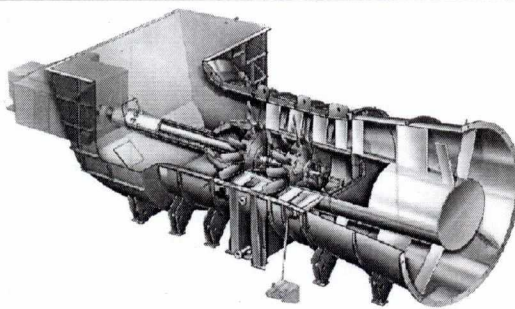




BHARAT HEAVY ELECTRICALS LIMITED
BOILER AUXILIARIES PLANT
RANIPET-632406

FANS ENGINEERING DEPARTMENT

SPECIFICATION FOR SLIDING BLOCK - PEEK



REV. NO.	 P PURU	 P PURU	 P SAHA	 R ARUNA	REMARKS WITH DATE
	PREPARED	CHECKED	APPROVED	SIG.OF.QA	
ALL COPY RIGHTS TRANSFORMATIONS OR ANY OTHER USE OF THIS DOCUMENT REMAINS BHEL'S EXCLUSIVE PROPERTY.					
ONLY LATEST REVISION SHALL BE REFERRED FOR ALL THE STANDARDS SPECIFIED.					
DESCRIPTION		SPECIFICATION NUMBER		REV.NO 00	DATE:03.12.2016
<u>SLIDING BLOCK</u>		TFN:365			PAGE 01 OF 03



SLIDING BLOCK

SPECN.NO
TFN: 365
REV.NO.00

APPLICATION : ID FAN BLADE BEARING ASSEMBLY

PROPERTIES : Carbon Fibers, graphite and PTFE. Colour- BLACK

General Properties: Density ISO 1183-1 Value 1.45 g/cm²

Water Absorbtion:

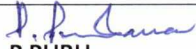
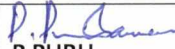
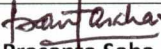
-after 24/96 h immersion in water of 23 Degree C	ISO 62	Value	4/9 mg
	ISO 62	Value	0.05 / 0.11
-at saturation in air of 23 Degree C / 50% R.H	ISO 62	Value	0.14 %
-at saturation in water 23 deg C	ISO 62	Value	0.3 %

Mechanical Properties at 23 deg C:

Tensile stress at yield/tensile at break	ISO 527-1/2	Value	NYP / 78 MPa
Tensile strength	ISO 527-1/2	Value	78 MPa
Tensile strain at yield	ISO 527-1/2	Value	NYP %
Tensile strain at break	ISO 527-1/2	Value	3 %
Tensile modulus of elasticity	ISO 527-1/2	Value	5900 MPa

Compression test :

-Compressive stress at 1 / 2 / 5% nominal strain	ISO 604	Value	46 / 80 /120 MPa
Charpy impact strength – notched:	ISO 179-1/1eU	Value	3 kJ/mm ²
Charpy impact strength – unnotched	ISO 179-1/1eA	Value	25 kJ/mm ²
Ball indentation hardness:	ISO 2039-1	Value	215 N/mm ²
Rockwell hardness :	ISO2039-2	Value	M 85

 P PURU	 P PURU	 Praśanta Saha	 R. ARUNA	REVIEWED AND UPDATED ON 03/12/2016	
PREPARED	CHECKED	APPROVED	SIGN. OF QA	REMARKS WITH DATE	PAGE NO. 02/03



Thermal properties

Melting Temperature (DSC, 10 Degree C/min)	ISO 11357-1/-3	Value	340 Degree C
Glass transition temperature (DSC, 20 Degree C/min)	ISO 11357-1/-2	Value	- Degree C
Thermal conductivity at 23 Degree C:		Value	0.78W/(K.m)
Coefficient of linear thermal expansion:			
- average value between 23 and 100 Degree C		Value	35 x 10 ⁻⁶ m/ (m.K)
- average value between 23 and 150 Degree C		Value	40 x 10 ⁻⁶ m/ (m.K)
- average value above 150 Degree C		Value	85 x 10 ⁻⁶ m/ (m.K)
Temperature of deflection under load:			
- method A:1.8 MPa	ISO 75-1/2	Value	195 Degree C
Max allowable service temperature in air:			
- Short periods (4)			310 Degree C
- Continuously: for min. 20,000 h		Value	250 Degree C
Minimum service temperature :			-20 Degree C
Flammability			
- Oxygen index	ISO 4589-1/-2	Value	43 %
- according to UL 94 (1.5/3 mm Thickness)			V-0 / V-0

Electrical Properties at 23 Degree C

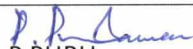
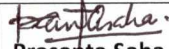
Electric strength (15)	IEC 60243-1	-	KV/mm
Volume resistivity	IEC 60093	Value	- Ohm.cm
Surface resistivity	ANSI/ESD STM 11.11	Value	- Ohm/sq.
Relative permittivity: -at 100 Hz	IEC 60250	-	-
-at 1 MHz	IEC 60250	-	-
Dissipation factor tan -at 100 Hz	IEC 60250	-	-
at 1 MHz	IEC 60250	-	-
Comparative tracking index (CTI)	IEC 60112	-	-

Note: 1 g/cm³ = 1,000 kg/m; 1 MPa = 1 N/mm²; 1 kV/mm= 1 MV/m

NYP: there is no yield point

INSPECTION

CERTIFICATES TO BE SUBMITTED : 1. Test Certificate for Chemical & Mechanical
2. Dimensional Report

 P PURU	 P PURU	 Prasanta Saha	 R.ARUNA	REVIEWED AND UPDATED ON 03/12/2016	
PREPARED	CHECKED	APPROVED	SIGN. OF QA	REMARKS WITH DATE	PAGE NO. 03/03