PSGSG2013-14/30	**Product Specifications For ES SWITCHING CONTACTS**	Drg. No.	RDDG 4 35 0517 2310
		Date	25.04.14
		Product	**GSM 245**

1.0 Application : Switching Contacts 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–Cr alloy.
2. Machined to drawing dimensions.

3.0 Quantity : 12 No.s

4.0 Specifications:

1. Dimension Drawings : Refer Drg No. RDDG 4 35 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)

Signature

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- 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.

6.0 Qualifying Requirements:

The supplier shall be of national / International repute with proven record and should have supplied arcing contacts for electrical 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.

7.0 Tests:

(a). Dimensional : All dimensions shall comply to drawing measures.

8.0 Packing :

The contacts shall be packed in high density cardboard boxes, with a primary wrapped in polyethylene and packed individually in dust free boxes after degreasing. The component shall be guaranteed against all manufacturing defects.

9.0 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.

PSGSG2013-14/29	**Product Specifications For DS SWITCHING CONTACTS**	Drg. No.	RDDG 4 35 0517 2510
		Date	25.04.14
		Product	**GSM 245**

1.0 **Application** : Switching Contacts 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–Cr alloy.
2. Machined to drawing dimensions.

3.0 **Quantity** : 12 No.s

4.0 **Specifications:**

1. Dimension Drawings : Refer Drg No. RDDG 4 35 0517 2510
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)

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- 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.

6.0 Qualifying Requirements:

The supplier shall be of national / International repute with proven record and shoul have supplied arcing contacts for electrical 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.

7.0 Tests:

(a). Dimensional : All dimensions shall comply to drawing measures.

8.0 Packing :

The contacts shall be packed in high density cardboard boxes, with a primary wrapped in polyethylene and packed individually in dust free boxes after degreasing. The component shall be guaranteed against all manufacturing defects.

9.0 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.