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ANNEX A: SCHEDULE OF GUARANTEED TECHNICAL PARTICULARS FOR OFFERED CLAW HAMMERS

(to be filled and signed by the Manufacturer and submitted together with relevant copies of the Manufacturer's catalogues, brochures, drawings, technical data & calculations, sales records for past five years, four customer reference letters, details of manufacturing capacity, the manufacturer's experience, copies of complete type test reports and accreditation certificate to ISO/IEC 17025 for the third party testing laboratory for tender evaluation, all in English Language)

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0.1 Circulation List

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0.2 Amendment Record

Rev No.	Date (YYYY-MM-DD)	Description of Change	Prepared by (Name & Signature)	Approved by (Name & Signature)
Issue 1 Rev 0	2015-02-02	New issue	Nancy Wairimu 	Dr. Eng. Peter Kimemia 

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FOREWORD

This specification has been prepared by the Standards Department in collaboration with Network Management Division both of The Kenya Power and Lighting Company Limited (KPLC) and it lays down requirements for claw hammer. It is intended for use by KPLC in purchasing the claw hammer.

1. SCOPE

- 1.1. This specification is for steel claw hammer suitable for use in the construction and maintenance of line work.
- 1.2. This specification specifies the requirements pertaining to material, shapes, dimensions, workmanship, finish and hardness of claw hammer
- 1.3. The specification also covers inspection and test of the claw hammer as well as schedule of Guaranteed Technical Particulars to be filled, signed by the manufacturer and submitted for tender evaluation.
- 1.4. The specification stipulates the minimum requirements for claw hammer acceptable for use in the company and it shall be the responsibility of the supplier to ensure adequacy of the design, good workmanship, good engineering practice and adherence to standards, specifications and applicable regulations in the manufacture of the claw hammers for The Kenya Power & Lighting Company Ltd.

The specification does not purport to include all the necessary provisions of a contract.

2. REFERENCES

- ISO 48: Rubber, vulcanized or thermoplastic -- Determination of hardness (hardness between 10 IRHD and 100 IRHD)
- ISO 6508 Metallic materials -- Rockwell hardness test -- Part 1: Test method
- ISO 868: Plastics and ebonite -- Determination of indentation hardness by means of a durometer (Shore hardness)
- ISO 15601: Hammers -- Technical specifications concerning steel hammer heads -- Test procedures

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3. TERMS AND DEFINITIONS

For the purpose of this specification, the definitions given in the reference standards shall apply.

4. REQUIREMENTS

4.1. SERVICE CONDITIONS

The claw hammer shall be suitable for continuous operation outdoors in tropical areas and installations in areas located in:

- (i) Humidity of up to 95%,
- (ii) Average ambient temperature of +35 ° C.
- (iii) Altitude of not more than 2200m above sea level.

4.2. GENERAL REQUIREMENTS

4.2.1. The claw hammer shall be cleanly forged and/or stamped and shall be well shaped and free from flaws, seams and other forging defects.

4.2.2. The eye of the hammer shall lie centrally in the width of the head, and the longitudinal axis of the eye shall coincide with the longitudinal axis of the head within $\pm 3\text{mm}$.

