

SRPTM CEILING SYSTEMS

HANDBOOK



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SRP™ CEILING PRODUCT RANGE

16mm BATTEN

Low profile, suitable for apartments, offices and house ceilings. Face width is 38mm and can be Direct fixed or combines with the Top Cross rail and TCR clip to form a suspended ceiling and into SRP Adjustable Wall Fix clips.

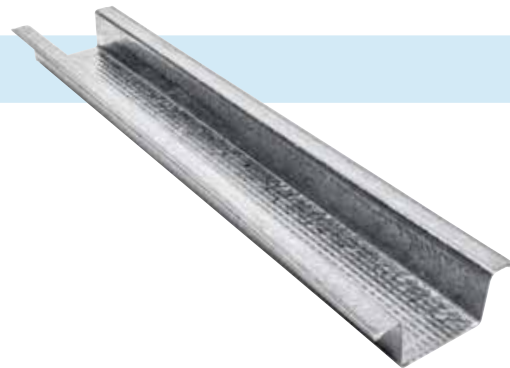
Stock lengths – 3.6, 4.8 & 6M



22mm BATTEN

Offers a generous face width of 38mm while maintaining a low profile, strength, light weight and is suitable for wall strapping or direct fixing via the adjustable wall fix clip. The Strongback and furring strap combine with the 22mm Batten to form a suspended ceiling system.

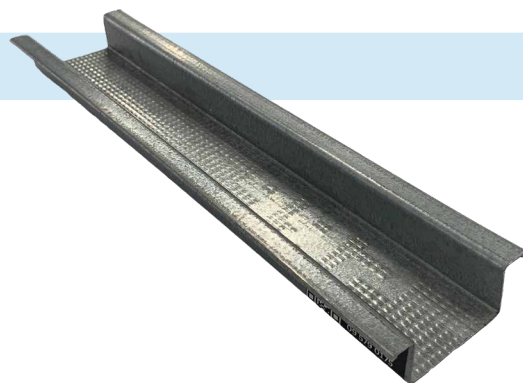
Stock lengths – 3.6, 4.8 & 6M



WIDE-FACE 22 x 50mm BATTEN

Suitable for use in Suspended Ceilings, Wall Strapping Systems and External Soffits. Fits to SRP Strongback C Channel with SRP Clipfix Clip - for suspended ceilings, SRP DF-Clip - for direct-fix ceilings. Wide 50mm face.

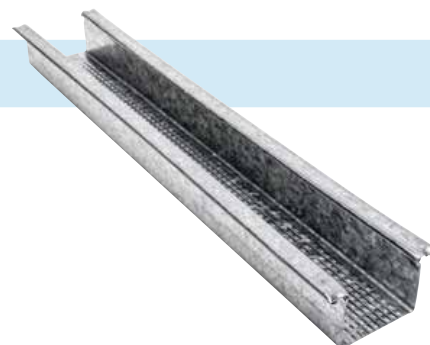
Stock lengths – 3.6, 4.8 & 6M



28mm BATTEN

Medium height. Suitable for larger spans, face width is 38mm and can be direct fixed or combined with TCR and TCR clip to form a suspended ceiling system and into SRP's Adjustable Wall Fix clips.

Stock lengths – 3.6, 4.8 & 6M

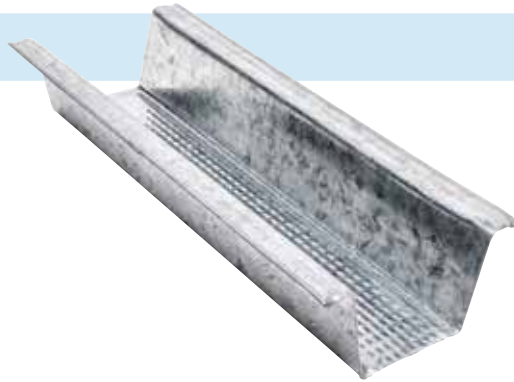


suspended ceiling system and into SRP Adjustable Wall Fix clips.

35mm BATTEN

A robust profile that matches up to the ribbon plate thickness of house framing. This product has a generous face width of 38mm and into SRP's Adjustable Wall Fix clip for Wall Strapping.

