BRITISH STANDARD

BS EN
12560-7:2004

Flanges and their joints — Gaskets for Class-designated flanges —

Part 7: Covered metal jacketed gaskets for use with steel flanges

The European Standard EN 12560-7:2004 has the status of a British Standard

ICS 23.040.80

BSI
British Standards

National foreword

This British Standard is the official English language version of EN 12560-7:2004

The UK participation in its preparation was entrusted to Technical Committee PSE/2, Jointing materials and compounds, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled "International Standards Correspondence Index", or by using the "Search" facility of the *BSI Electronic Catalogue* or of British Standards Online.

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

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 14 June 2004

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 18, an inside back cover and a back cover.

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NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12560-7

June 2004

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English version

Flanges and their joints - Gaskets for Class-designated flanges - Part 7: Covered metal jacketed gaskets for use with steel flanges

Brides et leurs assemblages - Joints pour les brides désignées Class - Partie 7: Joints métalloplastiques revêtus pour utilisation avec des brides en acier

Flansche und ihre Verbindungen - Dichtungen für Flansche mit Class-Bezeichnung - Teil 7: Metallummantelte Dichtungen mit Auflage für Stahlflansche

This European Standard was approved by CEN on 1 April 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. 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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN 12560-7:2004: E

Contents

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Foreword

This document (EN 12560-7:2004) 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 December 2004, and conflicting national standards shall be withdrawn at the latest by December 2004.

The annex A is informative and contains "Information to be supplied by the purchaser".

The annex B is informative and contains "A-deviations".

EN 12560 consists of 7 parts:

Part 1: Non-metallic flat gaskets with or without inserts

Part 2: Spiral wound gaskets for use with steel flanges

Part 3: Non-metallic PTFE envelope gaskets

Part 4: Corrugated, flat or grooved metallic and filled metallic gaskets for use with steel flanges

Part 5: Metallic ring joint gaskets for use with steel flanges

Part 6: Covered serrated metal gaskets for use with steel flanges

Part 7: Covered metal jacketed 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies the construction, dimensions and marking of covered metal jacketed gaskets for use with flanges complying with prEN 1759-1 for Class 150, Class 300, Class 600, Class 900. Class 1 500 for sizes up to and including NPS 24, and for Class designation 2 500 up to and including NPS 12.

This European Standard does not extend to covered metal jacketed based heat exchanger gaskets with pass bars or large vessel gaskets but, in the lack of a dedicated document for such gaskets, the principles set down may be applied to them.

NOTE 1 Dimensions of other types of gaskets for use with flanges to prEN 1759-1, EN 1759-3 and EN 1759-4 are given in EN 12560-1, EN 12560-2, EN 12560-3, EN 12560-4, EN 12560-5 and EN 12560-6.

NOTE 2 Annex A lists information that should be supplied by the purchaser when ordering gaskets in circumstances where the choice of the gasket materials appropriate to the service is left to the supplier.

2 Normative references

Not applicable.

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1
covered metal jacketed gasket
consists of a sealing element with or without a location ring which may not be rigidly fixed to the sealing element

NOTE The sealing element consists of a metal jacketed core and a conformable sealing material adhered both top and lower metal jacketed core surfaces.

3.2
DN
see EN ISO 6708

3.3
NPS
see EN 1759-3

3.4
Class
see EN 1759-3

4 Designations

4.1 Range of Class designations

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

Class 150, Class 300, Class 600, Class 900, Class 1 500 and Class 2 500.

4.2 Range of gasket sizes

Gasket nominal sizes shall also be designated in accordance with the ranges specified in Tables 2 and 3.

The general principles described in this standard shall be applied to gaskets outside of the ranges specified in Tables 2 and 3 by agreement between supplier and customer.

4.3 Gasket types

Gasket types, as illustrated in Figure 1, shall be designated as:

Type SC: Sealing element self centring (used with type C/D or E/F flange facings);

Type C/I: Sealing element with inner ring (used with type C/D or E/F flange facings);

Type C/O: Sealing element with centring ring (used with type A or B flange facings);

Type C/IO: Sealing element with centring ring and inner ring (used with type A or B flange facings).

The type A, type B, type C/D, type E/F flange facings are specified in prEN 1759-1.

4.4 Information to be supplied by the purchaser

The selection of gasket materials and type should take into account the fluid, the operating conditions and the properties of the gasket materials as well as the type of flange. It is recommended that the selection of a gasket for any particular application is made in consultation with the gasket supplier who will advise on the materials required for a particular service (see annex A).

