Management  
 Energy Industries Council  
 Industrial Water Society  
 L P Gas Association  
 Water Services Association of England and Wales

This British Standard, having been prepared under the direction of the Sector Board for Engineering, was published under the authority of the Standards Board and comes into effect on 15 August 1997

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## National foreword

This Part of BS EN 1514 has been prepared by Technical Committee PSE/2, and is the English language version of EN 1514-3 : 1997 *Flanges and their joints — Dimensions of gaskets for PN-designated flanges — Part 3: Non-metallic PTFE envelope gaskets*, published by the European Committee for Standardization (CEN).

This Part of BS EN 1514 supersedes BS 4865 : Part 3 : 1989, which is withdrawn.

### Cross-references

Publication referred to	Corresponding British Standard
EN ISO 6708 : 1995	BS EN ISO 6708 : 1996 <i>Pipework components — Definition and selection of DN (nominal size)</i>

**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 and ii, the EN title page, pages 2 to 6, an inside back cover and a back cover.

EUROPEAN STANDARD

EN 1514-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 1997

ICS 23.040.80

Descriptors: Industrial piping, flange connections, pipe joints, dimensions, marking

English version

## Flanges and their joints — Dimensions of gaskets for PN-designated flanges — Part 3: Non-metallic PTFE envelope gaskets

Brides et leurs assemblages — Dimensions des  
joints pour les brides désignés PN —  
Partie 3: Joints non métalliques à enveloppe PTFE

Flansche und ihre Verbindungen — Maße für  
Dichtungen für Flansche mit PN-Bezeichnung —  
Teil 3: Nichtmetallische Weichstoffdichtungen mit  
PTFE-Mantel

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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Comité Européen de Normalisation  
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Ref. No. EN 1514-3 : 1997 E

**Foreword**

This European Standard has been prepared by Technical Committee CEN/TC 74, Flanges and their joints, the Secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 1997, and conflicting national standards shall be withdrawn at the latest by October 1997.

Annex A is informative and contains 'information to be supplied by the purchaser'.

Annex B is informative and contains 'A-deviations'.

EN 1514 consists of four Parts:

- Part 1: *Specification for non-metallic flat gaskets with or without inserts*
- Part 2: *Specification for spiral wound gaskets for use with steel flanges*
- Part 3: *Specification for non-metallic PTFE envelope gaskets*
- Part 4: *Specification for corrugated, flat or grooved metallic and filled metallic gaskets for use with steel flanges*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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## Introduction

**WARNING.** Gaskets made to this standard may contain asbestos. Materials containing asbestos may be subject to legislation that requires precautions to be taken when handling them to ensure that they do not constitute a hazard to health (see annex B). Attention is drawn to relevant EEC directives.

## 1 Scope

This standard specifies the dimensions and marking of IBC (inside bolt circle) non-metallic PTFE envelope gaskets for use with flanges complying with prEN 1092-1, prEN 1092-2, prEN 1092-3 and prEN 1092-4, for PN 6 up to and including PN 63, up to and including DN 600.

NOTE 1. Dimensions of other types of gaskets for use with flanges to prEN 1092-1, prEN 1092-2, prEN 1092-3 and prEN 1092-4 are given in EN 1514-1, EN 1514-2 and EN 1514-4.

NOTE 2. Annex A lists information that should be supplied by the purchaser when ordering gaskets.

NOTE 3. This standard does not provide dimensions to suit PN 100 flanges, as gaskets covered by this standard are not necessarily intended for such applications.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

prEN 1092-1	<i>Flanges and their joints — Circular flanges for pipes, valves and fittings — Part 1: Steel flanges — PN designated</i>
prEN 1092-2	<i>Flanges and their joints — Part 2: Cast iron flanges</i>
prEN 1092-3	<i>Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories — Part 3: Copper alloy and composite flanges — PN designated</i>
prEN 1092-4	<i>Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories — PN designated — Part 4: Aluminium alloy flanges</i>
EN 1333	<i>Pipework components — Definition and selection of PN</i>
EN ISO 6708	<i>Pipework components — Definition and selection of DN (nominal size) (ISO 6708 : 1995)</i>

## 3 Definitions

For the purposes of this standard the following definitions apply.

