



CORPORATE PURCHASING SPECIFICATION

AA 101 66

Rev. No. 06

PREFACE SHEET

GALVANIZED STEEL SHEET, GRADE 120 GPD/GC

FOR INTERNAL USE ONLY
REMOVE THIS PREFACE SHEET BEFORE ISSUE TO SUPPLIERS

Comparable Standards:

1. INDIAN : IS: 277 – 2003, Gr.: 120 GPD/GC

Suggested/Probable Suppliers And Grades:

Refer plant vendors list

User Plant References:

1. BHOPAL : BP 101 66
 2. HEER, HARDWAR : 0500.005
 3. HYDERABAD : IS:277
 4. TIRUCHY : IS:277, class 3

Revisions :

Cl: 27.6.12 of MOM of MRC-S&GPS

APPROVED :

INTERPLANT MATERIAL RATIONALISATION
 COMMITTEE-MRC (S&GPS)

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GALVANIZED STEEL SHEET, GRADE 120 GPD/GC

1.0 GENERAL:

This specification governs the quality requirements of plain and corrugated galvanized steel sheets, grade 120 GPD/GC produced by hot-dip process.

2.0 APPLICATION:

Used for general purpose, such as paneling and roofing.

3.0 CONDITION OF DELIVERY:

Annealed or normalized and galvanized.

The sheets shall be supplied plain or corrugated as specified in BHEL order.

4.0 COMPLIANCE WITH NATIONAL STANDARDS:

Material shall comply with the requirements of the following National standards and also meet the requirements of this specification:

IS:277-2003, Gr.:120 GPD/GC: Galvanized steel sheet (Plain and corrugated)

5.0 DIMENSIONS AND TOLERANCES:

Sizes:

The material shall be supplied to the dimensions specified in BHEL order. Standard sizes shall be selected from IS:277.

Plain sheets shall be ordered on the basis of length, width and thickness.

Corrugated sheets shall be ordered on the basis of length, thickness, depth, pitch and number of corrugations.

5.2 Tolerances:

The tolerances on sheets and coils shall comply with IS : 513 as detailed below:

5.2.1 Length:

- 0 mm
- + 15 mm or 0.5 percent of length whichever is greater.

5.2.2 Diagonal:

The diagonal distances between the opposite corners of any sheet shall not differ by more than 20mm.

5.2.3 Width:

- 0 mm and + 10 mm.

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5.2.4 Mass:

The tolerance on mass of individual sheets shall be $\pm 10\%$ and tolerance on mass of each bundle of sheets shall be $\pm 5\%$.

5.2.5 Corrugations (When specified):

On depth	: ± 2.5 mm	Average of 4 measurements.
On pitch	: ± 5.0 mm	
On over all width after corrugations	: ± 25 mm	

6.0 MANUFACTURE :

The steels or coils used for galvanizing shall conform to the requirements of Gr.: O for corrugated and DD for plain of IS:513 or IS: 1079 and shall be either annealed or normalized. However, for corrugated sheets the maximum phosphorus content may be 0.09 percent.

Galvanizing shall be carried out by first pickling the black sheets or by cleaning the cold rolled coils in line and then dipping them in a bath of molten zinc at a temperature suitable to produce a complete and uniformly adhesive coating of zinc. The zinc ingots used for galvanizing shall conform at least to grade Zn 98 of IS:209.

7.0 FREEDOM FROM DEFECTS :

Galvanized plain sheets, corrugated sheets and coils shall be reasonably flat and free bare spots, holes, tears and other harmful defects.

Coils, however, may contain some abnormal imperfections which render a portion of the coil unusable since the imperfections in the coil can not be removed as in the case of cut lengths.

8.0 TEST SAMPLES:

8.1 Bend Test (For plain sheets):

Test pieces, 230 mm long and 75 to 100 mm wide, shall be cut both along and across the direction of rolling. Bend test pieces shall be selected at the rate of one set of 2 for every 1000 sheets or part thereof. Bend test shall not be conducted for corrugated sheets.

8.2 Coating Test:

One set of three samples, each 50 x 50 mm or 50 mm diameter shall be selected at random from one sheet for every 1000 galvanized sheets or part thereof. In the case of galvanized sheets produced from black sheets, one set of three samples shall be taken, two from an extremities of a diagonal and one from the middle of the sheet whereas in the case of galvanized sheets produced from cold rolled coils, one set of three samples shall be cut, one being from the middle of the width of sheet and one each from each side of sheet and in no case closer than 75 mm from the edge of the sheet.

9.0 BEND TEST (FOR PLAIN SHEETS):

Test samples prepared in accordance with clause 8.1 above shall withstand bending through 180° round a mandrel having a diameter equal to the number of times the thickness of the sheet specified in the table below without peeling or flaking of zinc.

Thickness of sheet, mm	* Mandrel diameter
Over 0.16 and upto & incld. 0.30	4
Over 0.30 and upto & incld. 1.60	3
Over 1.60 and upto & incld. 5.00	2

* Expressed as the number of times the thickness of sheet.



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10.0 ZINC COATING TEST:

Single Test:

One test sample bearing the lightest mass of coating out of the three test samples selected under clause 8.2 above, shall be used and the mass of the zinc coating when determined by the method given in IS:6745 shall not be less than 100 g/m².

The mass of coating shall represent the total mass of zinc, both sides inclusive.

11.0 TEST CERTIFICATES:

Unless otherwise specified, three copies of test certificates shall be supplied.

In addition, the supplier shall ensure to enclose one copy of the test certificate along with their dispatch documents to facilitate quick clearance of the material.

The test certificate shall bear the following information:

AA 101 66, Rev 06: Galvanized steel sheet, Grade 120 GPD/GC

BHEL Order No,

Supplier's name,

Identification No

Dimensional inspection

Results of bend and zinc coating tests.

Note: Material procured, supplied and certified as AA 101 66, Rev 05/IS:277, Gr.:120 GPD/GC and comply with the requirements of this specification is acceptable.

12.0 PACKING AND MARKING:

Sheets shall be securely packed in waterproof paper or hessian cloth and securely tied round with hoop iron and with wooden battens underneath to prevent the sheets from corrosion and damage during transit.

A metal label shall be securely attached to each bundle and shall bear the following information :

AA 101 66: Galvanized steel sheets, grade 120 GPD/GC

BHEL Order No,

Supplier's Name

Consignment and Identification No,

Size and Weight.

13.0 REFERRED STANDARDS (Latest Publications Including Amendments) :

1. IS : 209 2. IS : 277 3. IS : 513 4. IS : 1079 5. IS:6745