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Project: L-7

**QUALITY ASSURANCE PLAN OF
BRAKE SHOE, DRG. NO. 4020778**

Prepared and published by

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QAP

This quality plan is a general guide to meet the quality requirements of product. It consists of applicable procedures (describing production processes, inspection & testing instructions), applicable workmanship standards, the measurement tolerances acceptable, the description of material standards and so forth. It also mentions the list of documents, test certificates that will be submitted by firm to GCF along with finished component.

1. Drawing No. & Nomenclature : 4020778, BRAKE SHOE

2. Material & Condition : As per Standard given in drawing.

2.1 Test/Checks and Acceptance criteria for Material.

S N	TEST/CHECK	PARAMETER	ACCEPTANCE
1	Chemical composition	composition	As per Standard
2	Mechanical properties	Tensile Strength	As per Standard
		Yield Stress	As per Standard
		% Elongation	As per Standard
		Hardness	As per Standard
		Izod Min. (Impact Test)	As per Standard

Note – The entire raw material required for manufacture of the store shall be procured as far as possible in bulk to meet the entire quantity. These materials shall be initially tested for chemical composition and mechanical properties before undertaking of manufacture of component.

2.2 Manufacturer to supply one test piece along with bulk supply. (Factory may check chemical and mechanical properties whenever required)

3. Method of manufacture * : Machining & other operations as per process. During and after machining, all dimensions and surface finish should be maintained as per specified drawing.
Surface treatment should be done as per instruction given in drawing.

4.0 Inspection: Following methodology is to be followed for inspection.

4.1 Mode of Inspection & Sample Size/Selection:

(a) At Firm Premises: Inspection by the manufacturer for 100% quantities of lot size.

(b) At receipt End: Inspection by MID/QC (GCF Rep.) at receipt at GCF. Sample selection as per existing IS standard 2500 part-II, 1965.

4.2 Visual Inspection

S.NO.	DETAILS OF FEATURE	ACCEPTANCE CRITERIA
A	All Sharp Edges & Burrs	To be rounded off/chamfered and burrs to be removed
B	Chattering Marks on Thread	If applicable, Not allowed on thread
C	Tool Marks and Scratches	Not allowed
D	Complete surface of the machined component should be free from rust/pit marks	Rust /pit marks not allowed

4.3 Dimensional Inspection: all dimensions (critical, major & minor in nature) & geometrical features of drawings are to be covered in check sheet and should be duly inspected by concerned quality control section. Components, having dimensions as per drawing, should only be accepted by inspectorate. No deviation in dimension or in geometrical feature is permitted.

5. Other Test on Semi-finished/finished Component.

5.1 Details of tests /check on Semi-finished/ finished items and acceptance criteria:

S No.	TEST / CHECK	SAMPLE SIZE	ACCEPTANCE CRITERIA
A	Hardness Test (In process Inspection)	100%	If applicable, Hardness Within Specified hardness Range as per As per Standard.

6. List of Documents:


(To be submitted by firm along with finished component during factory end inspection)

- (1) Dimensional Acceptance I-note checked by QC (Firm) with check-sheet as per Para 4.3. (Sample-100%)
- (2) Heat treatment I-note with hardness values as per 5.1 Sl. No. (A), if applicable.
- (3) NABL/Govt. approved Lab certificate required for material that includes chemical composition and mechanical properties (tensile strength, Yield strength, Elongation, Impact strength as per Izod & Hardness).

Date:-11/10/2021



Approved By
Controlling Officer
(QC Section)


11/10/2021
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HOS/SC