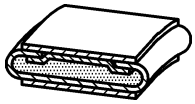
5 Constructional details

5.1 General details

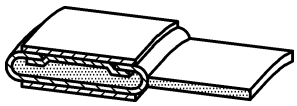
The covered metal jacketed gasket shall consist of a metal jacketed core and of covering layers stuck on both sides.

All gasket sizes and classes shall be designed so that an applied uniform bolt stress of 200 MPa will correctly seat the gasket and offer the required level of seal.

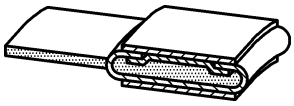
Gaskets for which dimensions are specified shall be one of the designs shown in Figure 1.



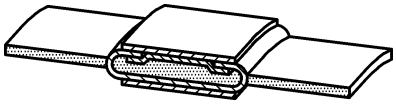
a) Type SC



b) Type C/I

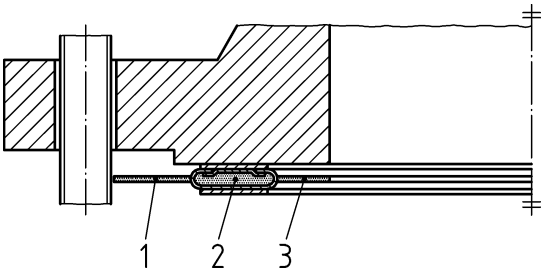


c) Type C/O

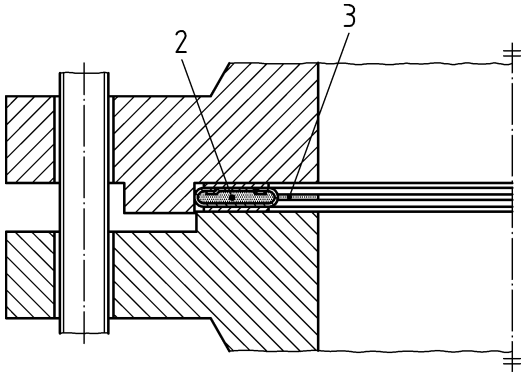


d) Type C/IO

Figure 1 — Covered metal jacketed gaskets



a) gaskets (C/O or C/IO type) for use with type A (flat face) or type B (raised face) flanges



b) gaskets (SC or C/I type) for use with type C/D (tongue/groove) or type E/F (spigot/recess) flanges

Key
1 Centring ring
2 Sealing element
3 Inner ring

Figure 2 — Examples of typical covered metal jacketed gaskets configurations

5.2 Metal jacket

5.2.1 Metal jacket description

The tolerance of the inside and the outside diameters of metal jacket cross section are given in Tables 2 and 3.

Thickness of the metal jacket cross section is depending on the soft filler material.

5.2.2 Metal jacket material

The material of the shell of the metal jacket shall be selected to be compatible with the intended service.

Table 4 lists the most frequently used materials.

The shell of the metal jacket shall have a thickness between 0,3 mm and 0,5 mm.

5.3 Soft filler

5.3.1 Soft filler description

The thickness of the soft filler material shall be selected to ensure:

— a good compressibility and elastic recovery of the gasket in order to compensate as much as possible the flatness defaults and to respond to variations due to operating conditions;

— a final thickness (with covering layers) adapted with the length of the piping line (after tightening);

— the compatibility with the assembly specification (spigot and recess or tongue and groove, metal to metal contact, ...).

5.3.2 Soft filler material

The filler material shall be selected in accordance with the intended service but as guidance, satisfactory mechanical behaviour is usually obtained with the following soft filler materials:

Suitable expanded graphite is:

— 98 % purity, ash content max. 2 %, sulphur content max. $1\,000 \times 10^{-6}$ (ppm), halogen contents max. 50×10^{-6} (ppm),

— the initial density shall be 1,0 g/cm^3 to 1,1 g/cm^3.

Suitable expanded PTFE is:

— Not recycled 100 % expanded PTFE,

— the initial density shall be 0,7 g/cm^3 to 0,9 g/cm^3.

Suitable Flexible Mica is:

— Phlogopite Mica (content > 96 %) with Silicon binder,

— the initial density shall be 1,8 g/cm^3 to 1,9 g/cm^3.

