

REVIEW ANALYSIS OF INDIAN STANDARD

(To be submitted to the Sectional Committee)

1. **Sectional Committee No. & Title:** Building Construction Practices Sectional Committee CED 13
2. **IS No: IS : 12093:1987**
3. **Title :**code of practice for laying and fixing of sloped roof covering using plain and galvanized steel sheet.
4. **Date of review:**
5. **Review Analysis**
 - i) **Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.**

Standard (No.& Title)	Whether the standard has since been revised	Major changes	Action proposed
References:- 1)International federation of Red cross and Red crescent societies(ifrc-suc.org.)-How to build safe roofs with corrugated galvanized iron (cgi) sheet. 2)Civil Engineering Hnadbook- P.K.Khanna	yes	2.1 Steel Sheeting	Addition Galvanised Iron(GI) sheets are Iron or steel sheets that have been coated with Zinc. Corrugated galvanized iron (CGI)or steel sheets are roofing sheet stiffened by corrugation. Corrugated metal roofing sheet is roll formed into a metal panel. These panels are attached to roof with bolt and screws. Corrugated galvanized steel Sheet (Zinc Coating) shall have various thickness and sizes, zinc coating to Iron and steel shall be hot dip galvanizing ,electro galvanizing, sheradizing, metallic spraying ,painting with zinc rich paint. Functional requirement of steel sheeting shall be, strength &stability,

		<p>3.1 Necessary information</p> <p>Design Consideration 4.2.1</p> <p>.3.1 Laps</p>	<p>resistance to weather, durability, fire safety, resistance to passage of heat, resistance to passage of sound. Roofing sheets are mainly GI roofing sheet,GI colour corrugated sheet ,stainless steel galvanized corrugated roofing sheet as well as stainless steel galvanized colored corrugated sheet.</p> <p><u>Addition</u> f)Type and grade of roofing sheet g)Distance of supporting purlins h)Type of hook bolts,J orL i)Number of hook bolts to be placed in each sheet j)Spacing of seam bolts in the overlapping sheets k)Wings of ridge cap and hip cap. l)Wings of fascia caps.</p> <p><u>New addition</u> Thickness of gauge shall be the most relevant criteria for the resistance of the CGI sheet to pulling forces like suction under Strong wind. The gauge together with the type of corrugation is also the most relevant for stability to other loads. Functional requirement of roof sheet shall have strength and stability, resistance to weather ,durability, fire safety, resistance to passage of heat, resistance to passage of sound.</p> <p><u>New Addition</u> As the overlap at the sides extends two corrugations,</p>
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		<p>5.1.1 Laying and fixing of sheets</p> <p>6.3 Ridges and hips</p>	<p>these bolts shall be placed Zig zag over two overlapping corrugations, ends of the overlapping sheets shall be drawn tightly to each other. The spacing shall be limited to 60cm along each of the staggered row.</p> <p><u>New Addition</u> supports for sheets shall be rafter made of soft wood and coconut woods, these are easy to work with and easy for providing roofing nails or roofing screws. Similarly Bamboo supports, shall have more resistant to nails and screws. Metal support shall have most resistant to nails and screws and useful for large spans.</p> <p><u>New Addition</u> Ridge caps shall have galvanized metal sheets designed to cover the ridge of a CGI roof to add protection and stability to this area for high wind pressure. The thickness and coating thickness of the ridge cap shall have the same as the CGI. To ensure a good overlap of the ridge cap over the CGI sheet, ridge caps shall have wings of 15cm minimum. Ridge caps shall also be placed to cover the hip angles of hipped roofs called hip caps.</p>
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			Similarly, fascia caps shall be fixed in single pitched roof.

ii) **Status of standards referred in the IS**

Referred standards (No. & Title)	IS No. of this standards since revised	Changes that are of affecting the standard under review	Action proposed

iii) **Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc or of new or revision of existing Indian Standard)**

Standard (No. & Title)	Provisions that could be relevant while reviewing the IS	Action proposed

iv) **Technical comments on the standard received, if any**

Source	Clause of IS	Comment	Action proposed

v) **Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)**

Source	Development	Relevant clause of the IS under review that is likely to be impacted (Clause & IS No.)	Action proposed

vi) **Issues arising out of changes in any related IS or due to formulation of new Indian Standard**

Related IS and its Title (revised or new)	Provision in the IS under review that would be impacted & the	Changes that may be necessary in the Standards under review	Action proposed

	clause no. or addition of new clause/provision		

vii) **Any consequential changes to be considered in other IS**

Related IS to get impacted	Related IS Title	Requirements to be impacted

6. Any other observation:

7. Recommendations:

To refer the following segment for the proposed for the proposed changes marked in red.