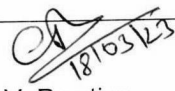

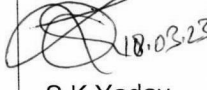
 TME/2011	PRODUCT STANDARD TME DIVISION, BHOPAL			TM 23609			
				PAGE 01 OF 02			
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company	<u>SPECIFICATION OF ROTOR BAR</u>						
	1.0 Scope:						
	<p>1.1 High Strength, High Conductivity Copper alloy material as per this specification shall comply with the requirements in chemical composition, mechanical & electrical properties and all other listed requirements.</p> <p>Material as per conform process is not acceptable.</p> <p>Rotor Bar's dimensions & tolerances to be as per the respective drawing as specified in the PO.</p>						
	2.0 Covering Standard:						
<p>The material shall in general conform to the requirements of BS EN 12167-2016, Material designation CuCr1Zr with Symbol CW106C.</p>							
3.0 Freedom from Defects:							
<p>The material shall be clean, smooth, straight, free from cracks, silvers, scales & other harmful defects.</p>							
4.0 Technical Requirement:							
4.1 Chemical Composition:							
The chemical composition to be as follows:							
Element	Cu	Cr	Fe	Si	Zr	Oxygen	Others including Oxygen TOTAL
Minimum	Remainder	0.50	-	-	0.03	-	-
Maximum		1.20	0.08	0.10	0.30	10 ppm	0.20
Revision: 01 Date: 18-03-2023	Distribution	Qty.	Approved:  V. Rawtiya				
	TXM QTM TME	1 1 1	Prepared:  K Dugvekar	Checked:  S K Yadav	Date: 18-03-23		

1.0 Scope

General tolerance on untolerated dimensions

This instruction covers the guidelines for general tolerances to be followed for lengths and angles for machining and forming operations.

This instruction is applicable only for Induction Motors type 6FRA6068 and 6FXA7059 to be manufactured as per ABB design for traction application in AC locos.

2.0 Reference Standards

This limits of tolerances are as indicated in the drawings of ABB and are generally corresponding to ISO 2768 & DIN 7168.

3.0 Tolerances

The limits of tolerances for different range of dimensions are as follows:-

Nominal Dimension	>0.5 ..3.0	>3 ..6	>6 ..30	>30 ..120	>120 ..400	>400 ..1000	>1000 ..2000	>2000 ..4000	>4000 ..8000	>8000 ..12000	>12000 ..16000	>16000 ..20000
Grade 'Rough' or Grade 'R'	± 0.15	± 0.2	± 0.5	± 0.8	± 1.2	± 2	± 3	± 4	± 5	± 6	± 7	± 8
Grade 'Medium' or Grade 'M'	± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2	± 3	± 4	± 5	± 6

4.0 Reference to ABB standards

The limit of tolerances are as appearing on drawings of ABB. No separate spec. of ABB is available for this purpose.

Note: All dimensions are in mm.

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Date : 02/04/97	TXM CIM PRM TGM TIX TNX	2 1 1 1 1 1	m. Brakes Prepared	<i>[Signature]</i> Checked	2/4/97 Date

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