

PSGSG/13-14/30	Product Specifications for ES SWITCHING CONTACTS	Drg.No.	RD DG 4 35 0517 2310
		Date	14.11.2017
		Product	GSM-245
S.NO	BHEL Specification	Vendor compliance	
		YES/NO	Remarks
1.0	Application : Movable Arcing rods for Gas Insulated Switchgear Equipment		
2.0	Configuration : 1.Sintered W-Cu (70-30 %), welded (by electron Beam welding process) to the high conductivity copper. 2. Machined to drawing dimensions.		
3.0	Quantity : 12 No.s		
4.0	Specifications: 1. Dimension Drawings : Refer Drg No. RD DG 0517 2310 2. Material: Tungsten-Copper, Cu-Cr alloy (a). W-Cu: A sintered matrix of W-Cu (70-30 %) shall be produced by PM technique. The sintering shall be carried out in neutral or reducing atmosphere. The ingredient (powders) shall have high purity. (b). Cu-Cr Alloy Copper : 99 %, Chromium : 1 %. This alloy shall be made using fine alloying practices so as to minimise occlusion of gases. The oxygen content shall not exceed 100 ppm. Vacuum metallurgy for alloying is preferred. The copper used for alloying shall be 99.97 % pure. Electrolytic grade is preferred. Electrical conductivity of Cu-Cr Stem shall be greater than 82 %. (IACS)		
Page 1/4	PSGSG/13-14/30	Signature	

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5.0	Electron Beam Welding (EBW): The component shall be finished to size before electron beam welding at the interface. The interface will be between High conductivity copper and W-Cu Tip. The interface shall be welded to full depth. The welding joint between high conductivity copper and W-Cu tip shall exhibit minimum contact resistance. The Component shall be free from dirt, grease and loose particles.		
6.0	Tests: (a). Dimensional : All dimensions shall comply to drawing measures.		
7.0	1. Test Certificate The supplier shall submit copy of test certificate for tests specified in clause 7 giving the following information: a. Results of chemical analysis, mechanical and all other tests as called for in this specification/order		
Page 2/4	PSGSG/13-14/30	Signature	

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8.0	2. Packing The components shall be packed in high density cardboard boxes, with a primary wrapped in polyethylene and packed individually in dust free boxes after degreasing. The components shall be guaranteed against all manufacturing defects.		
9.0	3. Acceptance criteria: a. Dimensional Report as per drawing. b. Finish as per clause 5. c. Test certificate as per clause 7. d. Packing as per clause 8.		
11.0	4. Rejection and Replacement: In the event of the material proving defective in the course of manufacture, such material shall be rejected not withstanding any previous certification of satisfactory testing and/or inspection. The supplier shall undertake to replace the material. Repairing of material is not acceptable.		
12.0	Warranty Certificate: All supplied items to be provided with warranty for 12 months from date of receipt and acceptance		
Page 3/4	PSGSG/13-14/30	Signature	

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13.0	General : 1. Surface finish of the components shall be at least RA 1.6. 2. The component shall be free from dirt, grease and loose particles. In case of doubts in drawings or specifications the supplier shall contact BHEL for clarifications.		
Page 4/4	PSGSG/13-14/30	Signature	