



BHARAT HEAVY ELECTRICALS LTD

HEAVY PLATES & VESSELS PLANT

VISAKHAPATNAM-530012

TDC:
VZSTRU_CGAL_001

Rev No. 00

Date: 30.05.2026

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COLD GALVANIZING SPRAY FOR FERROUS PRODUCTS

Equivalent/Comparable Standards:

- IS 11759 : Code of Practice for Repair of Damaged Hot-Dip Galvanized Coatings.
- ISO 2808 : Paints and Varnishes – Determination of Film Thickness.
- ASTM D7091 : Standard Practice for Non destructive Measurement of Dry Film Thickness (DFT) of Coatings Applied to Ferrous and Non-Ferrous Metals.
- ASTM D3359 : Standard Test Methods for Rating Adhesion by Tape Test.
- ASTM B117 : Standard Practice for Operating Salt Spray (Fog) Apparatus.

Suggested/Probable Suppliers and Grades:

ZINGA / LOCTITE LB 7800 / ZRC.

Prepared	Reviewed	Approved
N V REDDY	P K SAHOO	Y PRASANNA KUMAR
Sr. Manager	DGM	Senior DGM

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COLD GALVANIZING SPRAY FOR FERROUS PRODUCTS

ORDERING DESCRIPTION

1.0 GENERAL:

Cold Galvanizing Spray for Ferrous Products, Zinc Rich Aerosol Coating, suitable for repair of damaged hot-dip galvanized surfaces as per IS 11759, metallic zinc content in dry film minimum 93% by weight, pack size 250-500 ml, supplied with manufacturer's test certificate confirming zinc content and ASTM B117 salt spray performance.

2.0 APPLICATION:

The material shall be suitable for repair of damaged hot-dip galvanized coatings on structural steel, gratings, ladders, handrails and similar ferrous products in accordance with IS 11759.

3.0 CONDITION OF DELIVERY

3.1 Material shall be supplied in single-pack aerosol spray cans.

3.2 Metallic zinc content in dry film shall be minimum 93% by weight.

3.3 Any additional requirements shall be as specified in the BHEL Purchase Order.

3.4 Pack size shall be 250 ml to 500 ml.

3.5 Surface Compatibility

The zinc spray shall be suitable for application on:

- Hot-dip galvanized steel
- Carbon steel
- Fabricated structural steel
- Welded, cut and drilled areas requiring galvanizing repair

3.6 *Application Conditions*

The product shall be capable of application at ambient temperatures ranging from 5°C to 50°C and relative humidity up to 85%.

3.7 *Drying Characteristics*

- Touch Dry : Maximum 30 minutes
- Hard Dry : Maximum 24 hours at ambient conditions

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3.8 Coating Thickness

The product shall be capable of achieving a minimum Dry Film Thickness (DFT) of 40–50 μm per coat and an overall repair coating thickness equivalent to the surrounding galvanized coating.

3.9 Shelf Life

Shelf life shall be minimum 12 months from the date of manufacture.

3.10 Residual Shelf Life

The material supplied shall have a minimum residual shelf life of 75% of the declared shelf life or 9 months, whichever is higher, at the time of receipt at BHEL.

3.11 Marking Requirements

Each aerosol can shall be clearly marked with:

- Manufacturer's name and trademark
- Product designation/grade
- Batch number
- Date of manufacture
- Expiry date
- Net content
- Storage instructions
- Safety precautions

4.0 PERFORMANCE TESTS:

i. Salt Spray Resistance Test

The coating shall comply with ASTM B117 and shall show no red rust for a minimum exposure period of 500 hours.

ii. Zinc Content Verification

Zinc content shall be verified through manufacturer's Test Certificate.

iii. Dry Film Thickness Capability

DFT capability certificate indicating achievable coating thickness shall be furnished as per manufacturer's Product Data Sheet.

iv. Adhesion Test

The coating shall comply with ASTM D3359 and shall achieve minimum Classification 4B adhesion rating.

v. Visual Examination

The applied coating shall be free from blistering, cracking, peeling, flaking, excessive sagging, pinholes and other visible defects.

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5.0 TEST CERTIFICATES

Unless otherwise specified, three copies of test certificates shall be supplied. In addition, the supplier shall ensure that one copy of the test certificate accompanies the dispatch documents to facilitate quick clearance of the material.

The test certificate shall contain the following information:

- Purchase Order Number (BHEL PO only)
- TDC Number and Revision Number
- Test Certificate Number and Date
- Product Name and Grade
- Batch Number
- Manufacturing Date
- Expiry Date
- Pack Size
- Quantity Supplied

Supplier shall furnish the following documents:

- Manufacturer's Test Certificate.
- Product Data Sheet (PDS).
- Safety Data Sheet (SDS/MSDS).
- Batch-wise Zinc Content Certificate.
- Salt Spray Test Report.
- Declaration of Compliance with IS 11759.
- Adhesion Test Certificate as per ASTM D3359.
- DFT Capability Certificate as per Product Data Sheet.

6.0 PACKING

The material shall be adequately packed to prevent damage during transportation and storage. Aerosol containers shall be packed in cartons with suitable cushioning and protection against moisture and mechanical damage.

7.0 REJECTION AND REPLACEMENT

If the material does not comply with the requirements of this specification during receipt inspection at BHEL, or if any defect is found during subsequent use, BHEL reserves the right to reject the whole or part of the consignment.

The supplier shall replace the rejected material free of cost and take back the rejected material after fulfilling the applicable commercial terms and conditions.

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Material supplied with damaged containers, leaking aerosol cans, missing identification markings, expired shelf life or incomplete certification shall be liable for rejection.

8.0 WARRANTY

The supplier shall warrant that the material supplied is new, unused, free from manufacturing defects and conforms to the requirements of this specification and applicable standards.

Rev No	Date	Description	Prepared By	Sign of Approving Authority
0	30/05/2026	Initial Issue	BHEL VIZAG	

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