



CORPORATE PURCHASING SPECIFICATION

AA 598 03

Rev. No. 03

PREFACE SHEET

CHLOROPRENE RUBBER SHEETS, GASKETS AND MOULDINGS, 60 IRHD

**FOR INTERNAL USE ONLY
REMOVE THIS PREFACE BEFORE ISSUE TO SUPPLIERS**

Comparable Standards:

1. BRITISH : BS 2752-1990, Gr.: C 60

Suggested/Probable Suppliers and Grades:

1. VAKO SEALS, MUMBAI
2. BOMBAY OIL SEALS
3. NATRAY RUBBER & PLASTIC WORKS, SECUNDERABAD
4. S.S.RUBBER, SECUNDERABAD
5. INDIAN RUBBER PRODUCTS, HARDWAR
6. Refer plant vendors list.

User Plant References:

1. BHOPAL : PS 24803
2. HYDERABAD : HY 59895

Revisions :

Cl 32.7.C (iv) of MOM of MRC-CPO

APPROVED :

**INTERPLANT MATERIAL
RATIONALISATION COMMITTEE-MRC (CPO)**

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JULY, 1980

	CORPORATE PURCHASING SPECIFICATION		AA 598 03																
			Rev. No. 03																
			PAGE 1 OF 4																
<div>CHLOROPRENE RUBBER SHEETS, GASKETS AND MOULDINGS</div> <div>60 IRHD</div>																			
1.0 GENERAL :																			
This specification governs the quality requirements of Chloroprene Rubber Sheets, Gaskets and Mouldings having a hardness of 60 IRHD.																			
2.0 APPLICATION:																			
Used as gaskets and mouldings in switchgear, steam turbines, water turbines, turbo-generators, traction machines, etc.																			
3.0 COMPLIANCES WITH NATIONAL STANDARDS:																			
The material shall comply, in general, with the requirements of the following national standard and also meet the requirements of this specification.																			
BS : 2752 – 1990, Gr.: C 60 : Chloroprene Rubber Compounds																			
And also shall meet the additional requirement of clause 10.5 of this specification.																			
4.0 DIMENSIONS AND TOLERANCES:																			
4.1 Sizes:																			
Length x Width x Thickness of the sheet shall be stated in BHEL order.																			
Gaskets and mouldings shall be supplied as per BHEL drawings.																			
Preferred thicknesses for sheets and gaskets are 1, 1.6, 3, 5, 6, 10, 12, 15 and 20mm.																			
4.2 Tolerances:																			
Unless otherwise stated in the order / drawing, tolerances on length, width and thickness shall be as follows:																			
4.2.1 On Length and Width: ± 1 mm																			
4.2.2 On Thickness:																			
<table><tr><th colspan="2">Nominal thickness, mm</th><th rowspan="2">Tolerance, ± mm</th></tr><tr><th>Over</th><th>up to & incld.</th></tr><tr><td>--</td><td>6</td><td>0.25</td></tr><tr><td>6</td><td>12</td><td>0.50</td></tr><tr><td>12</td><td>--</td><td>0.80</td></tr></table>						Nominal thickness, mm		Tolerance, ± mm	Over	up to & incld.	--	6	0.25	6	12	0.50	12	--	0.80
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AA 598 03	CORPORATE PURCHASING SPECIFICATION	
Rev. No. 03		
PAGE 2 OF 4		

5.0

FINISH:
Material shall have a smooth finish.

6.0

FREEDOM FROM DEFECTS:
All ingredients of the mix shall be free from grit and extraneous matter. The selection and processing of the ingredients shall be such that the vulcanizate is free from surface imperfections, blisters, porosity, voids, inclusions, flow marks, inadequate joint of moulding blank and other defects which would impair satisfactory performance.

7.0

CHEMICAL COMPOSITION:
Sheets, gaskets and moulding shall be made at slow crystallization rate from vulcanizates based on chloroprene polymer reinforced only with carbon black, vulcanized with a metallic oxide and rubber containing at least 2 parts per hundred of a suitable antioxidant.

