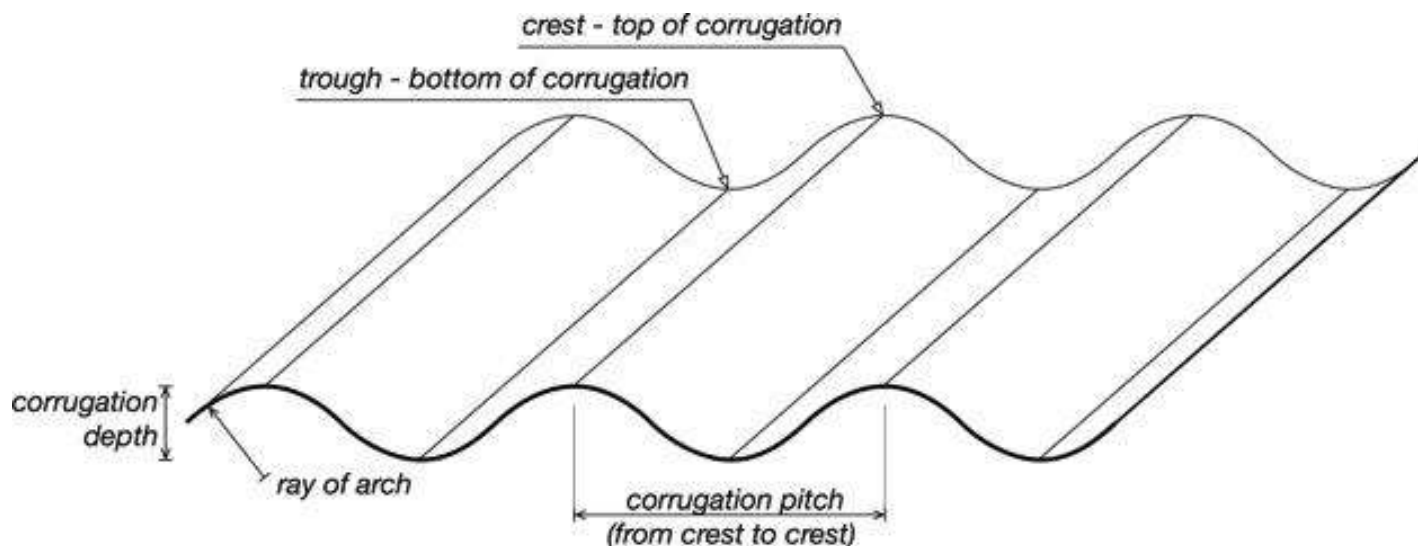


## Corrugated Galvanised Iron (CGI) for Roofing

### CGI terminology:



Specifications for CGI	Recommended for Roofing ( According to Nepal Standard <sup>1</sup> )
<b>Minimum Thickness</b>	0.35 mm
<b>Zinc Coating</b>	Hot dip galvanization with minimum 120 g/m <sup>2</sup> zinc on each side of sheet.
<b>Approximately Weight per bundle</b>	55 kg
<b>Nominal Depth of Corrugation</b>	18 mm (Tolerance +/- 1.5 mm)
<b>Nominal Pitch of Corrugation</b>	76.2 mm (Tolerance +/- 2 mm)
<b>No of Corrugation</b>	½ + 10 + ½
<b>Width of Sheet</b>	875 mm (Tolerance +/- 10 mm)
<b>Length per bundle (ft.)</b>	Approximately 72 feet. Depending on the length of sheet CGI bundles are sold as follows: 12 sheets of 6 ft.; 10 sheets of 7 ft.; 9 sheets of 8 ft. long; 8 sheets of 9 ft. (recommended by GoN); 7 sheets 10 ft.; 6 sheets 12 ft
<b>Estimated Price per Bundle</b>	6,000 - 6,700 Nepali Rupee (60 - 67 USD), depending on quality

The quality of CGI sheets is measured in terms of 'gauge' which is directly linked to thickness (mm) of the sheets. The table below outlines the thickness of sheet associated with each gauge:

			Suggested	Suggested		
<b>SWG (British Std.)</b>	24	26	28	30	32	<b>34</b>
<b>Thickness (mm)</b>	<b>0.701</b>	<b>0.551</b>	<b>0.475</b>	<b>0.399</b>	<b>0.34</b>	<b>0.234</b>

<sup>1</sup> Nepal Standard for Corrugated Galvanised Iron: <http://nbsm.gov.np/file/download/file1712045347.pdf>

In Nepal, the Japanese system for gauge is used, which is slightly different to the British system for gauge. There have been reports of sheets advertised as 26 gauge on the market, which are in fact closer to 30 gauge in terms of thickness (mm). Shelter Cluster partners are advised to ensure that the thickness of sheets is measured during the procurement process and CGI sheets between 0.475 and 0.399 mm thickness are recommended in order to ensure ease of transport (at these thicknesses, CGI sheets can be rolled for transportation).

