***भारतीय मानक* IS 1254 : 2024**

***Indian Standard***

 ***एल्युमिनियम की नालीदार चद्दर***

 *(पांचवा पुनरीक्षण)*

**CORRUGATED ALUMINIUM SHEET**

*(Fifth Revision)*

 ICS 77.150.10

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भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

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**September2024 Price Group**

Ores and Feed Stock for Aluminium Industry, its Metals/Alloys and Products Sectional Committee, MTD 07

FOREWORD

This Indian Standard (Fifth Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Ores and Feed Stock for Aluminium Industry, its Metals/Alloys and Products Sectional Committee had been approved by the Metallurgical Engineering Division Council.

This standard was first published in 1958 and subsequently revised in 1965, 1975, 1991 and 2007. This revision has been brought out to bring the standard in the latest style and format of the Indian Standards.

In addition, following significant modifications have been made:

1. Additional nine grades are added in material clause;
2. References clause has been updated;
3. A new clause on ordering information has been added;
4. Material clause has been modified;
5. New clauses on packaging and rejection and retest have been added;
6. Marking clause has been modified.

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

For the purpose of whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values ( *second revision* )’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard*

**CORRUGATED ALUMINIUM SHEET**

*(Fifth Revision)*

**1 SCOPE**

This standard specifies the material, profile dimensions and finish for the corrugated aluminum sheets meant for following uses:

1. General purpose;
2. Industrial;
3. Building; and
4. High stiffness industrial sheet

**2 REFERENCES**

The following standards contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicted were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

|  |  |
| --- | --- |
| *IS No.* | *Title* |
| IS 737 : 2024 | Wrought aluminium and aluminium alloy sheet and strip for general engineering purposes ― Specification (*fifth revision*) |
| IS 2676 : 1981 | Dimensions for wrought aluminium and aluminium alloys, sheet and strip (*first revision*) |
| IS 5052 : 1993 | Aluminium and its alloys ― Temper designations (*first revision*) |
| IS 10259: 1982 | General condition for delivery and inspection of aluminium and aluminium alloy products |

**3 ORDERING INFORMATION**

The ordering information shall include the following information:

1. Alloy/temper quantity, in pieces or in kg;
2. Width (mm);
3. Cut length (mm);
4. Packing mode; and
5. Profile type.

**4 FREEDOM FROM DEFECTS**

Corrugated sheet shall be clean and reasonably free from harmful defects.

**5 SUPPLY OF MATERIALS**

General requirements for the supply of material shall be as specified in IS 10259.

**6 PROFILE**

**6.1** Profile of the four types of sheet may preferably be as shown (*see* Fig. 1). However, if agreed between the manufacturer and the purchaser other profiles can also be used.

**6.2** The corrugations shall be uniform and parallel with the sides of the sheet.

**7 MATERIAL**

**7.1** Corrugated aluminum sheet shall be made from alloys 19000, 19002, 31000, 31000A, 31200, 31500, 31500B, 31500C, 40800, 41352, 51300, 53800, 81400 and 81400A as specified in IS 737.

**7.2** Temper designated for corrugated aluminum sheet shall be HX4 or HX6 or HX8 of IS 5052.

**8 DIMENSIONS AND TOLERANCES**

**8.1** The thickness of the corrugated sheet shall be as agreed to between the purchaser and the supplier. Tolerance on the thickness of the sheet shall be subject to the general thickness tolerance specified in IS 2676.

**8.2 Width**

The overall width of sheet shall be as given in (*see* Fig. 2) subject to a tolerance of ± 10 mm for sheet of 0.45 mm and above in thickness. The tolerance on width for sheet less than 0.45 mm thick shall be subject to agreement between the purchaser and the supplier.

**8.3 Length**

The length of the sheet shall be as agreed to between the purchaser and the manufacturer, subject to a tolerance of + 6 mm. However, preferred lengths are 1 800 mm, 2 400 mm, 3 000 mm, and 3 600 mm.

**8.4 Squareness**

Unless otherwise specified by the purchaser, the diagonal distance between corners of any finished sheet shall not differ by more than 20 mm for sheet from and including 0.45 mm and above in thickness. The tolerance on squareness for sheets less than 0.45 mm in thickness, shall be subject to mutual agreement between the purchaser and the supplier.

**8.5 Depth and Pitch of the Corrugation**

**8.5.1** For the general purpose sheet, the depth of the corrugation shall be 12.5 mm or 17.5 mm subject to a tolerance of + 2.5 mm. The pitch of the corrugation shall be 75 mm subject to a tolerance of + 5 mm

**8.5.2**. For other types of sheet, the depth and pitch of corrugation shall be as per details in (*see* Fig. 1), subject to a tolerance of + 2.5 mm and + 5 mm respectively.

**9 REJECTION AND RETEST**

For the purpose of this standard, the clauses as given in IS 10259 shall apply.

