

**TECHNICAL SPECIFICATION of**  
**( 24 VOLTS, 150 AH LEAD ACID BATTERY)**

1. **SCOPE:** - This specification covers the requirement and tests for indoor vented type 24 volt Tubular Type Lead acid batteries for use at 33/11KV sub-station.
2. **APPLICABLE STANDARD:** - Unless otherwise modified in this specification the Tubular Type Lead acid batteries shall comply with IS 1651: 1991 with the latest version thereof.
3. **STANDARD RATING:** - The standard rating for 24-volt Tubular Type Lead acid battery shall be 150 AH.
4. **CELL VOLTAGE:** - The nominal voltage of a single cell shall be 2V and the battery shall consist of 12 cells.
5. **CAPACITY AT ROOM TEMPERATURE (NOT EXCEEDING 32°C):** - 150 AH. at 10 hours rate of discharge.
6. **CONSTRUCTION:** - The cells shall have prismatic (rectangular), spill-proof, re-chargeable vented cell. The cells shall be made of nonporous plastic/hard rubber. A cell rack shall be provided to keep all the cells in systematic manner. Nickel plated copper bus bar shall be provided for inter connecting.
7. **NAME PLATE/POLARITY/WARNING MARKING:** - The battery shall be marked for name plate/polarity/warning marking.
8. **TERMINALS:** - Separate terminals shall be provided for connecting leads and charger leads to the battery terminals. Suitable Nickel-plated copper lugs shall be provided by the supplier for use of the purchaser for connection upto the lead wiring. A typical arrangement of terminals is shown in the sketch (enclosed).
9. **TEMPERATURE RANGE:** - Battery must be capable of operation at temperature upto 55°C for prolonged periods.
10. **ACCESSORIES:** - The following accessories shall be supplied with each set of battery:
 

i)	Syringe type hydrometer	-	1 No.
i)	Cell testing voltmeter complete with leads	-	1 No.
ii)	Pair of gloves	-	1 No.
iii)	Spanner for opening terminals nuts	-	1 No.
iv)	Electrolyte in non-returnable container	-	as per requirement with 10% extra.
11. **MANUAL OF INSTRUCTIONS:-** A copy of the instructions manual for commissioning and initial treatment of the battery and its maintenance during service shall be supplied by the manufacturer with every battery ordered.
12. **TESTS:** -
 

**Acceptance test:** - The following shall constitute acceptance tests:-

  - a) Physical examination
  - b) Dimensions, weight and layout
  - c) Marking
  - d) Polarity and absence of short circuit
  - e) Ampere hour capacity
  - f) Insulation resistance

**Routine tests:-** The following shall constitute routine tests:-

  - a) Physical examination
  - b) Dimensions, weight and layout
  - c) Polarity and absence of short circuit
13. **MAKE:** The supplier shall supply the batteries from one of the makes listed below:
  - a) Exide
  - b) Prestolite.
  - c) AMCO
  - d) HBL
  - e) AMRON
  - f) Standard Surukawa
  - g) Any reputed manufacture or Accredited supplier