**Tips for Purchasing CGI Sheets and Galvanized Steel Items:**

- Fixings/fasteners and sealing washers must be made of galvanized steel, with similar zinc coating thickness to avoid corrosion and breakage.
- Always verify the zinc coating thickness, by using a coating thickness gauge; a magnetometer. The supplier may want to sell electro-galvanized steel which looks like hot-dip galvanized but can have a zinc coating thickness that is up to 10 times thinner.
- If the price for items made of galvanized steel seems expensive, you should check if the items are not made of stainless steel (3 times more expensive than galvanized steel). Use a magnet to check, if the magnet does not stick to the item, then it is made of stainless steel.

**Health and Safety:** Ensure that handling staff are equipped with gloves and sturdy boots to prevent injury, and that a first aid package is available at loading and off-loading locations.

**Packing:** If they are being airlifted, bundles of sheets of CGI should be packaged in a sturdy wooden box. This is especially critical if the CGI is being delivered by helicopter or being stored on or near an airfield.

**Storage:** Bundles shall be so laid that the corrugations run in the same directions in every course. One end of the stack shall be raised by 100 mm to 150 mm to allow water to flow freely away from the sheets. If the sheets are not to be used immediately, they must be stored in a covered area.

**Fixings Specifications:**

Items	Specification	Unit	Qty	Approx. USD
<b>Nylon rope</b>	8mm dia; Polypropylene recycled fibres, UV stabilised; minimum 3 strands; colour black/blue; Packed in roll	kg	1.5	3.00
<b>Tie wire</b>	Low carbon steel, galvanized binding wire; 16 gauge; Commercial type medium coated, Packed in roll	kg	1.5	1.50
<b>Nails for roof</b>	Iron nails, made of polished low carbon steel, cold processed, not heat treated except for galvanization; Spiral rolled or twisted shank, sealed umbrella-type spring-head Size: 75x3.6mm, Attached rubber washer to each nail; head dia 22 mm thick; Packed in strong and thick plastic bag	kg	0.5	2.50
<b>Nails for wood</b>	Iron nails, polished low-carbon steel; cold processed, not heat treated except for galvanization; Large type-(75x3.6) mm, head dia 7.7mm and Large type-(40x2.2) mm, head dia 5.5mm; Packed in a strong and thick plastic bag	kg	0.5	1.50
<b>Bamboo</b>	Treated and at least two year matured bamboo; Size: length 7 m, Circumference: 7 inch to 9 inch	pc	15*	40

**Production of CGI in Nepal**

There are four companies manufacturing CGI sheets in Nepal:

Producer	Contact Details	Production Per Day (MT)	Production Per Month (MT)	Annual Production (MT)
H.S.I.	Hitesh Golchha, 9802030660, hitesh@golchha.com	350-400 (depending on thickness)	8750	105000
Aarti	Mr. Dibya, 9801040543	350	8750	105000
Rajesh		150	3750	45000
Bhagwati	Mr. Shashi, 9851021554	100	2500	30000
<b>Total MT</b>		<b>950</b>	<b>23,750</b>	<b>285,000</b>
<b>Total Est. Bundles</b>		<b>14,600</b>	<b>353,000</b>	<b>4,384,600</b>

Following the earthquakes, the price of CGI was fixed by the GoN and widely communicated in the media:

**हुलास स्टील इण्डस्ट्रिज लि., भूकम्प पिडित राहतको लागि प्रकाशित मूल्य सूचि**

बस हुलास स्टील इण्डस्ट्रिज लिमिटेडबाट उत्पादित हुलास ग्रास घाघ कर्कट तथा जस्तापाताको अधिकतम छुद्रा मूल्य (MRP) विम्बाबुसार रहेको सबैमा जानकारी मराउँने चाहन्छौ ।

