



PRODUCT STANDARD
SWITCHGEAR ENGINEERING DIVISION

SG 12722 REV.01

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ALUMINIUM ALLOY CASTINGS OF POLE HEAD TOP AND POLE HEAD BOTTOM

1.0 INTRODUCTION :

Aluminium Alloy Die castings of pole heads top and bottom are used in pole assembly of vacuum circuit breakers. Apart from mechanical coupling functions, these castings also facilitate current collection from terminals of vacuum interrupters as well as act as heat sinks to conduct away the heat generated at these VI terminals.

2.0 MATERIALS AND PROPERTIES :

The gravity die castings of these items shall be made from Aluminium Alloy of following equivalent grades:

- Grade : 4635 T6 of IS617 : 1994 or
- Grade : LM 9 TF of BS1490 : 1988 or
- Grade : GK Al Si 10 Mg KA of DIN 1725 : 1983

These castings shall generally confirm to the requirements of BHEL specification BP19990.except mechanical properties which shall be as follows :

The castings shall be solution treated, quenched and precipitation hardened at room temperature for at least 10 days and shall meet following properties:

- Tensile strength > or = 180 N/sq mm
- Yield stress > or = 120 N/sq mm
- Elongation > or = 2.8 %
- Flexural strength> or = 330 N/sq mm
- Hardness > or = 65 HB
- Electrical conductivity > or = 22 m per ohm sq mm

3.0 FINISH AND SUPPLY CONDITION ETC :

Specification BP19990 is applicable.

4.0 TESTING REQUIREMENTS :

Tests to verify following properties shall be carried out at supplier's works (method of tests as per BP19990) :


- Chemical composition
- Tensile strength
- Elongation
- Hardness and
- Electrical conductivity

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REV.	01	PRINTS TO :-		APPROVED –		
ALTD.	DIVYA	PDG/SWE 1 11KV PLAG 1 SWM QCX 1		R.K. SHUKLA		
APPD.	ILB			PREPARED	ISSUED	DATE
DATE.	21.09.99			SMM	RKK	17.07.95

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<div>COPYRIGHT AND CONFIDENTIAL</div> <div>The information on this document is the property of Bharat Heavy Electricals Limited</div> <div>It must not be used directly or indirectly in any way detrimental to interest of Co.</div>		<p>5.0 ACCEPTANCE CRITERION :</p> <p>SUPPLIER'S TEST CERTIFICATE :</p> <p>A certificate of tests conducted as per para 4 shall be sent alongwith every supply lot.</p> <p>TESTS AT BHEL : Tests to verify tensile strength, elongation and hardness on samples supplied alongwith casting lot shallbe carried out.</p> <p>6.0 IDENTIFICATION MARKINGS :</p> <p>Supplier's name / logo, casting lot no. shall be engraved / punched at the location shown on drawing.</p> <p>7.0 PACKING :</p> <p>Specification BP19990 is applicable.</p> <p>8.0 DIE CHANGE :</p> <p>Whenever the party changes the die, dimensional report should be included along with the pilot supply. The bulk supply should be made only after approval of the pilot supply.</p>			