

REF. DRG. NO.

ATE

INVENTORY NO.

TYPE OF PRODUCT

CGSM-145

	BHARAT HEAVY ELECTRICALS LTD.		DRN	NAME BSN	STATE Bihar	NO. OF TELEPHONE VARS
	HYDERABAD		CWD	MIRAO	14.07.14	01
			APPD		15.07.14	
			WEIGHT(Kg)	REF. TO	ITEM NO.	NO. OF ITEMS
			SCALE	RD 06, 4-35	1051	1510
				MOH DRAWING NO. 1051 / Sr. Dy. Genl. Insp. code		
			NTS	RD 06, 4-35 1051 1510		
			MOVABLE ARCMING CONTACT			
			TITLE			

MOVABLE ARCING CONTACT

NO.	NO. OF SHEETS
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1
11	1
12	1
13	1
14	1
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97	1
98	1
99	1
100	1

gentile / HYDERABAD-500.093.

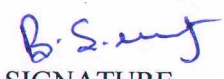
FIXED ARCING CONTACT FOR GCB

R1-17.01.2018

[illegible]

PSGSG 2019-20 / 001	Product Specifications for MOVABLE ARCING CONTACT FOR GCB	Drawing No.	RD DG 435 1351 1511A
		Date	16.08.2019
		Product	CGSM 145
S. No.	BHEL Specification	Vendor compliance	Vendor remarks / description

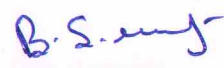
1.0	Application: Movable arcing Contacts for Gas Insulated Circuit Breaker		
2.0	Configuration: 1) Sintered W-Cu (70-30 %), welded (by electron Beam welding process) to the high conductivity copper-Cr alloy. 2) Machined to drawing dimensions.		
3.0	Specifications: 1. Dimension Drawings: Refer Drg No. RDDG 435 1351 1511A 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 minimize 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) 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- Cr alloy and W-Cu Tip. The interface shall be welded to full depth. The welding joint between Cu-Cr alloy and W-Cu tip shall exhibit minimum contact resistance. The Component shall be free from dirt, grease and loose particles.		

Page 1 of 2	PS GSG 1920 / 001	 SIGNATURE
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PSGSG 2019-20 / 001	Product Specifications for MOVABLE ARCING CONTACT FOR GCB	Drawing No.	RD DG 435 1351 1511A
		Date	16.08.2019
		Product	CGSM 145
S. No.	BHEL Specification	Vendor compliance	Vendor remarks / description

4.0	Tests: (a). Dimensional: All dimensions shall comply to drawing measures. (b). The component shall be subjected to micro-ohm measurement test, using 100 A DC Source and shall measure less than one micro-ohm at the welding interface.		
5.0	Rejection and replacement: In the event of material proving defective in the course of manufacture, such material shall be rejected and shall not hold previous certification of satisfactory testing / inspection. The supplier shall undertake to replace the material. Repairing of material is not acceptable.		
6.0	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. 3. In case of doubts in drawings or specifications the supplier shall contact BHEL for clarifications.		

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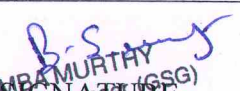
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PSGSG 2019-20 / 002	Product Specifications for FIXED ARCING CONTACT FOR GCB	Drawing No.	RD DG 435 1351 1611A
		Date	16.08.2019
		Product	CGSM 145
S. No.	BHEL Specification	Vendor compliance	Vendor remarks / description

1.0	Application: Fixed arcing Contacts for Gas Insulated Circuit Breaker		
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	Specifications: 1. Dimension Drawings: Refer Drg No. RD DG 435 1351 1611A 2. Material: Tungsten-Copper, ETP Copper (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). ETP Copper ETP copper shall have the following specifications: The specified copper material shall have minimum conductivity of 95 % IACS. Supplied material will be tested at BHEL for conductivity and the same will be rejected in case they do not meet specified conductivity. The material shall be good for brazing, soldering and for electrical applications where high current transfer is involved. 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- Cr alloy and W-Cu Tip. The interface shall be welded to full depth. The welding joint between Cu-Cr alloy and W-Cu tip shall exhibit minimum contact resistance. The Component shall be free from dirt, grease and loose particles.		

PSGSG 2019-20 / 002	Product Specifications for FIXED ARCING CONTACT FOR GCB	Drawing No.	RD DG 435 1351 1611A
		Date	16.08.2019
		Product	CGSM 145
S. No.	BHEL Specification	Vendor compliance	Vendor remarks / description

4.0	Tests: (a). Dimensional: All dimensions shall comply to drawing measures. (b). The component shall be subjected to micro-ohm measurement test, using 100 A DC Source and shall measure less than one micro-ohm at the welding interface.		
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6.0	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. 3. In case of doubts in drawings or specifications the supplier shall contact BHEL for clarifications.		

Page 2 of 2	PS GSG 1920 / 002	 B. SAMBAMURTHY SIGNATURE बि. साम्बमूर्ति / B. SAMBAMURTHY (GSG) उप प्रबंधक (जि.एस.जि.) / Dy. Manager (GSG) वी.एच.ई.एल. कॉ.,अनु. एवं.वि. / BHEL Corp. R&D विकासनगर / VIKASNAGAR हैदराबाद / HYDERABAD-500 093.
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