



Uhde India Limited

**SECTION-8  
TECHNICAL SPECIFICATIONS  
ROOFING & CLADDING**

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**8.1 SCOPE OF WORK**

The Contractor shall furnish all labour, materials, tools and services necessary to complete all work in Roof Sheeting, louvers, side cladding etc. in accordance with the drawings and as specified therein.

**8.1.1 Applicable Codes & Specifications**

The following codes, standards and specifications are made a part of this specification. All specifications, standards, codes of practices referred to herein shall be the latest edition including all applicable official amendments and revisions. In case of discrepancy between this specification and those referred to herein, this specification shall govern:

1. IS:3007 : Code of Practice for laying of asbestos cement sheets.
2. IS:2527 : Code of Practice for fixing rain water gutters and down pipes for roof drainage.
3. IS:1626 : Specification for asbestos cement building pipes, gutters and fittings.
4. IS:277 : Specification for galvanised steel sheets (plain and corrugated).
5. IS:459 : Corrugated and semi-corrugated asbestos cement sheets.

**8.2 A.C. Sheeting & Accessories****8.2.1 Workmanship**

- 1) A.C. sheets shall be installed by experienced workmen as shown on the drawings and in a workmanlike manner, whether in Roofing or side cladding. The maximum spacing of roof purlins / side runners as recommended by manufacturer shall not be exceeded.
- 2) The completed surface shall be leakproof against rainwater and rigidly attached to the structural frame of the building.

- 3) Final coat of paint on steel members shall have dried for at least 24 hours before the erection is started. All holes shall be accurately drilled as specified by the manufacturer, and laps shall be made over the structural members and sheeting shall be bolted at spacing not greater than those specified by the manufacturer or as directed by the Engineer.

### 8.2.2 Asbestos Cement Rainwater Pipes & Fittings

These shall comply with IS:1626 - Specification for asbestos cement building pipes, gutters and fittings (spigot and socket type). The pipes shall be straight, and the end of the pipes, gutters and fittings shall be finished square to their axes. Pipes, gutters and fittings shall be true and smooth: their inner and outer surfaces shall be as nearly as practicable concentric, and shall be in all respects sound, homogeneous and free from impurities, other imperfections and defects.

- 8.2.3 North Light Glazing - Material shall be 6 mm thick reinforced with G.I. mesh. The glass shall be fixed using Standard Aluminium vertical sections and aluminium press-fit clips all as per drawings and manufacturer's spec. Suppliers Ajit India, Alumilite or equivalent approved vendor.

### 8.3 G.I. SHEETING & ACCESSORIES

Roofing and accessories wherever indicated shall be of galvanised iron sheets, corrugated or plain conforming to IS:277, with thickness specified hereinafter or as indicated in bill of quantities. The Contractor shall supply, fabricate and erect all sheets and accessories complete as specified and as shown on the drawings.

The G.I. sheeting shall, unless otherwise indicated, be of the following type and thickness:

- 1) G.I. coating will be conforming to IS:1367 and shall be of 750 grade.
- 2) Roofing sheets along with 22/24 gauge corrugated Northlight Curves & ridges..
- 3) The G.I. sheets shall be laid with a minimum end lap of 150 mm and 2 corrugation at each side. For flatter slopes of more than 1 vertical to 2 horizontal the min. end laps shall be 200 mm for ridge, hip and valley.
- 4) The laying operation shall include all scaffolding work.

- 5) The roofing sheets shall be laid and fixed to roof structurals by 'J' or 'L' G.I. hook bolts, 25 x 6 mm nuts and 8 mm bitumen and limpet washers as per best practice. At the side lap of 2 corrugations, the bolts shall be placed zig-zag to hold the sheets tightly, with the spacing of bolts not exceeding 600 mm along each of the staggered rows. The holes in the sheets for the fixing of bolts shall be drilled and not punched from the northern ridges of the corrugations from the underside, while the sheets are on the ground.
- 6) Gutters shall be of the design and size specified in on the drawings. Such gutters shall be made of 16 gauge plain G.I. sheets or epoxy painted M.S. sheets as specified in the drawings and with seal-welded joints.
- 7) Hanging gutters shall be constructed of galvanised iron unless otherwise specified or shown on the drawings. Hanging shall be provided in sections not less than 2.5M long, jointed by 25mm soldered laps in the direction of flow.
- 8) Supports shall be of galvanised iron stock gutter hangers of the adjustable strap type, with spacer attachments to maintain gutter alignment and shall be secured by screws or bolts at spacings not greater than 60 cm on centres.
- 9) End pieces, caps, outlet tubes, miters and reinforcing members shall be provided wherever indicated or required. Slip joints, wherever required, shall have grooves filled with whitelead paste.
- 10) Wind Tie : Wind ties shall be of 40 x 6 mm flat or other M.S. sections as specified. These shall be fixed at the eaves of the sheets. The fixing shall be done with the same hook bolts which secure the sheets to the roof purlins. The ties shall be paid for separately as per relevant structural steelwork item.

#### 8.4 Fibre Glass Reinforced Plastic Sheeting and Polycarbonate Sheeting

This shall be of thickness and profile as mentioned in the Schedule of Items. (Refer to Data Sheet 'B' for recommended vendor / brand information). Colour and light transmittance shall be as mentioned in drawings and or schedules. Where used in conjunction with C.G.I. or asbestos sheeting, the end and side laps

and fixing device shall be same as used for general sheeting. Where used in lieu of glass, the fixing shall be by means of timber or metal glazing beads as mentioned in Schedule of Items. In all cases, the installation shall be completely watertight and able to withstand the designed wind pressure as mentioned in Schedule. The mode of measurement shall be similar to A.C. sheeting.

#### 8.5 Colour Coated Galvanised Sheets

Colour Coated Galvanised Sheets shall be supplied by reputed manufacturers like (Refer to Data Sheet 'B' for recommended vendor / brand information). These sheets shall be manufactured by Roller Coating process using polyester based paints and Galvanised Sheets as base substrate. The galvanising shall be as per IS : 277 normally to Grade 175 giving minimum average coating of 120 gm/sq.m. The mode of measurement shall be similar to G.I. sheeting.

#### 8.6 Mode of Measurement

- a. The payment for A.C. sheeting and cladding, glazing for natural light shall be on Sq.m basis on finished plan area without allowances for (end and side) laps and corrugations and overlapping at ridge or hip, valley etc.
- b. The payment for other A.C. materials like Ridge pieces, apron pieces, etc. shall be on R.M. basis on finished area.
- c. The payment for G.I. sheeting and cladding shall be on Sq.m. basis on finished area similar to A.C. sheeting.
- d. The payment for fabricated accessories such as roof gutters, downwater pipes etc. shall be on Kg basis.

The rates quoted shall be all inclusive covering cost of materials, labour, supervision, transport, taxes/duties, octroi, wastage, guarantees, all statutory requirements and all other incidental expenses required for completing the work, including a coat of specified steel primer and 2 coats of approved steel paints on overlapping G.I. sheets.

**END**