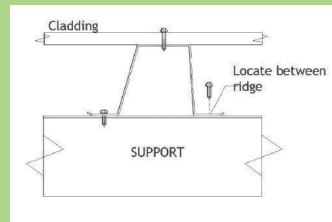


INSTALLATION



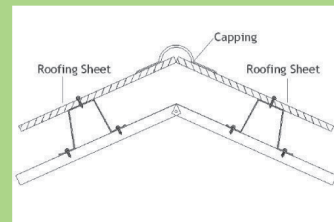
Batten Fixing To Roofing Sheet

The batten shall be fastened as shown in Figure 1.



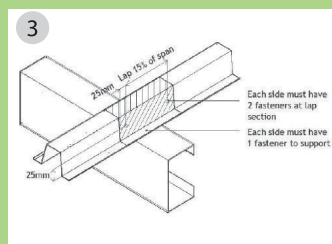
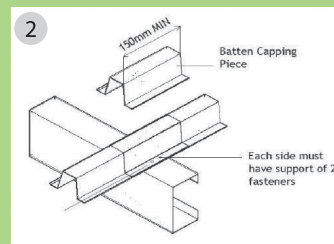
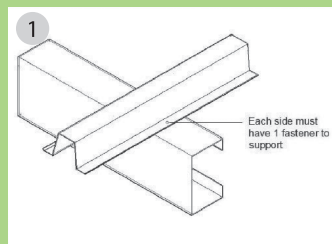
Batten Fixing To Ridge Capping

The batten shall be fastened as shown in Figure 2.



Laying and Lapping of Steel Roof Battens

To minimize cutting, lay all battens in one direction, starting from one end. The overlap must be supported over a truss or rafter, as shown in Figure Below. Minimum overlapping distance is 100mm.



- 1 Internal Support Connection (For Non-cyclonic)
- 2 Internal Support Connection (For Cyclonic)
- 3 Lapping – Internal Support Connection (For Non-cyclonic)

*For Cyclonic, use 2 fasteners at each side as support.



1. Batten as Wall Decorative

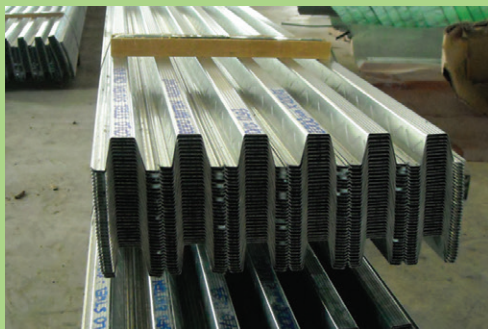
PRECAUTIONS

Corrosive Environments

The zinc or aluminum zinc coating used to protect **Rofo**® STEEL ROOF BATTEN is not recommended for use in uncoated steel structures in severe industrial or highly corrosive environments or within one kilo metre from sea side locations. Please contact our sales specialist for advice on such environment.

Handling and Storage

ALL **Rofo**® STEEL ROOF BATTENS should be kept dry and stored under cover and above the ground. To maximize steel battens life cycle, steel sections which is exposed to water must be separated and air dried as soon as possible to remove any moisture retention.



2 a. As Normal Roof Batten



2 b. It also available in Paris Brown Color - become wood look like finishing



PHIM Regis No. 07020229

www.rofo.com.my

Rofo® Steel Roof Batten



Imprint Rofo for further recognition



Design Pattern
Product Pattern and profile copyright have been registered.



*Available in PB Color (CS191)

Rofo® light gauge steel roof batten sections are rigid strong and versatile. The sections are designed for compatibilities with all roof cladding materials including cement tiles. The application of **Rofo**® steel roof battens are similar to traditional timber battens. Fixing directly to trusses or rafters using self drilling screws through the flanges or nails for timber trusses. Roof claddings are laid on top of the **Rofo**® STEEL ROOF BATTENS using self drilling screws.

Rofo® steel roof battens are in popular demand by both engineers and developers as owners due to its economical alternatives against timber battens. The consistent quality and dimensional accuracy as well as the resistance to termite attack have proven the product worthiness.

Rofo® STEEL ROOF BATTENS are cold-rolled steel sections from pre galvanized steel (Zn coated or Al / Zn coated 55%) coil to produce a cost effective building material that allows fast fixing to frame members and labor cost reductions.

