

Article by: K. Burger
SACAP: PrArchDraught

HOUSE PLANS USING CORRUGATED IRON

Corrugated Iron is versatile waved metal sheet, which is used for various applications from roof covering e.g. roof cover for all RDP houses to wall cladding e.g. older buildings, we still find in the Karoo. This versatility is an asset to the building industry as a cheaper solution to roof/ concrete tiles. The life span also has a big role in preferring corrugated iron as roof covering. Do not get confused between corrugated iron and **IBR (Inverted Box Rib)**

Approximate Life Span Years						
Thickness	0.47mm	0.53mm	0.40mm	0.50mm	0.58mm	0.80mm
Rural area	>30	>30	>10	>20	>20	>20
Industrial/Marine	>20	>20	5-20	10-20	10-20	10-20
Severe Marine	10-20	10-20	1-5	3-10	3-10	3-10

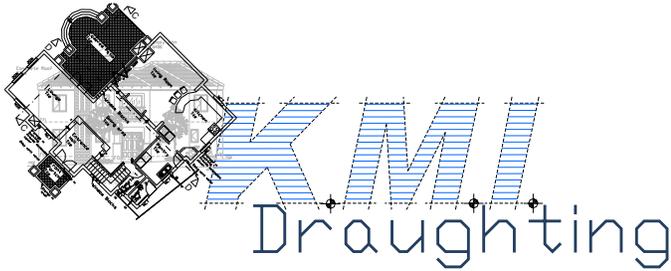
The wide range of corrugated iron material is displayed by the properties and this property provides an indication of purlin spacing. Other factors is wind, dust etc. which will provide indication of purlin spacing. It is always recommended that a engineer is consulted before a building project commence or material is bought.

Recommended Maximum Purlin Spacing Metre						
Thickness	0.47mm	0.53mm	0.40mm	0.50mm	0.58mm	0.80mm
Steelgrade	G550	G550	ISQ300	ISQ550	ISQ300	ISQ230
Roof - Single Span	0.90	0.90	0.60	0.90	0.90	1.20
Roof - Double Span	1.10	1.20	0.80	1.10	1.20	1.50
Cantilever - Roof	0.25	0.30	0.15	0.25	0.30	0.45
Wall Cladding	1.40	1.50	1.00	1.40	1.50	1.80
Cantilever - Wall	0.85	0.85	0.25	0.85	0.85	1.00

When a building a project's **house plans** e.g. Wendy house, carport or even a dwelling is being designed roof pitch is one of the items which need the most attention as the various roof pitches and roof types will provide different looks for your project e.g. Flat roof/ lean too etc.: 3° to 17° (single sheet long span can be used to keep to, as low degree as possible.) Gable, HIP and colonial roof types: 12° to 45° will be ideal, but on average 26° is ideal. Using corrugated iron on the various roof pitches it is suggested to use 10° pitches on slopes longer as 15m and slopes shorter than 15m the pitch to be 7.5°.

When long span single length sheets is NOT used the end & side overlaps should be taken in account as follow: End overlaps on pitches in exceeding 15° to be at least 150 mm, for lower roof pitches 250mm overlap is highly recommended.

The required number of corrugated iron sheets can be calculated as follows:



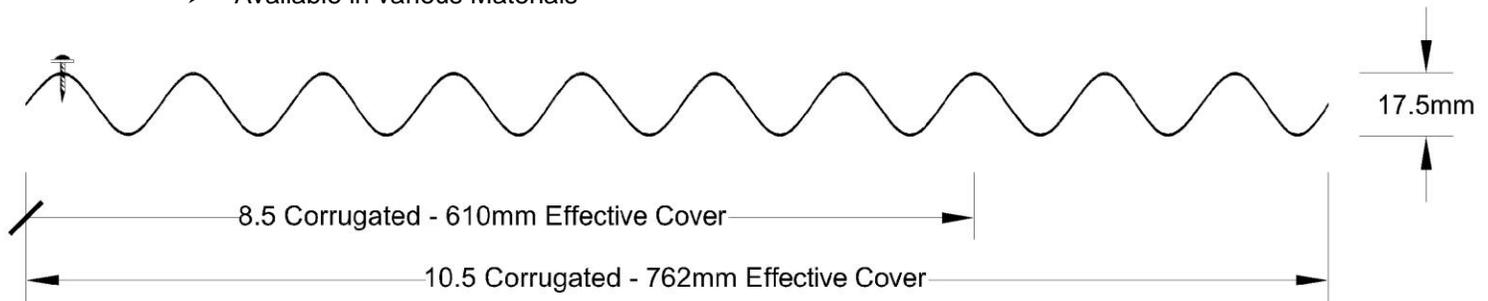
Article by: K. Burger
SACAP: PrArchDraught

Number of sheets = Length of building + gable end overhangs - 76 mm / 0.762 m (Cover width of sheet)

Roof sheets and vertical wall cladding should be laid with 1 ½ corrugation side lap and must be fixed through the crests of alternate flutes to purlins using 50 mm Top Speed or Tex screws into steel purlins e.g. carports and 65 mm Tex or Top Speed screws in the case of timber supports e.g. wendy houses and dwellings, all fasteners shall incorporate 19 mm dia bonded washers

Some technical information on corrugated Iron can be summarized as follow:

- Available in standard lengths up to 15 metres
- The permissible length tolerance for the standard length range will be +-5 mm
- Overall Width (8.5 Galv): 700 mm
- Overall Width (10.5 Galv): 840 mm
- Effective Cover (8.5 Galv): 610 mm
- Effective Cover (10.5 Galv): 762 mm
- Thickness: 0.27 - 0.8 mm
- Length: 1.8 - 20 m
- Available in various Materials



Drawing Supplied 2011, by K. Burger Architectural draughtsman

Technical information						
Thickness	0.47mm	0.53mm	0.40mm	0.50mm	0.58mm	0.80mm
Weight per metre	3.195kg	3.833kg	2.897kg	3.615kg	4.197kg	5.798kg
Weight per square metre	4.191kg	5.030kg	3.801kg	4.744kg	5.507kg	7.608kg
Coating type	Zincalume	Zincalume	Galvanised	Galvanised	Galvanised	Galvanised
Coating weight	AZ150	AZ150	Z160	Z275	Z275	Z275
Paint system	Colorbond	Colorbond	N/A	Chromadek	Chromadek	Chromadek
Thickness Tolerance	±0.03	±0.04	±0.02	±0.02	±0.03	±0.04