5.4 Covering layers

5.4.1 Covering layers description

The covering layers material and thickness should be selected to be compatible:

— with the process fluid, and the operating conditions;

— the type and surface finish of the flange facings;

— the flange bolt loading;

and to guarantee:

— satisfactory level of seal;

— a good adaptation with flange facings defaults.

5.4.2 Covering layers material

As a guidance, satisfactory leaktightness is usually reached with the following covering materials:

Suitable expanded graphite is:

— 98 % purity, ash content max. 2 %, sulphur content max. $1\,000 \times 10^{-6}$ (ppm), halogen contents max. 50×10^{-6} (ppm),

— the initial density shall be 1,0 g/cm^3 to 1,1 g/cm^3.

— to be finished with an anti-sticking coating

Suitable Virgin PTFE is:

— not recycled 100 % PTFE,

— the initial density shall be 1,6 g/cm^3.

Suitable Expanded Vermiculite is:

— the initial density shall be 1,2 g/cm^3.

NOTE It would be preferable that the gasket does not show any adhesion to the flange facings.

5.5 Inner and outer rings

5.5.1 Inner and outer rings description

The ring thickness depend on the sealing element thickness.

The rings material and thickness should be selected to be compatible:

— with the assembly considered (spigot and recess or tongue and groove, metal to metal contact, ...),

— with the process fluid, and the operating conditions,

and to guarantee:

— protection of the sealing element against over-load

— sufficient load to assure good level of seal.

The tolerances of the inside and outside diameters of the inner and/or outer rings are given in tables 2 and 3.

5.5.2 Inner and outer rings material

For the outer ring, carbon steel may be selected as standard.

For the inner ring, the same material or one with better corrosion resistance than that of the metal jacket shall be selected as standard.

5.6 Attachment of facing

5.6.1 Methods of attachment

An appropriate bonding adhesive shall be used (maximum chlorine levels of below 50 ppm).

5.6.2 De-greasing of core

Where an adhesive is used the core shall be de-greased before use of the adhesive and the amount of the adhesive used shall be minimised.

5.6.3 Number of joins

In case of joins in the facing material, their number shall be minimised.

5.6.4 Excessive facing

Once the sealing faces have been applied any excess material shall be removed paying particular attention that none protrudes inside of the inner diameter of the gasket.

5.7 Integrity of facing attachment

In order to ensure adequate fixation of the cover layer to the metal jacketed, it shall be ensured that the material is free from any defects such as incisions, cracks or fractures.

5.8 Construction characteristics details

As a guidance, satisfactory configuration of covered metal jacketed gaskets is obtained as described in Table 1.

Table 1 — Construction characteristic details

	General petrochemical applications	General chemical applications	High temperature with low pressure
Metal jacket			
Shell material	316 L stainless steel	Monel 400	Inconel 600
Filler material	Expanded graphite	Expanded PTFE	Flexible Mica
Filler thickness	1,5 mm	3 mm	2 mm
Covering layer			
material	Graphite	Virgin PTFE	Expanded Vermiculite
thickness	0,8 mm	1 mm	0,75 mm
Centering Ring (if used)			
material	Carbon steel	Carbon steel	316L stainless steel
thickness	2,5 mm	2,5 mm	2,5 mm
Inner Ring (if used)			
material	316L stainless steel	Monel 400	Inconel 600
thickness	2,5 mm	2,5 mm	2,5 mm

6 Dimenisons

Diameters of covered metal jacketed gaskets, for use with types A and B flange facings, shall be as given in Table 2.

Diameters of covered metal jacketed gaskets, for use with types C/D and E/F flange facings, shall be as given in Table 3.