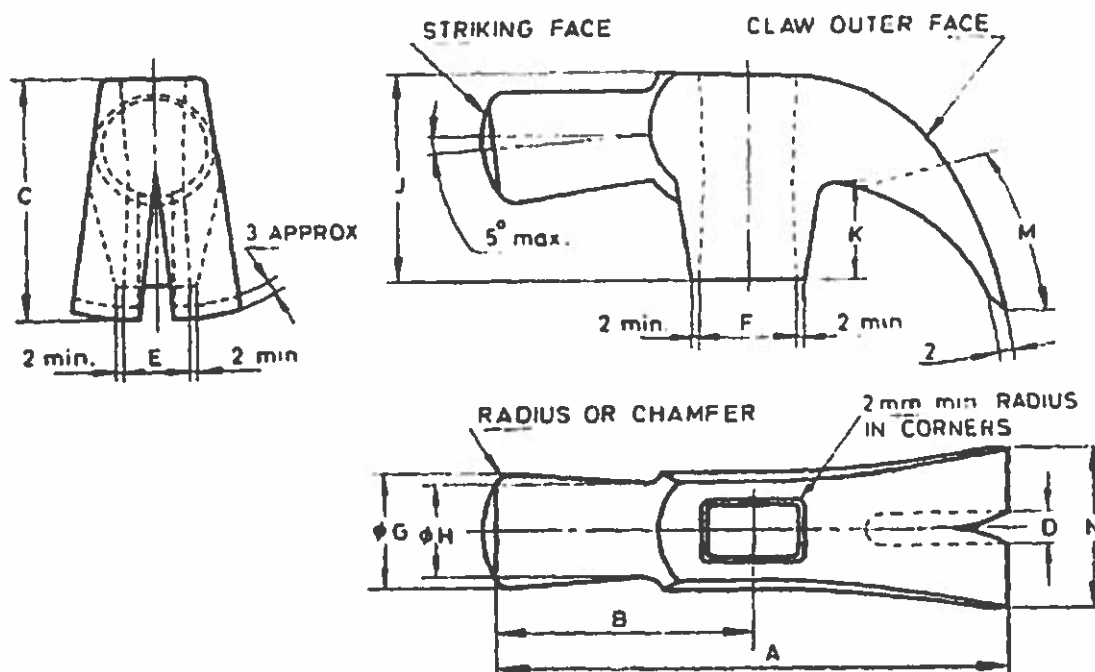


Figure 1: General arrangement of the hammer head

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Table 1: Dimensions of the hammer head

All dimensions in millimetres

Nominal mass	A ±3	B ±3	C ±6	D ±1	E	F	G ±1.5	H ±1.5	J ±3	K Max	M Min	N Min
450	12.0	6.0	50	8	15	25	28	23	52	30	36	30
500	12.0	6.0	60	8	15	25	28	23	52	30	36	30
700	13.5	6.5	75	9	20	30	30	25	62	32	42	35

4.3. MATERIALS

4.3.1. Head

- 4.3.1.1. The head shall be manufactured from a tool steel designation BD2 conforming to BS 4659.
- 4.3.1.2. The striking face of hammer shall have hardness of more than 61 HRC as per BS 6508-1: 2015. The hardened zones when measured from the edge of the striking face back along the surface shall not be less than 4mm nor shall it extend more than half way to the nearest point of the eye.
- 4.3.1.3. The claws hardness shall diminish from the inside to the outside edge of the claw and shall not reach a point less than 12mm from the nearest point of the eye.
- 4.3.1.4. Outside the hardened zones for striking face and claw as described in clause 4.3.1.2, the remainder of the hammer head shall not exceed a hardness value of 48 HRC as per BS 6508-1: 2015.

4.3.2. Handle

- 4.3.2.1. The claw hammer shall be provided with a seamless, oval, tubular steel shaft for strength and balance. The steel handle shall be insulated with soft vulcanized rubber ergonomic handle for comfort and grip tested to ISO 48:2010; the rubber when tested in accordance with ISO 868:2003 shall have a shore A hardness of between 60 – 90.
- 4.3.2.2. The rubber insulation shall be tested dielectrically to 20 kV in one (1) minute and their use shall be limited to 1 kV to 2 kV with precautions. The fact that the handle is covered with the insulating material does not guarantee the user safe working against electric shock.
- 4.3.2.3. The handle shall be shaped to suit the eye of the hammer head. The length shall be 300±5mm. It shall come complete with the hammer head.

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4.4. Quality Management System

- 4.4.1. The supplier shall submit a quality assurance plan (QAP) that will be used to ensure that the design, material, workmanship, tests, service capability, maintenance and documentation, will fulfill the requirements stated in the contract documents, standards, specifications and regulations. The QAP shall be based on and include relevant parts to fulfill the requirements of ISO 9001:2008.
- 4.4.2. The Manufacturer's Declaration of Conformity to reference standards and copies of quality management certifications including copy of valid and relevant ISO 9001: 2008 certificate shall be submitted with the tender for evaluation.

5. TESTS AND INSPECTION

- 5.1. Type tests, sampling tests and routine tests shall be done in accordance with the requirements of applicable KES, IEC, ISO 48, ISO 6508, ISO 868 and ISO 15601 standards and this specification. It shall be the responsibility of the supplier to perform or to have performed all the tests specified.
- 5.2. Copies of Type Test Certificates & Type Test Reports issued by a third party testing laboratory that is accredited to ISO/IEC 17025 shall be submitted with the tender for the purpose of technical evaluation. A copy of the accreditation certificate to ISO/IEC 17025 for the testing laboratory shall also be submitted (all in English language).

Copies of type test reports to be submitted with the tender (by bidder) for evaluation shall be as stated:

- a) Verification of dimensions
- b) Soundness and assembly tests
- c) Nail pulling performance test
- d) Hand clearance test
- e) Claw hardness test.

NOTE: Any translations of certificates and test reports into English language shall be signed and stamped by the third party Testing Laboratory that carried out the tests.