### 3.1 DN

See EN ISO 6708.

### 3.2 PN

See EN 1333.

## 4 Designations

### 4.1 Range of PN Designations

Gaskets shall be designated as suitable for use with one or more of the following PN designations as follows:

PN 6	PN 25
PN 10	PN 40
PN 16	PN 63

### 4.2 Range of DN (nominal sizes)

Gasket nominal sizes shall be designated in accordance with the ranges specified in table 1.

### 4.3 Gasket types

Gasket types, as defined in clause 5 and as illustrated in figure 1, shall be designated as:

- type A: slit type;
- type B: machined type;
- type C: folded tape type.

### 4.4 Information to be supplied by the purchaser

NOTE. For information to be supplied by the purchaser, see annex A.

## 5 Gasket designs

Gaskets for which dimensions are specified shall be one of the designs shown in figure 1.

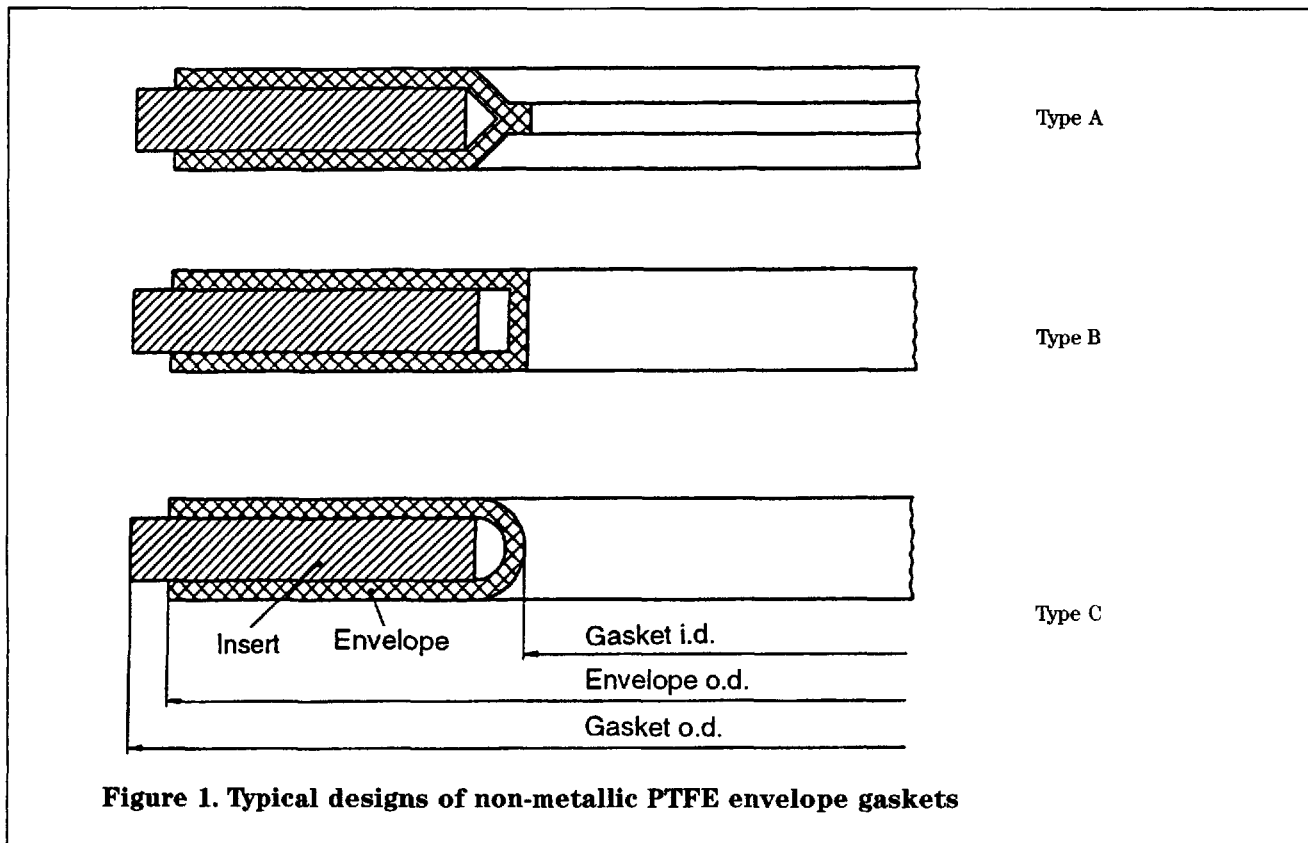
NOTE 1. Gasket inserts are usually manufactured from compressed fibre sheet jointings, including asbestos. Other materials are also used to suit particular applications.