Rofo® STEEL ROOF BATTENS allows high flexibility to new buildings design and modification works like additions reinforcements and renovations for your roofing systems. **Rofo**® STEEL ROOF BATTENS can be produced in long span up to 6 meter or longer. It is also recommended for other applications including framing for cargo van bodies, floor stiffeners, dry wall partitions, bracing, awning support frames, furring channel and shelving.

Rofo® STEEL ROOF BATTEN is compatible to all roof cladding materials as well as with other framing materials such as timber.

For more information, please contact us



Kina Roof Industries (Sabah) Sdn. Bhd. (667221-X)

Roof for You Marketing Sdn. Bhd. (1030310-X)

Lot 9 (Lot 5), Jalan 2A, KKIP Timur, Industrial Zone 8A, Kota Kinabalu Industrial Park, 88460 Kota Kinabalu, Sabah.

Postal Add: P.O.Box 96, Pejabat Pos Mini, 88450 Telipok, Sabah, Malaysia.

T : 088 498 333, 494 333, 016 8622323 **F:** 088 499 933

Colo Steel System Sdn. Bhd. (673950-D)

Lot 1904, Jalan Maigold, Taman Desa Senadin Shophouse, 98100 Miri, Sarawak, Malaysia.

Tel: 085-491 288 **Fax:** 085-661 387



SQAS Tested Report no.
2009CB0643

Ultimate ADVANTAGES

A. Design Advantages- The design copyright has been register with Pattern... PHIM Malaysia.

- ① M pattern and the folded bottom flange provide additional strengthen (at least 20%) to it's sectional properties as compared



- ② Folded back flange also minimize the shrinkage, wrap or twist

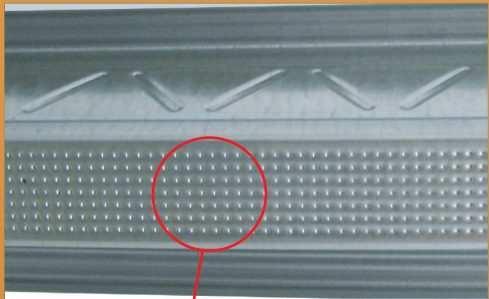
- Folded back flange features prevent cuts (unlike others with sharp edges) and is safe and friendly to handle.



- ③ Folded back flange feature no danger during site installation.



- Pitched design was specifically created to suit the slope requirements for tile profile and concrete tile roofing



- ④ Dented top pin points texture on the surface of batten top is to provide easy self drilling screw penetration.

B. Others Characters

- ⑤ **Rofo® STEEL ROOF BATTENS** only uses material with High Tensile yield strength (550 MPa) and yet light weight.



- ⑥ Straightness and Dimensional accuracy.

- ⑦ Totally No Termite attack.



- ⑧ Fire Resistant and cost effective.



- ⑨ Labour cost saving.



- ⑩ Design flexibility and wide application & compatibility.

SPECIFICATIONS

Design

Rofo® STEEL ROOF BATTENS are designed in compliance with international standards. (AS/NZS 4600, AS 1538, AS 1170: Part 1 & 2, AS 4100 and AS 3623).

Our specific design parameters are based on:

1. Highly cost effective
2. Maximize strength
3. Durability
4. User friendly

MATERIAL

Rofo® STEEL ROOF BATTENS Hi-Tensile steel section are produced form Hi-Tensile Grade material with surface protection coating **AZ100/150 or GF18 or Z22** and compliance with AS1397.

THICKNESS and Product Code

The table below is our range of product codes and thicknesses avail:

Product code	Height (mm)	Thickness (mm)
RB 35 048	35	0.48
RB 35 060	35	0.60
RB 43 048	43	0.48
RB 43 060	43	0.60
RB 43 075	43	0.75
RB 44 048	44	0.48
RB 44 060	44	0.60
RB 44 075	44	0.75
RB 44 100	44	1.00
RB 61 060	61	0.60
RB 61 075	61	0.75
RB 61 100	61	1.00

Example RB 35 048=Rofo batten, Height=35mm, Thickness= 0.48mm (BMT)

LENGTHS

Each **Rofo®** Standard Pack contains **6.1m x 100 pieces**.