**ग्यालभनाइज गरिएका कर्कट तथा जस्तापाताको मूल्य सूची**

क्र.सं.	न्यूनतम वेस गेटनको मोटाइ (मि.मि.)	न्यूनतम वेस कोटिङ	कोटिङ पछिको सि.मि.आई (मोटाई मि.मि.)	बण्डल वजन (की.जी.)	कारखाना मूल्य रु.अ.क. सहित (नेप.)	दुबानी घनत्व (काठमाडौं)	साधा कारोबार सञ्चालन घनत्व (प्रतिवटा)	डिजलर कमिशन प्रतिशत	अधिसतम् छुद्रा विन्सा मूल्य रु.अ.क. सहित (नेप.) (काठमाडौं)		
१	०.६०	१२०	०.६२	६४-६५	१०,३४४	१०४	२६६	२५२	१९,९४०	१९८	
२	०.४५	१२०	०.४७	८७-८८	६,३०५	१०७	२४४	२८६	९०,०७०	१९५	
३	०.३२	१२०	०.३४	८९-९०	६,६९५	१०७	२२९	२७९	६,३००	१९५	
४	०.३०	१२०	०.३२	८०-८१	६,३०५	१०७	२२९	२६६	९०६	६,३००	१९५
५	०.४५	१२०	०.४७	७२-७३	७,७३९	१०७	२०२	२३८	९४६	७,६६०	१९७
६	०.४९	१२०	०.४३	६४-६५	७,९४८	१०८	१८५	२२०	९४६	७,६६०	१९७
७	०.३०	१२०	०.३२	६०-६१	६,३०५	१०८	१६८	२००	९३२	७,०००	१९७
८	०.३५	१२०	०.३७	५६-५७	६,२२६	११०	१५६	१९२	९२८	६,७००	१९८
९	०.३९	१२०	०.४३	५०-५१	५,६९६	११२	१४०	१६७	९१५	६,०८०	१९९
१०	०.२८	१२०	०.३०	४३-४६	५,९२६	११३	१२०	१५८	९०४	५,३२०	१९९
११	०.२६	१२०	०.२८	४२-४३	५,६९६	११४	११८	१४८	८८८	५,९८०	१९९
१२	०.२४	१२०	०.२६	३८-४०	५,६९६	११८	११०	१४२	८५५	५,६६०	१९९
१३	०.२२	१२०	०.२४	३६-३७	५,२८३	११४	१०९	१३२	८८८	५,६००	१९९
१४	०.२०	१२०	०.२२	३२-३३	३,४०३	१२०	८६	१२०	८९	५,२००	१९९
१५	०.१८	१२०	०.२०	३०-३१	३,६०५	१२३	८४	११४	७४	३,४४०	१९९
१६	०.१५	१२०	०.१७	२४-२६	३,२४९	१२८	७९	१००	६६	३,४४०	१९९

नोटः

- १) कर्कट तथा जस्तापाता प्रति बण्डलमा ७ र १० फुटमा ३० अन्य साइजमा ७२ टर्निङ फिट हुन्छ ।
- २) कर्कट तथा जस्तापाताको वेसको रचिबो मोटाई २५" इन्ची हुन्छ ।
- ३) अन्तराष्ट्रिय बजारमा कच्चा बढीको मूल्य र विदेशी विनिमय को दरमा परिवर्तन भएमा मूल्यमा समायोजन गरिने छ ।
- ४) उल्लेखित मूल्य काठमाडौं उपत्यका तथा बसगा लकाल ठाउँमा लभ्युनेछ र निम्न ठाउँ अनुसार निम्न साघाहाको दुवामीको आधारमा कलम रहने छ ।  
धादिङ, बुझीट, चरिकोट, मयानी, बिजरी, विमान, गोरखा, काली, सोखरा, खानी, दुवेलेडा, विजार, बेनी, स्याङ्जा, ङ्जा, बाविङ, काभ्रेपु, कव्रेपु र दुधे ।



**हुलास स्टील इण्डस्ट्रिज लि.**  
कर्मचारी, काठमाडौं प्लाजा तेस्रो तल्ला (बाई ब्लक), फोन: ७९-४९६६७४/६/७, ईमेल: hskim@gmail.com  
कारखाना: सिमरा, फोन: ७२३-२००५६-७७, फ्याक्स: ७२३-२०९९०, ईमेल: info@hsti.com.np