**WARNING.** Gaskets made to this standard may contain asbestos. Materials containing asbestos may be subject to legislation that requires precautions to be taken when handling them to ensure that they do not constitute a hazard to health (see annex B). Attention is drawn to relevant EEC directives.

NOTE 2. Each design is applicable only to certain DN and PN of flanges and is dependant upon manufacturing constraints.

NOTE 3. The selection of the gasket should take into account the fluid, the operating conditions, the properties of the gasket materials, the type and surface finish of flange facing and the flange bolt loading. It is recommended that selection of gaskets for any particular application is made in consultation with the gasket supplier (see annex A).





## 6 Gasket type

Gaskets are IBC (inside bolt circle) type and shall be for use with type A (flat face) or type B (raised face) flange facings.

NOTE. Type A and type B flange facings are shown in prEN 1092-1.

## 7 Dimensions

The dimensions of non-metallic PTFE envelope gaskets shall be as given in table 1.

NOTE. Gasket thickness is not specified but it should be selected taking into account the properties of the gasket materials and the intended service application. It is recommended that the gasket manufacturer should be consulted when selecting gasket thickness (see annex A).

## 8 Marking

Gaskets shall be identified either individually or on the packaging containing the gasket(s) with the following information:

- the number and Part of this European Standard, i.e. EN 1514-3;
  - gasket type designation (see 4.3);
  - DN followed by the appropriate number (see table 1);
  - PN designation (see table 1);
- NOTE. Certain gaskets may be suitable for more than one PN designation and may be suitably marked.
- thickness;
  - materials;
  - manufacturer's name or trademark.

EXAMPLE. EN 1514-3, Type C, DN 150, PN 6, 2 mm, XXX, AAA/BBB



Table 1. Dimensions of non-metallic PTFE envelope gaskets								
Dimensions in millimetres								
DN	Gasket inside diameter min.	Envelope outside diameter min.	Gasket outside diameter					
			PN 6	PN 10	PN 16	PN 25	PN 40	PN 63
10	18	36	39	46	46	46	46	56
15	22	40	44	51	51	51	51	61
20	27	50	54	61	61	61	61	72
25	34	60	64	71	71	71	71	82
32	43	70	76	82	82	82	82	88
40	49	80	86	92	92	92	92	103
50	61	92	96	107	107	107	107	113
65	77	110	116	127	127	127	127	138
80	89	126	132	142	142	142	142	148
100	115	151	152	162	162	168	168	174
125	141	178	182	192	192	194	194	210
150	169	206	207	218	218	224	224	247
200	220	260	262	273	273	284	290	309
250	273	314	317	328	329	340	352	364
300	324	365	373	378	384	400	417	424
350	356	412	423	438	444	457	474	486
400	407	469	473	489	495	514	546	543
450	458	528	528	539	555	564	571	—
500	508	578	578	594	617	624	628	—
600	610	679	679	695	734	731	747	—

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**Annex A (informative)****Information to be supplied by the purchaser**

Before ordering a gasket it is recommended that the selection of the gasket design should be made in consultation with the gasket supplier. The selection of gasket design and thickness should take account of the fluid, the operating conditions, the properties of the gasket materials, the type and surface finish of the flange facing and the flange bolt loading.