**10 FINISH**

The finish shall be ‘as rolled’ unless a special surface finish has been agreed to between the manufacturer and the purchaser.

**11 PACKAGING**

**11.1** For the purpose of this standard, the packaging methods given in IS 10259 shall apply.

**11.2** The packing mode should be such as to ensure prevention of water corrosion and mechanical damage during transit and storage.

**12 MARKING**

**12.1** The material shall be marked with the following:

1. Name of the manufacturer;
2. Profile type and grade of material (*see* 7);
3. Width and thickness of the sheet;
4. Length of the sheet;
5. Lot number.

**12.2 BIS Certification Marking**

The products (s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provision of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the product may be marked with the Standard Mark.



**General Purpose Sheet**



**Industrial Sheet**



**Building Sheet**



High Stiffness Industrial Sheet

T = thickness of sheet

All dimensions in millimetres.

FIG. 1 PROFILES OF CORRUGATED ALUMINIUM SHEET





High Stiffness Industrial Sheet

All dimensions in millimetres.

FIG. 2 WIDTH FOR CORRUGATED ALUMINIUM SHEET

##  ANNEX A

(*Foreword*)

**COMMITTEE COMPOSITION**

Ores and Feedstock for Aluminium Industry, its Metals/Alloys and Products

Sectional Committee, MTD 07

|  |  |
| --- | --- |
| *Organization* | *Representative(s)* |
| CSIR - Institute of Minerals and Materials Technology, Bhubaneswar | DR. KALI SANJAY ***(Chairperson)*** |
| Aluminium Association of India, Bengaluru | SHRI ANIL MATHEW |
|  SHRI T. VIMAL RAJ (*Alternat*e) |
|  SHRI SAGAR DHAMORIKAR (*Young Professional*) |
| Aluminium Secondary Manufacturers Association, New Delhi | SHRI NAVEEN PANT |
|  SHRI PRAVEEN DIXIT (*Alternat*e) |
| Bharat Aluminium Company Limited, New Delhi | MS. ANJALI PAWAR |
|  SHRI JITENDRA KUMAR VERMA (*Alternat*e) |
|  SHRI DEEPAK SHARMA (*Young Professional*) |
| CSIR -National Metallurgical Laboratory, Jamshedpur | DR. KANAI SAHOO |
|  DR. V. C. SRIVASTAVA (*Alternat*e) |
| CSIR-Advanced Materials and Processes Research Institute, Bhopal |   DR D. P. MONDAL  |
| Century Extrusions Limited, Kolkata | SHRI V JHUNJHUNWALA |
|  SHRI SANJAY SINGH SEHRAWAT (*Alternat*e) |
|  SHRI SHIVANSHU JHUNJHUNWALA (*Young Professional*) |
| Century Metal Recycling Limited, Faridabad | SHRI MOHAN AGARWAL |
| Defence Metallurgical Research Laboratory, Ministry of Defence, Hyderabad | DR. G. JAGAN REDDY |
|  DR. S. N. SAHU (*Alternat*e) |
| Defence Research and Development Laboratory, Ministry of Defence, Hyderabad | DR. G. RAJA SINGH |
|  DR. N. A. ARUN (*Alternat*e) |
| Directorate General Quality Assurance, New Delhi | SHRI K. SAHA |
|  SHRI AJAY KUMAR (*Alternat*e) |
| Hindalco Industries Limited, Mumbai | SHRI RANJAN KUMAR SUR CHAUDHURY |
|  SHRI TUSHAR PANDA (*Alternat*e) |
|  SHRI MIRAJUL HAQUE (*Young Professional*) |
| Jawaharlal Nehru Aluminium Research Development and Design Centre, Nagpur | DR. ANUPAM AGHINOTRI |
|  SHRI R. N. CHAUHAN (*Alternat*e) |
| Jindal Aluminium Limited, Bengaluru | SHRI O. K. SHARMA |
|  SHRI P. DEVARAJ (*Alternat*e) |
| Material Recycling Association of India (MRAI), Mumbai | SHRI DHAWAL SHAH |
|  SHRI JAYANT JAIN (*Alternat*e) |
| National Aluminium Company Limited, Bhubaneswar | SHRI TARUN KANT  |
|  MS KIRAN KANDEYANG (*Alternat*e) |
| National Test House, Kolkata | DR. NISHI SRIVASTAVA |
|  SHRI BUDDH PRAKASH (*Alternat*e) |
| Vedanta Limited, Mumbai | SHRI VIVEK SAXENA  |
|  SHRI RAM SANDIPAM (*Alternat*e) |
|  SHRI NIKHIL BHAGCHANDANI (*Young Professional*) |
| BIS Directorate General | SHRI SANJIV MAINI, SCIENTIST ‘F’ AND DIRECTOR AND HEAD (MTD) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)] |

*Member Secretary*

SHRI ASHISH PRABHAKAR WAKLE

SCIENTIST ‘C’/DEPUTY DIRECTOR

(METALLURGICAL ENGINEERING), BIS