Table 2 — Diameters of covered metal jacketed gaskets for A and B flange facings

Dimensions in millimetres

Nominal size		Inner ring inside diameter min[b]	Sealing element inside diameter min.[c]	Sealing element outside diameter max.[d]	Centring ring outside diameter[e]					
NPS	DN[a]	Class 150, 300, 600, 900, 1 500, 2 500			Class 150	Class 300	Class 600	Class 900	Class 1 500	Class 2 500
½[f]	15[f]	—	19,0	31,0	47,6	54,0	54,0	63,5	63,5	69,8
¾[f]	20[f]	—	25,5	38,0	57,1	66,7	66,7	69,8	69,8	76,1
1[f]	25[f]	—	32,0	46,0	66,7	73,0	73,0	79,3	79,3	85,6
1¼[f]	32[f]	36,0	42,0	58,5	76,2	82,5	82,5	88,8	88,8	104,8
1½[f]	40[f]	42,0	48,0	68,0	85,7	95,2	95,2	98,4	98,4	117,4
2	50	54,0	60,0	84,5	104,7	111,1	111,1	142,8	142,8	146,0
2½	65	69,5	75,5	100,0	123,8	130,1	130,1	165,1	165,1	168,2
3	80	82,5	88,5	117,0	136,5	149,2	149,2	168,2	174,6	196,8
4	100	107,5	115,0	145,5	174,6	181,0	193,6	206,4	209,5	234,9
5	125	131,5	141,5	173,5	196,8	215,9	241,3	247,6	254,0	279,3
6	150	157,5	167,5	202,0	222,2	250,8	266,6	288,9	282,5	317,5
8	200	207,5	217,5	258,0	279,3	308,0	320,6	358,7	352,4	387,3
10	250	260,5	270,5	312,0	339,7	362,0	400,0	435,0	435,0	476,2
12	300	311,5	318,0	360,0	409,5	422,2	457,2	498,4	520,7	549,2
14	350	343,5	359,5	402,5	450,8	485,8	492,0	520,7	577,8	—
16	400	394,0	412,5	459,0	514,4	539,7	565,1	574,7	641,3	—
18	450	447,0	467,0	519,0	549,2	596,8	612,7	638.1	704,8	—
20	500	497,0	517,0	571,0	606,4	654,0	682,6	698,5	755,6	—
24	600	597,5	617,5	672,0	717,5	774,7	790,5	838,2	901,7	—

[a] For information only

[b] Tolerance is 0 mm; + 1,5 mm for NPS ½ to NPS 24

[c] Tolerance is 0 mm; + 0,8 mm for NPS ½ to NPS 24

[d] Tolerance is – 0,8 mm; 0 mm for NPS ½ to NPS 24

[e] Tolerance is ± 0,8 mm for NPS ½ to NPS 24

[f] These gasket dimensions are not suitable for use with slip-on screwed flanges.

Table 3 — Diameters of covered metal jacketed gaskets for C/D and E/F flange facings

Dimensions in millimetres

Nominal size		Inner ring inside diameter min.[b]	Sealing element inside diameter min.[c]	Sealing element outside diameter max.[d]
NPS	DN	Class 300, 600, 900, 1 500, 2 500		
½	15	—	25,5	35,0
¾	20	—	33,5	43,0
1	25	—	38,0	51,0
1¼	32	36,0	47,5	64,0
1½	40	42,0	54,0	73,0
2	50	54,0	73,0	92,0
2½	65	69,5	85,5	105,0
3	80	82,5	108,0	127,0
4	100	107,5	132,0	157,0
5	125	131,5	160,5	186,0
6	150	157,5	190,5	216,0
8	200	207,5	238,0	270,0
10	250	260,5	286,0	324,0
12	300	311,5	343,0	381,0
14	350	343,5	374,5	413,0
16	400	394,0	425,5	470,0
18	450	447,0	489,0	533,0
20	500	497,0	533,5	584,0
24	600	597,5	641,5	692,0

[a] For information only

[b] Tolerance is 0 mm; + 1,5 mm for NPS ½ to NPS 24

[c] Tolerance is 0 mm; + 0,8 mm for NPS ½ to NPS 24

[d] Tolerance is ± 0,8 mm for NPS ½ to NPS 24

7 Marking

The location device shall be marked with the following information:

a) the number of this European Standard, i.e. EN 12560-7;

b) the manufacturer's name or trademark;

c) the nominal size (see Tables 2 and 3);

d) the Class designation (see Tables 2 and 3);

e) the manufacturer's symbols for the materials of the metallic jacket, the filler material, and (where applicable) of the inner ring: See colour coding.

EXAMPLE EN 12560-7 — AAA/BBB — NPS 4 — Class 150 — XXX

The gasket shall be identified either individually or on the packaging containing the gasket(s) with the number of the European Standard i.e. EN 12560-7.

8 Colour coding

Covered metal jacketed gaskets shall be marked with a colour code that identifies the metallic jacket core and the soft filler and covering layers. See Table 4.

A continuous colour around the outer location ring shall identify the metallic jacket core.

Intermittent strips around the outer location ring shall identify the soft gasket filler and covering layers:

For sizes below 1½" NPS, gaskets will have a minimum of 2 strips — 180 deg. apart.

