



HYDERABAD

# PRODUCT STANDARD TURBINES & COMPRESSORS

TC 5 8775

REV 00

PAGE 1 OF 3

## ASBESTOS SHEET (HIGH PRESSURE STEAM & WATER)

### 1.0 GENERAL:

This specification governs the quality of Compressed Asbestos Fibre (CAF) sheets for high pressure steam and water applications during mechanical run test and hydro pressure test respectively.

### 2.0 APPLICATION:

Suitable for use with steam and water in steam turbines for sealing purpose for both the cases with the following parameters.

Maximum operating pressure: 150 kg/ cm<sup>2</sup>, Maximum operating temperature: 550 C.

### 3.0 DIMENSIONS AND TOLERANCES:

- 3.1 **DIMENSIONS:** The material shall be supplied to the dimensions specified in the order. If it is not specified in the order, standard dimensions are 2000 mm x 1000 mm
- 3.2 **THICKNESS:** The thickness of sheets shall preferably be selected from the following.  
1.0, 1.5, 2.0, 3.0 mm.
- 3.3 **TOLERANCES:** Maximum permissible deviation on nominal thickness of sheets shall be as follows.

Nominal Thickness mm		Permissible deviation from Nominal thickness $\pm$ mm	Max. deviation between points not more than 250 mm apart, $\pm$ mm
Above	Upto & incl.		
-	0.50	0.05	0.05
0.50	1.00	0.10	0.10
1.00	2.00	0.15	0.10
2.00	3.00	0.20	0.15

### 4.0 MATERIAL:

Manufactured from excellent quality of chrysotile asbestos fibre and raw materials, the blend being intimately mixed with synthetic oils and solvent resistant elastomers under special process, to ensure maximum stability against high pressure and temperatures.

National Standard: IS: 2712-1998, Grade W/1.

Commercial Grade: "Champion -Style 54 Super" or Equivalent

### 5.0 FREEDOM FROM DEFECTS:

Asbestos sheets shall be of uniform texture, smooth on both sides without any crack and free from irregularities.

### 6.0 TEST SAMPLE:

Supplier shall supply a test sample for each thickness of order to BHEL for acceptance before regular supplies.

FORMAT  
TD-201

PREPARED BY:  
PSK

APPROVED BY:  
DSR

DATE:  
26.07.16

REV -00  
REF DOC

**COPY RIGHT AND CONFIDENTIAL**  
The information on this document is the property of BHEL. It must not be used directly or indirectly in any way detrimental of company.

RESTRICTED USE





HYDERABAD

# PRODUCT STANDARD TURBINES & COMPRESSORS

TC 5 8775

REV 00

PAGE 2 OF 3

**7.0 PROPERTIES:**

When tested the material according to IS: 2712-1998, shall show the following properties:

7.1 Flexibility after accelerated ageing: Shall not show any visual sign of cracking

7.2 Compressibility and recovery test:

7.2.1 Compressibility: 6 to 14 %

7.2.2 Recovery: 40 % minimum

7.3 Tensile Strength:

Up to including 1 mm thick = 18 N/mm<sup>2</sup>

For above 1 mm thick 24 N/mm<sup>2</sup> minimum

7.4 Water Absorption:

Increase in mass - 10 % maximum

7.5 Density: 1.57 to 1.68 g/cm<sup>3</sup>

7.5 Stress Relaxation: Residual stress - 23 N/mm<sup>2</sup> minimum

**8.0 TYPE APPROVAL:**

Samples for type approval testing shall be accepted only from those manufacturers whose manufacturing and testing facilities are considered satisfactory to ensure continuous supply of good product.

**9.0 TEST CERTIFICATES:**

Unless otherwise stated, three copies of the test certificate shall be supplied along with each consignment giving the following information.

TC58775: Asbestos sheet (High pressure steam and water)

BHEL Order No.

Trade Mark, if any.

Batch/Lot No.

Date of manufacture.

Quantity supplied.

Test results of clauses 3 and 7.

**10.0 PACKING AND MARKING:**

Unless otherwise stated, the material shall be supplied either flat or in rolls suitably packed to prevent damages during transit. Manufacturer's name and grade shall be clearly marked on a piece of 300 x 300 mm cut from any position of the sheet.

Each package shall be legibly marked with the following information:

TC58775: Asbestos sheet (High pressure steam and water)

BHEL Order No.

Manufacturer's/ Supplier's Name.

Trade mark, if any.

Batch/ Lot No.

Date of manufacture.

Quantity supplied.

FORMAT  
TD-201

PREPARED BY:  
PSK

APPROVED BY:  
DSR

DATE:  
26.07.16

REV -00  
REF DOC

**COPY RIGHT AND CONFIDENTIAL**

The information on this document is the property of BHEL. It must not be used directly or indirectly in any way detrimental of company.

RESTRICTED USE





HYDERABAD

**PRODUCT STANDARD  
TURBINES & COMPRESSORS****TC 5 8775****REV 00****PAGE 3 OF 3****11.0 ORDERING NO & CODIFICATION:**

VAR NO.	THICKNESS (MM)	MATERIAL CODE
01	1	TC9758775014
02	1.5	TC9758775022
03	2	TC9758775030
04	3	TC9758775049

**12.0 RECORD OF REVISIONS:**

REV.NO	DATE	REVISION DETAILS	REVISED	APPROVED
00	03.08.16	FIRST ISSUE	PSK	DSR

**FORMAT  
TD-201****PREPARED BY:  
PSK****APPROVED BY:  
DSR****DATE:  
26.07.16****REV -00  
REF DOC****COPY RIGHT AND CONFIDENTIAL**

The information on this document is the property of BHEL. It must not be used directly or indirectly in any way detrimental of company.

RESTRICTED USE