8.0

IDENTIFICATION:
The material, when identified by infra-red spectra photometer or by any other convenient method shall be of chloroprene copolymer.

9.0

TEST SAMPLES:
Three samples of sheets of the following sizes prepared from the same batch and vulcanized to the same degree as the consignment concerned shall be submitted for testing.

150 x 150 x 2 ± 0.15 mm thickness : two sheets
150 x 150 x 6.3 ± 0.15 mm thickness : one sheets

10.0

PROPERTIES:
When tested in accordance with the Indian standards / British standards shown against each, the test samples shall show the following properties:

10.1

Hardness (BS 903: Part A 26: Method N, 2 Plies, 6.3 mm + 2mm with the thicker ply on top):

60 + 5, - 4 IRHD

10.2

Tensile strength (IS:3400, Part I, Dumb-bell):

13 N/mm², minimum

10.3

Elongation at Break (IS:3400, Part I, Dumb-bell):

250% , minimum

10.4

Compression set at 70⁰C (IS: 3400, Part X):

For 72 hours + 0, - 2, hours: 25%, maximum.

**10.5 Ageing in Oil:**

Two test specimens each of 25 mm wide and of suitable length shall be cut from each sheet in the sample from widely separated positions. The specimens shall be aged in Servo prime 32 of IOC or its equivalent for 72 hours at 70⁰C.

10.5.1 Change in Volume: 10%, maximum**10.5.2 Oil Absorption (Calculated on the Original Weight of the Specimen):**
15%, maximum**11.0 TYPE TESTS:**

Whenever specified, the following type tests shall be conducted as per the test method specified against each and the norms of acceptance shall be as specified below:

11.1 Volume Change (BS 903: Part A 16: Volumetric Method, Liquid B, 22 Hours At 40⁰C):

70%, maximum.

11.2 Resistance To Heat Ageing For 168 Hours At 70⁰C (IS: 3400, Part IV):**11.2.1 Change In Hardness (BS 903: Part A 26 : Method N):**

+ 7, IRHD maximum, when measured on 2 plies each of 2 mm thickness before and after ageing.

11.2.2 Change in Tensile Strength (IS:3400, Part I, Dumb-bell):

-12%, maximum of the value obtained at clause 10.2.

11.2.3 Change In Elongation At Break (IS:3400, Part I, Dumb-bell):

-20% , maximum of the value obtained at clause 10.3

11.3 Adhesion To And Corrosion Of Metals (BS 903: Part A 37: Method A):

There shall be no corrosion or pitting of the metals and the material shall not adhere to the metal surface or show any sign of liquid exudation. Discolouration of the metal surfaces shall not be considered to be objectionable.

12.0 TEST CERTIFICATES:

Unless otherwise stated, three copies of test certificates shall be supplied giving the following information:

In addition, the supplier shall ensure to enclose one copy of the test certificate along with their despatch documents for quick clearance of the material.


AA 598 03, Rev. 03: Chloroprene Rubber Sheets, Gaskets & Mouldings, 60 IRHD BHEL Order No.

Manufacturer/s / Supplier/s name and trade mark, if any

Batch No

Date of manufacture

Test results of clauses 4.0, 8.0, 10.0 and 11.0.

AA 598 03	CORPORATE PURCHASING SPECIFICATION	
Rev. No. 03		
PAGE 4 OF 4		

13.0 KEPING PROPERTY:

When stored under cover in a dry place under normal storage conditions, the material shall retain the properties prescribed in this specification for a period of not less than 24 months after the date of manufacture, which shall be subsequent to the date of placing the order.

14.0 PACKING AND MARKING:

Material shall be suitably packed to prevent damage from contamination and handling during transit.

Each package shall be legibly marked with the following information:

AA 598 03 : Chloroprene Rubber Sheets, Gaskets & Mouldings, 60 IRHD
 BHEL Order No.
 Manufacturer's / Supplier's Name.
 Trade Mark, if any.
 Batch No.
 Drawing No. & Item No, if any
 Size and Quantity.

15.0 REFERRED STANDARDS (Latest Publications Including Amendments):

1. IS: 3400	2. BS 903	3. BS 2752
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