For sizes above 1½" NPS, gaskets will have a minimum of 4 strips — 90 deg. apart.

9 Packaging

The packaging shall be sufficient to protect the sealing faces from damage during shipment and subsequent handling before installation. Large diameter gaskets shall be securely mounted on a carrier board or within a protective framework.

Table 4 — Colour coding and abbreviations for covered metal jacketed gasket materials

Material	Abbreviation	Colour code
Metal jacket material of		
Aluminium	Al	No colour
Soft iron	—	No colour
Carbon steel	CRS	Silver
X4CrNi18-10 (1.4301)	304	Yellow
X2CrNi19-11 (1.4306)	304L	No colour
X15CrNiSi20-12 (1.4828)	309	No colour
X15CrNiSi25-20 (1.4841)	310	No colour
X5CrNiMo17-12-2 (1.4401)	316	Green
X2CrNiMo17-12-2 (1.4404)	316L	Green
X6CrNiNb18-10 (1.4550)	347	Blue
X6CrNiTi18-10 (1.4541)	321	Turquoise
X6Cr17 (1.4016)	430	No colour
Copper	CUA1/CUB1	No colour
CuNi10Fe (2.0872)	Cupro-Nickel 90/10	No colour
CuNi30Fe (2.0882)	Cupro-Nickel 70/30	No colour
NiCu30Fe (2.4360)	Monel 400	Orange
Ni99.2 (2.4066)	Nickel	Red
NiMo28 (2.4617)	Hastelloy B	Brown
NiMo16Cr15W (2.4819)	Hastelloy C-276	Beige
NiCr15Fe (2.4816)	Inconel 600	Gold
NiCr22Mo9Nb (2.4856)	Inconel 625	Gold
X10NiCrA/Ti32-20 (1.4876)	Incoloy 800	White
NiCr21Mo (2.4858)	Incoloy 825	White
Titanium	TI	Purple
Soft gasket filler and covering materials[a]		
Flexible graphite	F. G.	Grey stripe
Virgin and expanded PTFE	PTFE/PTFE EX	White Stripe
Non asbestos e.g. flexible Mica		Pink Stripe

[a] In every case, the same material is used for the soft gasket filler and the covering layers.

Annex A
(informative)

Information to be supplied by the purchaser

Before ordering a gasket it is recommended that the selection of the gasket type and materials should be made in consultation with the gasket supplier. This selection should take account of the fluid, the properties of the gasket materials, the service temperature and the flange type and flange materials.

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

a) the number and part of this European Standard, i.e. EN 12560-7;

b) gasket type;

c) the nominal size — (see Tables 2 and 3);

d) the Class designation (see Tables 2 and 3);

e) whether an inner ring is required;

f) required gasket materials or expected operating conditions for applications where the gasket manufacturer is required to select gasket materials.

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, Constructional details:

Austria

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

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

Czech Republic

Decree No. 76/1990 Coll. Health Regulations of the Ministry of Health and Social Affairs of CSR — Heat of Public Health of CSR dated 27 February 1990 which amends the guidelines of the Ministry of Health of CSR — Head of Public Health of CSR No. 64/1984 Coll. Health Regulations concerning health principles for work with chemical carcinogens.

Commencement of production of materials containing asbestos must be authorized by Head of Public Health of the Czech Republic. Products and materials containing asbestos may be used only where absolutely necessary and only for such technical and fire prevention purposes where no other suitable materials can be used.

Denmark

Bekendtgørelse om asbest

(Nr. 660 af 24. Juni 1986)

Bekendtgørelse om aendring 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 décembre 1996 modifiant le decret n° 96-98 du 7 février 1996 relatif a la protection des travailleurs contre les risques lies a l'inhalation de poussieres d'amiante.

Decret n° 96-1133 du 24 décembre 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 1st January 1997.

Germany

Verordnung zur Novellierung der Gefahrstoffverordnung, zur Aufhebung der Gefährlichkeitsmerkmale-verordnung 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 regulations 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.

Bibliography

prEN 1759-1, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, Class designated — Part 1: Steel flanges, NPS ½ to 24.*

EN 1759-3, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, Class designated — Part 3: Copper alloy flanges.*

EN 1759-4, *Flanges and their joint — Circular flanges for pipes, valves, fittings and accessories, class designated — Part 4: Aluminium alloy flanges.*

EN ISO 6708, *Pipework components — Definition and selection of DN (nominal size) (ISO 6708:1995).*

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