

इंटरनेट

मानक

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“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 12820 (2004): Dimensional Requirements of Rubber Gaskets for Mechanical Joints and Push-on Joints for Use with Cast Iron Pipes and Fittings for Carrying Water, Gas and Sewage [MTD 6: Pig iron and Cast Iron]



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Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

पानी, गैस तथा मल-जल ले जाने के लिए लोहे के ढलवाँ
पाइपों और फिटिंगों के साथ प्रयुक्त यांत्रिक जोड़ों और
पुश-आन के लिए रबड़ गार्स्केटों की आयामीय अपेक्षाएँ
(पहला पुनरीक्षण)

Indian Standard

**DIMENSIONAL REQUIREMENTS OF RUBBER
GASKETS FOR MECHANICAL JOINTS AND
PUSH-ON JOINTS FOR USE WITH CAST IRON
PIPES AND FITTINGS FOR CARRYING WATER,
GAS AND SEWAGE**

(First Revision)

ICS 23.040.10; 83.140.50

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

FOREWORD

This Indian Standard (First Revision) was adopted by Bureau of Indian Standards, after the draft finalized by the Pig Iron and Cast Iron Sectional Committee had been approved by the Metallurgical Engineering Division Council.

With the introduction of mechanical joints and push on joints in the cast iron pipeline for carrying water, gas and sewage, it became essential to specify the dimensional requirements for the rubber gasket to be used with such joints. The standard was first published in 1989. While reviewing this standard in the light of experience gained during these years, the Committee felt to revise this standard. The following modifications have been incorporated in this revision:

- a) Scope has been extended to cover dimensions to ensure leak-proof joints of pipes manufactured as per IS 1536 'Centrifugally cast (spun) iron pressure pipes for water, gas and sewage'.
- b) Requirement of the hardness value of raw material (Type 4 rubber) has been raised.
- c) Dimension 'C' of bulb and its tolerances have been modified, and are made more stringent.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

AMENDMENT NO. 1 JUNE 2010
TO
IS 12820 : 2004 DIMENSIONAL REQUIREMENTS OF
RUBBER GASKETS FOR MECHANICAL JOINTS AND
PUSH-ON JOINTS FOR USE WITH CAST IRON PIPES
AND FITTINGS FOR CARRYING WATER, GAS AND
SEWAGE

(First Revision)

(Page 4, Table 5, col 3 against Dimension 'J') — Substitute '350 to 400'
for '350 to 300' and '450 to 600' for '450 to 400'

(MTD 6)

Reprography Unit, BIS, New Delhi, India

Indian Standard

DIMENSIONAL REQUIREMENTS OF RUBBER GASKETS FOR MECHANICAL JOINTS AND PUSH-ON JOINTS FOR USE WITH CAST IRON PIPES AND FITTINGS FOR CARRYING WATER, GAS AND SEWAGE

(*First Revision*)

1 SCOPE

1.1 This standard specifies the dimensional requirements for rubber gaskets to be used in cast iron pipe/fittings for the mechanical joints and push-on flexible joints for carrying water, gas and sewage.

1.2 Dimensions should be adopted to ensure leak-proof joints at extreme conditions of pipes manufactured as per IS 1536.

2 REFERENCES

The following standards contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standard indicated below:

<i>IS No.</i>	<i>Title</i>
1536 : 2001	Centrifugally cast (spun) iron pressure pipes for water, gas and sewage
5382 : 1985	Rubber sealing rings for main, water main and sewers (<i>first revision</i>)

3 GENERAL

Unless otherwise stated, requirements of rubber gaskets as specified in IS 5382 shall be complied with.

4 QUALITY

Rubber gaskets shall conform to Table 1 for the type and hardness of the rubber. The type of polymer used should suit the fluid to be conveyed through the pipeline as the gasket may come in contact with the fluid.

Table 1 Type of Rubber Hardness

Sl No.	Joint	Type of Rubber	Hardness IRHD
(1)	(2)	(3)	(4)
i)	Mechanical joint	4	60 + 5 - 4
	— Bulb	2	50 + 5 - 4
ii)	Push-on Joint		
	— Heel	5	80 ± 4

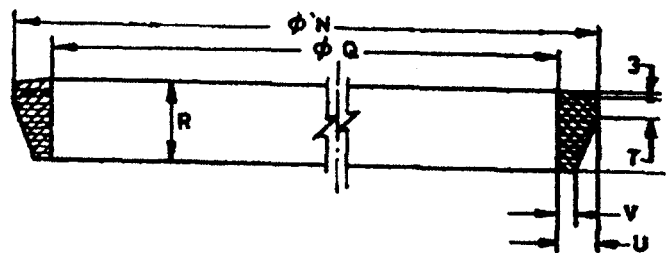
NOTE — See Table 1 of IS 5382.

5 DIMENSIONS AND TOLERANCES

5.1 Dimensions

Rubber gaskets for mechanical joints and push-on joints shall conform to the dimensions given in Tables 2 and 3 respectively.

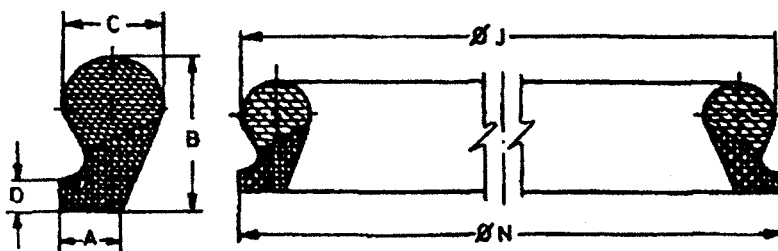
Table 2 Dimensions of Rubber Gaskets for Mechanical Joints
(Clause 5.1)



All dimensions in millimetres.