Stock lengths are 3.6, 4.8 & 6M

**WIDE-FACE 35 x 50mm BATTEN**

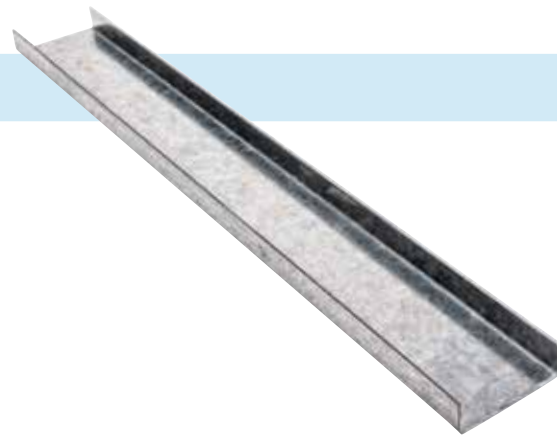
Suitable for use in Suspended Ceilings, Wall Strapping Systems and External Soffits. Fits to SRP Strongback C Channel with SRP Clipfix Clip - for suspended ceilings, SRP DF-Clip - for direct-fix ceilings. Wide 50mm face.

Stock lengths are 3.6, 4.8 & 6M

**38 X 12mm STRONGBACK CHANNEL**

Combines with 22mm Batten and furring strap to make a suspended ceiling. Also combines with Clipfix Clip and 35mm ceiling Batten, (22mm / 35mm).

Stock lengths – 3.6 & 4.8M

**26 X 21mm TCR**

Combines with 16mm and 28mm Batten to form a suspended ceiling system.

Available in two thickness options:

- 1) 0.55 BMT
- 2) 0.75 BMT

Stock lengths – 3.6 & 4.8M

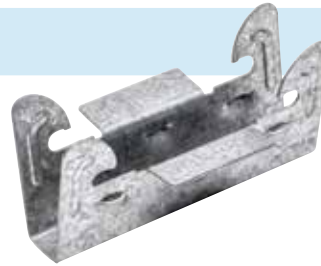


CLIPFIX CLIP

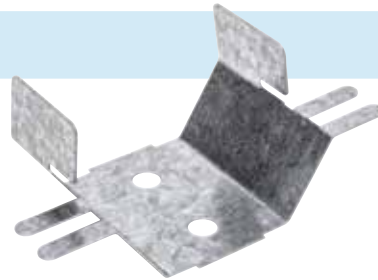
Designed to clip over SRP Strongback C Channels for secure attachment of SRP 22mm or 35mm Ceiling battens (beneath), to form a suspended ceiling system.

**TCR CLIP**

Our TCR clip is designed to click into TCR at your specified centres. Works with either 16 or 28mm SRP Ceiling Battens.

**FURRING STRAP CLIP**

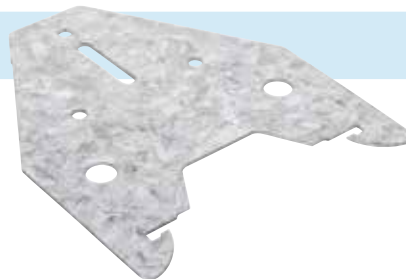
Works to combine 22mm Batten and Strongback to form a suspended ceiling system.

**16/28mm DIRECT CLIP FIX**

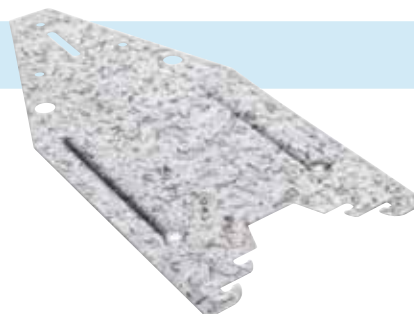
Offering 19mm of slot adjustment, the 16/28mm clip combines with 16mm or 28mm Batten for direct fixing.

**22/35mm DIRECT FIX CLIP**

Offering 25mm of slot adjustment, the 22/35 clip combines with the 22mm or 35mm Batten for direct fixing.

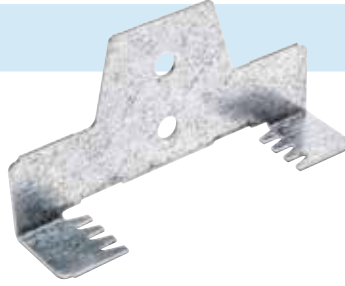
**UNIVERSAL DIRECT FIX CLIP**

21mm slot adjustment can combine with all four Batten sizes.



ADJUSTABLE WALL FIX CLIP

Used for strapping concrete and block walls. Accommodates 22mm & 35mm Battens.



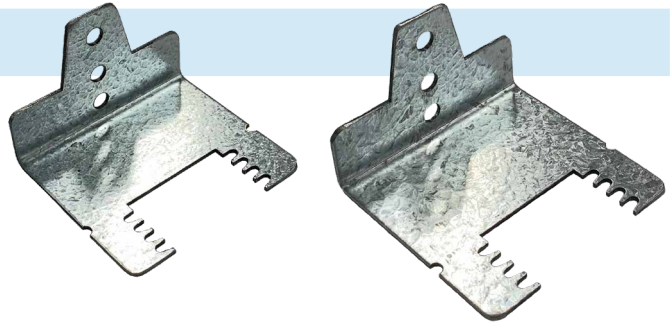
ADJUSTABLE WALL FIX CLIP LONG & SHORT SERIES

Used for strapping concrete and block walls. Accommodates 16mm or 28mm Battens.