- 5.3. On receipt of the claw hammer KPLC will inspect them and may perform or have performed any of the relevant tests in order to verify compliance with the specification. The supplier shall replace without charge to KPLC, claw hammers which upon examination, test or use fail to meet any of the requirements in the specification.

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6. MARKING AND PACKING

6.1 MARKING

The following information shall be marked indelibly and legibly and in a permanent manner on the head of each claw hammer in English Language:

- (a) Name or trade mark of the manufacturer;
- (b) Type Reference Number ;
- (c) Year of manufacture;
- (d) Batch or serial number;
- (e) The letters ' property of KPLC'

6.2 PARKING

6.2.1 The claw hammers shall be packed in wooden crates which are reinforced and held closed by external steel strip bindings. Each crate shall be internally braced to permit stacking and the steel strip bindings shall be designed to keep the crate firmly closed and permit easy and rapid opening.

6.2.2 Instructions for storage and handling shall be included in each package, all in English Language.

7. DOCUMENTATION

7.1 The bidder shall submit its tender complete with technical documents required by Annex A (Guaranteed Technical Particulars) for tender evaluation. The documents to be submitted (all in English language) for tender evaluation shall include the following:

- a) Guaranteed Technical Particulars fully filled and signed by the manufacturer;
- b) Copies of the Manufacturer's catalogues, brochures, drawings and technical data;
- c) Sales records for previous five years and reference letters from at least four of the customers;
- d) Details of manufacturing capacity and the manufacturer's experience;
- e) Copies of required type test certificates and type test reports by a third party testing laboratory accredited to ISO/IEC 17025;
- f) Copy of accreditation certificate to ISO/IEC 17025 for the third party testing laboratory;
- g) Manufacturer's warranty and guarantee;
- h) Manufacturer's letter of authorization, copy of the manufacturer's ISO 9001:2008 certificate and other technical documents required in the tender.

7.2 The successful bidder (supplier) shall submit the following documents/details (from the manufacturer as per tender) to The Kenya Power & Lighting Company for approval before manufacture:

- a) Guaranteed Technical Particulars fully filled and signed by the manufacturer;
- b) Design drawings & construction details of the claw hammer including 3-D views;
- c) Quality assurance plan (QAP) that will be used to ensure that the design, material, workmanship, tests, service capability, maintenance and documentation will fulfill the requirements stated in the contract documents, standards, specifications and regulations.

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The QAP shall be based on and include relevant parts to fulfill the requirements of ISO 9001:2008;

- d) Test Program to be used after manufacture;
- e) Marking details and method to be used in marking each claw hammer;
- f) Manufacturer's undertaking to ensure adequacy of the design, adherence to applicable regulations, standards and specification, ensure good workmanship and good engineering practice in the manufacture of the claw hammers for The Kenya Power and Lighting Company Limited;
- g) Packaging details (including packaging materials and marking and identification of component packages).

NOTE: The drawings to be submitted by the supplier to KPLC for approval before manufacture shall be in standard format clearly indicating drawing number, parts list with material details & quantities, standard of manufacture, ratings, approval details and identity of the manufacturer (as per manufacturer's authorization submitted during tendering).

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TENDER NO.BIDDER'S NAME & ADDRESS

Clause	Description	Guaranteed Technical Particulars for claw hammer offered
	Name of Manufacturer & Country of manufacture of the claw hammer being offered	specify
	Type/Model Reference Number	specify
1	Scope: Supplier to ensure adequacy of the design, good workmanship, good engineering practice and adherence to standards, specifications and applicable regulations in the manufacture of the claw hammers for KPLC	specify
2	Design standards complied with	specify
3	Terms and Definitions	specify
4	Requirements	
4.1	Service condition	specify
4.2	General requirements	specify
	Dimensions	Attach drawing
4.3	Materials	
4.3.1	Material of head and hardness	Provide test report to prove compliance
4.3.2	Handle material	
4.4	Quality Management System	
	Quality Assurance Plan	provide
	Copy of ISO 9001:2008 Certificate	provide
	Manufacturer's experience	provide
	Manufacturing Capacity (units per month)	provide
	List of previous customers	provide
	Customer reference letters	provide
5.1	Test standards and responsibility of carrying out tests	provide
5.2	Copies of Type Test Reports submitted with tender	provide
5.3	Test reports to be submitted by supplier to KPLC for approval	provide
	Replacement of rejected claw hammers	specify
6.1	Marking	specify
6.2	Packing	specify

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TITLE:

SPECIFICATION FOR
CLAW HAMMER

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7.1	Documents submitted with tender	provide
7.2	Documents to be submitted by supplier to KPLC for approval before manufacture	provide
	Statement of compliance to specification	provide

.....
Manufacturer's Name, Signature, Stamp and Date

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