Nominal Diameter <i>DN</i>	Dimensions					
	<i>N</i>	<i>Q</i>	<i>R</i>	<i>T</i>	<i>U</i>	<i>V</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
80	130	98	32	10	16	6
100	150	118	32	10	16	6
125	176	114	32	10	16	6
150	202	170	35	10	16	6
200	254	222	35	10	16	6
250	308	274	35	10	17	6
300	360	326	35	10	17	6
350	416	378	40	10	19	8
400	467	429	40	10	19	8
450	518	480	40	10	19	8
500	570	532	45	10	20	8
600	675	635	45	10	20	8
700	788	738	45	10	25	8
750	840	790	45	10	25	8
800	892	842	45	15	25	8
900	995	945	45	15	25	8
1 000	1 098	1 048	45	15	25	8
1 050	1 184	1 124	50	15	30	10
1 100	1 220	1 152	55	20	34	10
1 200	1 324	1 256	55	20	34	10
1 500	1 635	1 567	60	20	34	10

Table 3 Dimensions of Rubber Gaskets for Push-on Joints
(Clause 5.1)



All dimensions in millimetres.

Nominal Diameter DN	Bulb		Heel			Height
	C	J	A	D	N	B
(1)	(2)	(3)	(4)	(5)	(6)	(7)
80	16.5	122	10	5	124	26
100	16.5	142	10	5	144	26
125	16.5	169	10	5	171	26
150	16.5	196	10	5	198	26
200	18.0	252.5	11	6	254.5	30
250	20.0	306	11	6	308	32
300	22.0	362.5	12	7	364.5	34
350	22.0	416	12	7	418	34
400	22.0	472	13	8	474	38
450	24.0	525	13	8	527	38
500	26.0	580	14	9	582	42
600	28.0	689	15	10	691	46
700	30.0	799	17.5	10	801.5	51
750	31.0	854	18.5	10.3	856.5	52.5
800	31.0	906	18.5	10.3	908.5	52.5
900	33.0	1 009	18.5	10.3	1 012	52.5
1 000	33.0	1 118	18.5	10.3	1 120	52.5
1 050	33.0	1 181	19	10.3	1 183	52.5

5.2 Tolerances

Tolerance on the various dimensions of rubber gasket for mechanical joints and push-on joint shall be as given in Tables 4 and 5 respectively.

Table 4 Tolerances on Dimensions of Rubber Gaskets for Mechanical Joints
(Clause 5.2)

Sl No.	Dimensions	Nominal Diameter mm	Tolerance mm
(1)	(2)	(3)	(4)
i)	Thickness, <i>U</i>	80 to 600	± 1.0
		700 to 1 500	± 1.5
ii)	Internal diameter, <i>Q</i>	80 to 300	± 1.5
		350 & 400	± 2.0
		450 to 600	± 3.0
		700 to 1 500	± 4.0
iii)	Width, <i>R</i>	80 to 600	± 5.0
		700 to 1 500	± 8.0
iv)	Dimensions, <i>V</i>	80 to 600	± 2.0
		700 to 1 500	± 3.0
v)	Dimension, <i>T</i>	80 to 750	± 2.0
		800 to 1 500	± 4.0

**Table 5 Tolerances on Dimensions of Rubber
Gaskets for Push-on Joints**
(Clause 5.2)

Sl No.	Dimension	Nominal Diameter mm	Tolerance mm
(1)	(2)	(3)	(4)
i)	Bulb <i>C</i>	80 to 200	+ 0.5
			- 0.3
		250 to 600	± 0.5
		700 to 1 050	± 0.8
	<i>J</i>	80 to 125	± 1.0
		150 to 300	± 1.5
		350 to 300	± 2.0
		450 to 400	± 3.0
		700 to 800	± 4.0
		900 to 1 050	± 6.0
ii)	Heel <i>A</i>	80 to 250	± 0.5
		300 to 450	± 0.6
		500 to 1 050	± 0.8
	<i>D</i>	80 to 250	± 0.3
		300 to 700	± 0.4
		750 to 1 050	± 0.5
	<i>N</i>	80 to 125	± 1.0
		150 to 300	± 1.5
		350 to 400	± 2.0
		450 to 600	± 3.0
		700 to 800	± 4.0
iii)	Height <i>B</i>	80 to 150	± 0.5
		200 to 600	± 0.8
		700 to 1 050	± 1.0

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Amendments Issued Since Publication

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BUREAU OF INDIAN STANDARDS

Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110 002
Telephones : 2323 0131, 2323 33 75, 2323 9402

Telegrams : Manaksanstha
(Common to all offices)

Regional Offices :

	Telephone
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110 002	{ 2323 7617 2323 3841
Eastern : 1/14 C.I.T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700 054	{ 2337 8499, 2337 8561 2337 8626, 2337 9120
Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160 022	{ 60 3843 60 9285
Southern : C.I.T. Campus, IV Cross Road, CHENNAI 600 113	{ 2254 1216, 2254 1442 2254 2519, 2254 2315
Western : Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400 093	{ 2832 9295, 2832 7858 2832 7891, 2832 7892

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