



BHARAT HEAVY ELECTRICALS LIMITED, BHOPAL

QUALITY ASSURANCE PLAN FOR ROTOR SHAFT ROUGH MCH TO BHEL ORDERING SPECIFICATION/DRAWING AS PER PO

QUALITY PLAN NO. – QAP/QTm/VENDOR QAP/2021-22/ROTOR SHAFT ROUGH MCD DTD 08.07.2021 REV 00
Reference Document- PO DRAWING/SPECIFICATION

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SL NO	COMPONENT	CHARACTERISTICS	TYPE OF CHECK	QUANTAM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	REMARKS
				TP	TP/A				
1)	Raw Material test a) Mechanical properties b) Chemical composition	All tests	TC verification	One sample/heat treatment batch/heat/lot	100%	As per drawing & specification	As per Specification	MTC -	TEST LAB NABL/EQUIVALENT ACCREDITED/SOURCE MILL NOTE :Extra length to be furnished in one shaft as per specification
2)	Heat Treatment	Soaking temperature/soaking time	TC verification	100%	100%	As per drawing & specification	As per drawing & Specification	TC	Heat treatment graph to be provided to BHEL
3)	Hardness test	Routine test	TC verification & testing witness	100% shaft	100% & 10%	As per drawing & specification	As per drawing & Specification	TC	Witness by portable hardness tester
4)	Reduction ratio	Reduction ratio from ingot to bloom & bloom to blank	TC verification	100%	100%	As per drawing & specification	As per drawing & Specification	TC	Stage wise reduction & its measurement on actual job

Prepared By

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				TP	TPIA				
5)	Metallographic parameters a) Inclusion b) Grain size c) Free ferrite content	Metallurgical testing	TC verification	100%	100%	As per drawing & specification	As per drawing & specification	TC	Microstructure report to be submitted to BHEL
6)	Dimension check	Dimension	TC verification & inspection	100%	100% & 20%	As per drawing & specification	As per drawing & Specification	TC	All dimension reports to be submitted to BHEL along with witness reports
7)	Non-destructive testing (NDT) a) UT b) MPI c) Straightness	Routine test	TC verification & testing witness	100%	100% & 10%	As per drawing & specification	As per drawing & Specification	TC	NDT reports to be provided to BHEL

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8)	Visual inspection	Component to be free from any abnormality such as blow hole, pin hole, dent etc.	Visual check	100%	100%	As per drawing & specification	Free form visual defect		
9)	Identification marking	Serial no. , vendor name, PO NO. , heat no., by punching/engraving on location shown in BHEL Drawing or location may be taken from BHEL	Visual verification	100%	100%	As per drawing & specification	As per drawing & specification		

TP- Task Performer, TC-Test Certificate, TPiA- Third party inspection Agency,

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