

BHARAT HEAVY ELECTRICALS LTD  
INSULATOR PLANT JAGDISHPUR

PURCHASE SPECIFICATION  
(HOT-DIP GALVANISING)

Document No. : JP:TP:10  
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**TECHNICAL REQUIREMENT OF HOT-DIP GALVANISING PROCESS  
AND INSPECTION OF GALVANISED COMPONENTS**

1. SCOPE This document governs the procedure for hot-dip galvanising process & inspection / acceptance of galvanised components of Disc insulators and insulator hardware.
2. REFERENCE TO NATIONAL / INTERNATIONAL STANDARDS:  
IS:2486  
IS:209  
IS:2629  
IS:4759  
IS:2633  
IS:6745  
IS:383-1
3. SAMPLING AND CRITERIA FOR CONFORMITY:  
Sampling plan shall be as per Quality plan and all samples should conform to the acceptance norms.
4. PROCESS: The hot-dip galvanising process should be in accordance with IS-2629. Zinc to be used should be at least 99.95% pure as per IS-209. Hot-dip galvanising to be carried out with heating arrangement of a well mechanised oil fired/electric furnace having arrangement for temperature control. Dichromating treatment to be done after galvanising.
5. INSPECTION PROCEDURE/ACCEPTANCE NORMS:  
5.1. IN - PROCESS:  
5.1.1 The galvanisers will maintain process parameters in line with their Quality plan and maintain records for verification by BHEL.

PREPARED BY

S.I. (Insulator)

APPROVED BY

F.C. (Engg.)

Ref.Sl.No. 16

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5.2 FINISHED COMPONENT:

5.2.1 FREEDOM FROM DEFECTS: Inspection for surface defects shall be done visually on samples drawn randomly from the offered lots. The zinc coating shall be adherent, smooth, reasonably bright, continuous and free from such imperfections as flux, ash and dross inclusions, bars and black spots, pimples, lumpiness and runs, rust stains, bulky white deposits and blisters. Ball and socket dimensions of galvanised components where applicable should conform to GO - NO GO Gauges.

5.2.2 UNIFORMITY IN THICKNESS: Samples shall be subjected to (DIP TEST) Copper sulphate dip test in accordance with IS-2633.  
Components shall withstand six successive dips of one-minute duration each.

5.2.3 MASS OF ZINC COATING: The mass of zinc coating shall be determined in accordance with IS:6745. Mass of zinc for all samples should be 610gms.m<sup>2</sup> minimum.

5.2.4 ADHESION TEST: The adherence of the zinc coating shall be checked in accordance with IS-2629.

6.0 The sub-contractor should satisfy himself first as to the quality of the lot by carrying out the inspection/tests detailed above. Lot should be offered for inspection to BHEL, along with reports of inspection/tests carried out by the sub-contractor. Lots offered without prior inspection/testing by the sub-contractor shall not be entertained.

7.0 All standards mentioned above should be the latest revisions.

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