The following information should be supplied by the purchaser when ordering gaskets:

- a) the number and Part of this European Standard, i.e. EN 1514-3;
- b) gasket type (see 4.3);
- c) DN (see table 1);
- d) PN designation (see table 1);
- e) thickness (see note to clause 7);
- f) expected operating conditions for which the gasket will be used.

**Annex B (informative)****A-deviation**

This European Standard is mandated under the Council Directive on the approximation of the laws of the Member States concerning pressure equipment.

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC member.

NOTE. (from CEN/CENELEC IR Part 2, 3.1.9). Where standards fall under EC Directives, it is the view of the Commission of the European Communities (OJ No G 59, 9.3.1982) that the effect of the decision of the Court of Justice in case 815/79 *Cremonini/Vrankovich* (European Court Reports 1980, p. 3583) is that compliance with A-deviations is no longer mandatory and that the free movement of products complying with such a standard should not be restricted except under the safeguard procedure provided for in the relevant Directive.

A-deviations in an EFTA country are valid instead of the relevant provisions of the European Standard in that country until they have been removed.

With reference to clause 5, gasket designs:

**Austria**

Order on the use of asbestos (BGBl. Nr 324/1990 *Asbestverordnung*).

According to this order restrictions for trading, fabrication, use and marking of materials containing asbestos apply in Austria.

**Denmark**

Bekendtgørelse om asbest (Nr. 660 af 24. Juni 1986).

Bekendtgørelse om ændring af bekendtgørelse om asbest (Nr. 139 af 23. Marts 1987) (Nr. 984 af 11. December 1992).

According to this order, the use of asbestos and materials containing asbestos is prohibited in Denmark.

**France**

Decret n° 96-1132 du 24 Decembre 1996 modifiant le decret n° 96-98 du 7 Fevrier 1996 relatif a la protection des travailleurs contre les risques lies a l'inhalation de poussières d'amiante.

Decret n° 96-1133 du 24 Decembre 1996 relatif a l'interdiction de l'amiante, pris en application du code du travail et du code de la consommation.

According to these regulations, within the scope of industrial safety the fabrication, manufacture, sale, import and merchandising of products containing asbestos is forbidden on the French market from 1 January 1997.

**Germany**

Verordnung zur Novellierung der Gefahrstoffverordnung, zur Aufhebung der Gefährlichkeitsmerkmalverordnung und zur Änderung der ersten Verordnung zum Sprengstoffgesetz vom 26.10.1993 erschienen im Bundesgesetzblatt, Jahrgang 1993, Teil 1, Nummer 57, Seite 1782 und Verordnung über die Neuordnung und Ergänzung der Verbote und Beschränkungen des Herstellens, Inverkehrbringens und Verwendens gefährlicher Stoffe, Zubereitungen und Erzeugnisse nach Paragraph 17 des Chemikaliengesetzes vom 14. Oktober 1993, Bundesgesetzblatt Jahrgang 1993, Teil 1, Seite 1720.

According to this ordinance the use of gasket material containing asbestos is prohibited in Germany.

**Italy**

Law 1992-03-27 N.257 concerning 'Rules regarding the stop of use of asbestos'.

**Norway**

Forskrifter til arbeidsmiljøloven fastsatt av Kommunaldepartementet 16.August 1991 «Asbest» (best. nr 235).

According to this regulation the use of asbestos and materials containing asbestos is prohibited in Norway.

**Sweden**

Ordinance AFS 1992:2 'Asbest' of the National Board of Occupational Safety and Health.

According to this ordinance the use of asbestos and material containing asbestos is prohibited.

**Switzerland**

Verordnung über umweltgefährdende Stoffe (Stoffverordnung, StoV) vom 1986-06-09, Stand 1994-01-01, Änderung 1994-01-26, SR 814.013.

**UK**

Asbestos Products (Safety) Regulations 1985.

Control of Asbestos at Work Regulations 1987 (as amended).

Asbestos (Prohibitions) Regulations 1992.

According to these regulations provisions covering work activities involving exposure to asbestos and the labelling of products containing asbestos apply in the UK.

## List of references

See national foreword.



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**BS EN**  
**1514-3 : 1997**

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