

# HG

**Professional Standard of the People's Republic of China**

HG/T 20606-2009

Replace HG 20606-1997, HG 20608-1997

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## 钢制管法兰用非金属平垫片 (PN 系列)

**Non-metallic Flat Gaskets for use with Steel Pipe Flanges**

**(PN Designated)**

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China**

# Non-metallic Flat Gaskets for use with Steel Pipe Flanges

## (PN Designated)

### 1 Scope

This national standard specifies the pattern, dimension, technical requirements and marking of non-metallic flat gaskets (with or without insertion) for use with steel pipe flanges (PN designated). This Standard is applicable to non-metallic flat gaskets for use with steel pipe flange in nominal pressure of PN2.5~PN63 specified in HG/T 20592.

Note: The use of the asbestos-contained material shall comply with requirements of relevant laws and regulations. When the production and use are containing asbestos material gasket, protective measures shall be adopted, so as to ensure not endanger the person health.

### 2 Normative References

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

“Rubber, Vulcanized or Thermoplastic Determination of Tensile Stress Strain Properties” GB/T 528

“Oil-resisting Compressed Asbestos Fibre Jointing” GB/T 539

“Cold Rolled Stainless Steel Plate Sheet and Strip” GB/T 3280

“Compressed Asbestos Fibre Jointing” GB/T 3985

“Steel Pipe Flanges (PN designated)” HG/T 20592

“Specification for selection of Steel Pipe Flanges, Gaskets and Bolting (PN designated)” HG/T 20614

“The Classification, Code and Sign of Flexible Graphite Sheets/Strip” JB/T 6613

“Reinforced Flexible Graphite (Sheets) Gaskets” JB/T 6628

“Specifications of Flexible Graphite Sheets” JB/T 7758.2

“PTFE Sheets” QB/T 3625

### 3 Materials and Service Conditions

#### 3.1 Material Category

Materials of non-metallic flat gaskets for use with steel pipe flanges usually include:

- 1 Natural rubber, polychloroprene rubber, styrene-butadiene rubber, nitrile rubber, EPDM rubber and fluorine rubber;
- 2 Asbestos rubber sheet and oil-resisting asbestos rubber sheet;
- 3 Non-asbestos fiber sheets;
- 4 Polyfluortetraethylene plate, expanded polyfluortetraethylene plate or strips, filling modified polyfluortetraethylene plate;

- 5 Reinforced flexible graphite sheets;
- 6 High-temperature mica composite sheets.

Note: 1 Non-asbestos fiber sheet refers to sheets calendared by organic fiber and (or) inorganic fibre together with rubber at high temperature.

2 The reinforced flexible graphite sheets are composite by tanged or punched stainless steel 0Cr18Ni9 (304), 0Cr17Ni12M02 (316) or 00Cr17Ni14M02 (316L) sheets and flexible graphite layer.

3 The high-temperature mica composite sheet is composite by 316 two-way tanged stainless steel sheet and mica layer.

### 3.2 Materials

3.2.1 The rubber sheet type gasket materials are in accordance with those specified in Table 3.2.1.

**Table 3.2.1 Rubber Sheet Type Gasket Materials**

Test item	Test method	Rubber variety			
		Chloroprene rubber (CR)	Nitrile-butadiene rubber (NBR)	Ethylene-propylene-diene monomer (EPDM)	Fluoroetastomer (FKM)
Hardness (Shore A)	GB/T 531	70±5			
Tensionle neck rate (MPa)		≥10			
Tensile failure elongation (%)	GB/T 528	≥250			≥150

3.2.2 Materials of asbestos rubber sheet comply with the requirements of GB/T 3985 and GB/T 539.

3.2.3 The materials of polyfluortetraethylene plate comply with the requirements of SFB-2 in QB/T 3625—1999.

3.2.4 The PTFE material shall pay attention to its applied operational condition and flange seal contact face pattern when being adopted since it is possessed of cold flow inclination.

3.2.5 The reinforced flexible graphite sheet is composite by stainless steel tanged or punched core sheet together with expanded graphite particles, in which the stainless steel tanged or punched core sheet roles for enhancement. The reinforced flexible graphite sheets shall comply with the requirements of JB/T 6628, and the materials of flexible graphite layer shall comply with the requirements of JB/T 7758.2, therein, chloride ion content shall be less than or equal to  $50 \times 10^{-6}$ .

3.2.6 When adopting expanded polyfluortetraethylene plate or strip and filling modified polyfluortetraethylene plate gasket, authorized manufacturer’s brand shall be indicated. The applicable pressure, applicable temperature and maximum (p×T) value of the gasket shall be confirmed by the service operating condition.

3.2.7 The expanded PTFE strip is generally used for maintenance and service of pipe flange, particularly, in emergency occasions; it may also be used for special pipe flanges. When it is bbeing used, the authorized manufacturer’s brand shall be indicated.

3.2.8 When adopting non-asbestos fiber sheet gasket, authorized manufacturer’s brand shall be indicated. The applicable pressure, applicable temperature and maximum (p×T) value of the gasket shall be confirmed by the service operating condition.

### 3.3 Service Conditions

Service conditions of non-metallic flat gaskets shall be in accordance with those specified in Table 3.3.

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