However It can also be cut in the factory to any length specified by the customer. We also welcome customized order. Contact our sales personnel during working time for all your specific needs.

ALLOWABLE WIND PRESSURE

For roof that are subject to different wind loading conditions, the wind loading calculations shall be determined in accordance to AS1170.

TEST RESULTS

TENSILE TEST

Sample Reference	RB35048	RB61060
Thickness, a (mm)	0.50	0.60
Width, b (mm)	19.80	19.87
Area, So (mm²)	9.90	11.92
Yield Load (kN)	6.99	8.24
Upper Yield Strength, R _{EH} (N/mm²)	706	691
Maximum Force, F _m (kN)	7.50	8.80
Tensile Strength, R _m (N/mm²)	758	738
Elongation, A (%)	7.5	2.5

RB35048 Load vs Deflection Test (at 1200mm span)

Sample Reference	Deflection (mm)	Load (kN)	Deflection (mm)	Load (kN)
① Batten RB35048	0.00	0.000	12.00	0.640
	1.00	0.046	13.00	0.696
	2.00	0.086	14.00	0.744
	3.00	0.138	15.00	0.804
	4.00	0.184	16.00	0.856
	5.00	0.238	17.00	0.902
	6.00	0.288	18.00	0.950
	7.00	0.350	19.00	0.990
	8.00	0.406	20.00	1.004
	9.00	0.460	21.00	0.908
	10.00	0.514	22.00	0.882
	11.00	0.576		

Note: Maximum bending load 1.004 kN at 20.0mm deflection

RB35060 Load vs Deflection Test (at 1200mm span)

Sample Reference	Deflection (mm)	Load (kN)	Deflection (mm)	Load (kN)
② Batten RB35060	0.00	0.000	12.00	0.8980
	1.00	0.0560	13.00	0.9760
	2.00	0.1320	14.00	1.0420
	3.00	0.2100	15.00	1.0960
	4.00	0.2860	16.00	1.1560
	5.00	0.3620	17.00	1.2200
	6.00	0.4300	18.00	1.2760
	7.00	0.5020	19.00	1.3260
	8.00	0.5760	20.00	1.3620
	9.00	0.6540	21.00	1.3640
	10.00	0.7360	22.00	1.2940
	11.00	0.8220		

Note: Maximum bending load 1.3640 kN at 21.0mm deflection

RB61060 Load vs Deflection Test (at 1200mm span)

Sample Reference	Deflection (mm)	Load (kN)	Deflection (mm)	Load (kN)
③ Batten RB61060	0.00	0.000	10.00	1.346
	1.00	0.110	11.00	1.442
	2.00	0.364	12.00	1.562
	3.00	0.540	13.00	1.720
	4.00	0.688	14.00	1.774
	5.00	0.872	15.00	1.844
	6.00	0.996	16.00	1.998
	7.00	1.062	17.00	2.148
	8.00	1.106	18.00	2.246
	9.00	1.126	19.00	2.062

Note: Maximum bending load 2.246 kN at 18.0mm deflection

MATERIAL SPECIFICATION & SECTION PROPERTIES

RB35 Batten



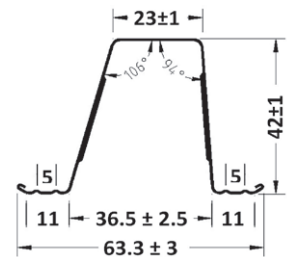
SPECIFICATION

Material Used	Material Specification
Standard	JIS G3302
Thickness	0.48, 0.60
Tensile Strength	SGCH G550

PROPERTIES

Section	Batten RB35048	Batten RB35060
Mass (kg/m)	0.490	0.590
Area, A (mm²)	61.9	77.4
Depth, D (mm)	33	33
Width, B _t (mm)	63	63
Thickness, t (mm)	0.48	0.60
Second Moment of Area, I _{xx} (mm⁴)	10540	13175
Second Moment of Area, I _{yy} (mm⁴)	19503	24379
Radius of Gyration, r _x (mm)	13.05	13.05
Radius of Gyration, r _y (mm)	17.75	17.75
Elastic Modulus, Z _x (mm³) _{Top}	586	732
Elastic Modulus, Z _y (mm³) _{Bottom}	703	878
Elastic Modulus, Z _{yy} (mm³) _{Left}	609	762
Elastic Modulus, Z _{xx} (mm³) _{Right}	629	786

