

**PROPOSED SCHEDULE OF TECHNICAL REQUIREMENT FOR MANUFACTURING OF LED BASED FLASHER LIGHT AND LED BASED MARKER LIGHT FOR CONVENTIONAL LOCOMOTIVE.**

**SCOPE:** LED Based Flasher Light and LED Based Marker Light is the vital part of Conventional Locomotive on Indian Railways. This item is procured by CLW from approved manufacturers as per relevant drawing. The Schedule of technical requirements (STR) mentioned hereunder is issued to serve as guide to manufacturer (firm) and should be read in conjunction with the relevant drawings. The firm should satisfy themselves having complied with the requirement of the drawing &STR. The technical requirement is meant to serve as a guideline only and is not exhaustive.

**A) M&P Requirement:**

Sl no	Description	Capacity	Remarks
1	Hand drill /Bench drill	½" (minimum)	For drilling
2	Grinder	Standard	For grinding
3	Soldering kit	Standard	For soldering the various component
4	Shearing Machine	3mm (minimum)	
5	Electro- Static discharge protected work bench		For table work
6	Cutting tools	As per requirement	
7	Bending machine	As per requirement	For bending of sheet
9	Casting facility		Marker light only This facility can be outsourced

**2) List of Measuring Instruments:**

Sl no	Description	Capacity	Remarks
1	Megger	500 volt	
2.	H. V. test set	5 kv (min )	
3.	Variable power supply	0-300v . DC	
4	Surge tester		Suitable for generation 1.8KV,1.2/50 microsec
5	Lux Meter		Standard
6	Damp test chamber.	As per requirement	Can be outsourced.

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7	Humidity meter Digital		Standard
8	Temperature control oven		Standard
9	Cooling test chamber		Can be out sourced
10	Salt mist test chamber		Standard
11	Water sprayer		Standard.
12	Dark Enclosure for measurement of illumination		Standard
13	Soldering & de-soldering station		Standard
14	Vernier caliper	Range:-0-150mm	
15	Linear scales	Up to 150mm	
16	Micro meter	Range:-0-25mm	
17	Vibration test set		Can be out sourced

3) Quality Requirement:

- 1) Input Raw Material: - Chemical / Metallurgical test is to be done & Sources of Raw material to be specified.
- 2) Stage wise inspections are to be done & Check list for the same is to be made.
- 3) Final inspection is to be done & Check list for the same is to be made.
- 4) Valid ISO accredited certificate required.

Prepared by:

Verified by: AEE/D-II Put up for approval please. 2/11/11

DY.CEE/CON/D-II (1) Proposed STR is technically acceptable & may be processed further.

[CEE]

(ii) List of MAP required for manufacturing this item by Part-I sources, may also be linked

3/12/11

ASU/DH