PSGSG / 14-15/ 005	**Process Specifications for Electrical Grade PTFE Bushes**	Drg.No.	
		Date	09.07.2014
		Product	GSM-400

S.NO	BHEL Specification	Vendor compliance	
		YES/NO	Remarks
1.0	**APPLICATION:** PTFE bushes are used as nozzles in gas circuit breakers for effective short circuit current interruption.		
2.0 2.1	**SPECIFICATIONS:** **Configuration:** Hollow cylindrical bush.		
2.2	**Material :** MOS_2 filled PTFE PTFE – 99.8% (By weight) Molybdenum disulphide 0.2% (By weight) Color - Grey		
2.3	**Dimensions:** Ø150±0.5 mm x Ø20±0.5 mm x 350±1 mm long		
2.4	Exposure to high current arcing should not carbonize the material and result in deep penetration burns, impairing the dielectric strength of the material. Quality control check certificate should be furnished.		
2.5	Compression-molded PTFE bush with MoS_2 filler uniformly distributed, free from occlusion and air pockets suitable for High Voltage Applications.		
Page 1/3	**PSGSG / 14-15 / 005**	**Signature**	

PSGSG / 14-15/ 005	**Process Specifications for Electrical Grade PTFE Bushes**	Drg.No.	
		Date	09.07.2014
		Product	GSM-400

S.NO	BHEL Specification	Vendor compliance	
		YES/NO	Remarks
2.6	**Properties:** **# Property Value** 1 Density 2.1 to 2.2 gm/cc 2 Water absorption < 0.01% max 3 Melting point 320 to 340℃ 4 Continuous use 260 ℃ 5 Thermal conductivity 6x10-4 cal/sec/cm 6 Compressive strength 50 – 60 Kgf/Cm2 7 Hardness 60+/- 2 8 Elongation 200 to 350 % 9 Tensile modulus 4000 Kgf/cm2 10 Impact strength ~ 3.0 J/cm 11 Static coefficient of friction <0.1 12 Dielectric break down Strength (0.4mm sample) 40 –60 kV/mm. 13 Tracking index Min. 600 volts 14 Volume resistivity >1x1016ohm/ cm 15 Dielectric constant 1.9 to 2.1 16 Dissipation factor < 0.0002		
2.7	This filler shall improve surface hardness, stiffness, and to reduce the starting coefficient of friction and steady-state wear. Its effect on electrical and chemical properties must be negligible.		
2.8	**Qualifying Requirements:** The supplier shall be of national / International repute with proven record and should have supplied MOS2 filled PTFE bushes for arcing applications at least for last three years. The supplier must submit along with the quotation a few references to whom the supplier has supplied a similar material.		
2.9	**Tests:** Test reports for the properties like density, hardness shall be furnished along with the supply.		

PSGSG / 14-15/ 005	**Process Specifications for Electrical Grade PTFE Bushes**	Drg.No.	
		Date	09.07.2014
		Product	GSM-400
S.NO	**BHEL Specification**	**Vendor compliance**	
		YES/NO	**Remarks**
2.10	**General:** Material must be free from defects, cavities, pin holes and the same shall be ensured by the suppler. Uniform composition of the material shall be ensured. The finished bush shall not have any ovality, bend and the outer surface should be free from dents/visible surface defects. Perpendicularity of the flat surface (base) shall be maintained at +/- 0.1.The component shall be free from dirt, grease and moisture.		
2.11	**Packing:** Each bush should be individually wrapped in polyethylene and packed in separate high density, dust free card board boxes. The lot should be supplied in shock proof, unbreakable containers.		
Page 3/3	**PSGSG / 14-15 / 016**	**Signature**	