RB43 Batten



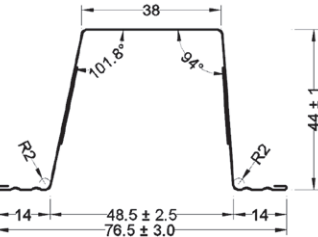
SPECIFICATION

Material Used	Material Specification
Standard	JIS G3302
Thickness	0.48, 0.60, 0.75
Tensile Strength	SGCH G550

PROPERTIES

Section	Batten RB43048	Batten RB43060	Batten RB43075
Mass (kg/m)	0.540	0.680	0.850
Area, A (mm²)	69.4	86.7	108.4
Depth, D (mm)	42	42	42
Width, B _t (mm)	63	63	63
Thickness, t (mm)	0.48	0.60	0.75
Second Moment of Area, I _{xx} (mm⁴)	16950	21188	26485
Second Moment of Area, I _{yy} (mm⁴)	22131	27664	34580
Radius of Gyration, r _x (mm)	15.63	15.63	15.63
Radius of Gyration, r _y (mm)	17.86	17.86	17.86
Elastic Modulus, Z _x (mm³) _{Top}	737	921	1152
Elastic Modulus, Z _y (mm³) _{Bottom}	892	1115	1396
Elastic Modulus, Z _{yy} (mm³) _{Left}	692	864	1081
Elastic Modulus, Z _{xx} (mm³) _{Right}	714	892	1116

RB44 Batten



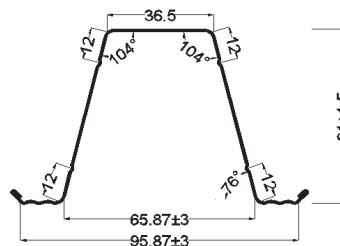
SPECIFICATION

Material Used	Material Specification
Standard	JIS G3302
Thickness	0.48, 0.60, 0.75, 1.00
Tensile Strength	SGCH G550

PROPERTIES

Section	Batten RB44048	Batten RB44060	Batten RB44075	Batten RB44100
Mass (Kg/m)	0.554	0.693	0.878	1.188
Area (mm²)	71.8	90.3	112.4	149.8
Depth, D (mm)	43	43	43	43
Thickness, t (mm)	0.48	0.60	0.75	1.00
Second Moment of Area, I _{xx} (mm⁴)	19455	25530	33423	44547
Second Moment of Area, I _{yy} (mm⁴)	39729	49776	62401	83604
Radius of Gyration, r _x	16.13	16.13	16.13	16.13
Radius of Gyration, r _y	23.52	23.52	23.52	23.52
Elastic Modulus, Z _x (mm³) _{Top}	845.87	1110	1453.17	1936.83
Elastic Modulus, Z _y (mm³) _{Bottom}	1023.95	1343.68	1759.11	2344.58
Elastic Modulus, Z _{yy} (mm³) _{Left}	993.23	2164.17	1560.03	2090.10
Elastic Modulus, Z _{xx} (mm³) _{Right}	1302.59	1632	1709.62	2290.52

RB61Batten



SPECIFICATION

Material Used	Material Specification
Standard	JIS G3302
Thickness	0.60, 0.75, 1.00
Tensile Strength	SGCH G550

PROPERTIES

Section	Batten RB61060	Batten RB61075	Batten RB6110
Mass (kg/m)	0.990	1.233	1.644
Area, A (mm²)	120.3	150.4	200.5
Depth, D (mm)	61	61	61
Width, B _t (mm)	96	96	96
Thickness, t (mm)	0.60	0.75	0.10
Second Moment of Area, I _{xx} (mm⁴)	65217	81521	108695
Second Moment of Area, I _{yy} (mm⁴)	128273	160341	213788
Radius of Gyration, r _x (mm)	23.28	23.28	23.28
Radius of Gyration, r _y (mm)	32.65	32.65	32.65
Elastic Modulus, Z _x (mm³) _{Top}	2138	2673	3564
Elastic Modulus, Z _y (mm³) _{Bottom}	2138	2673	3564
Elastic Modulus, Z _{yy} (mm³) _{Left}	2672	3340	4454
Elastic Modulus, Z _{xx} (mm³) _{Right}	2672	3340	4454