ADJUSTABLE WALL FIX CLIP X-LONG SERIES

SRP Wall fixing clips designed with extended length dimensions for wall strapping systems where more depth is required e.g. installation allowance for either 40mm or 50mm (PIR) insulation (often used in buildings with concrete/masonry, brick, block exteriors), within the wall cavity behind 16 or 28mm SRP battens.



Size Options: X-40 (40mm Insulation thickness) X-50 (50mm Insulation thickness)

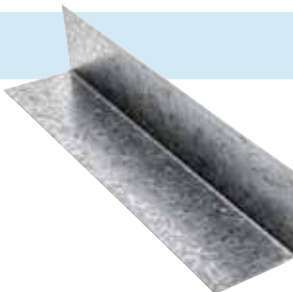
DIRECT-FIX CLIP WIDE SLOT

Designed for acoustic separation in Direct-fix ceilings. Clips to suit all SRP batten sizes:
 - 16/28mm
 - 22/35mm



WALL ANGLE – 35 X 35 AND 40 X 40

Equal Angle is commonly used as room perimeter and bracing. Also available in custom sizes and gauges.



PERIMETER TRACK FOR ALL SIZED BATTENS

Runs the perimeter of the room to support ceiling Batten, Strongback or TCR. Accommodates 16, 22, 28 or 35mm Battens.



Stock lengths – 3, 3.6M

STRENGTH AND DURABILITY

Steel Rollformed Products Ltd (SRP™) has selected the very best industry standard profiles to produce a range of ceiling battens that are most popular in the industry for strength, reliability and ease of installation.

Accuracy of manufacture and use of top quality materials, such as GALVSTEEL® by New Zealand Steel, are the key to quality, durability and strength.

SERVICE

SRP™ offers a service promise that reflects their dedication to looking after the needs of their customers in every respect.

Paramount in that service offer is, on time delivery, personal sales, technical backup and industry leading technical literature to offer the best possible assistance in design and installation to meet customer expectations.



USE ONLY THE CURRENT SPECIFICATION

This is to certify the SRP™ Ceiling Products and associated componentry supplied by Steel Rollformed Products Ltd (SRP™) are designed to, and manufactured from, a compliant base material, to the relevant New Zealand/International Standards and to the relevant parts of the New Zealand Building Code.

AS/NZS 4600 Cold-formed Steel Structures

Galvanised Coating Z275 to AS/NZS 1397

NZS 3404 Steel Structural Standard

NZS 3404.1 Steel Structures Standard - Materials, fabrication, and construction

AS/NZS 1397 Steel sheet and strip

AS/NZS 1170 Structural design actions

NZBC- BI/VMI and B2

PURPOSE

SRP™ manufactures a wide range of easy to install Metal Ceiling products.

This Handbook is intended to provide installation and specification guidance for SRP™ ceiling systems that will meet both customer expectations and the requirements of the New Zealand Building Code.

SCOPE OF USE

New Zealand Building Code Compliance.

NZBC CLAUSE B2 – DURABILITY

When installed in accordance with the installation instructions and in dry interior environments, SRP™ Ceiling Systems will satisfy the requirements of NZBC Clause B2 – Durability.

SRP™ Ceiling Systems are manufactured from galvanized coated steel Z275 conforming to AS/NZS 1397.

NZBC CLAUSE B1

NZBC CLAUSES C3 – FIRE AND G6 NOISE CONTROL

SRP™ Ceiling Systems meet the requirements of specific fire and acoustic systems. Where installed ceilings form part of a specific fire or sound rated system the plasterboard manufacturer's specification must be followed. Refer to GIB® Fire Rated Systems and GIB® Noise Control Systems.

RELEVANT STANDARDS

SRP™ galvanized steel products are manufactured to meet the requirements of NZS 3404 Steel Structures Standard, NZS 404.1 Steel Structures Standard – Materials, Fabrication and Construction and AS/NZS 1397 Steel Sheet and Strip

OTHER RELEVANT STANDARDS:

- » AZSNZS 4600 cold-formed Steel Structures
- » AS/NZS 2785 Suspended Ceilings
- » AS/NZS 1170 Structural Design Actions

Where design is outside the scope of this publication, including span tables herein, suitable professional advice should be sought for a specific design.

SUMMARY

SRP™ has gathered independent, leading experts with extensive experience to create this document to ensure professionals like yourself, have detailed literature for design and installation reference. Information is included on all SRP™ Ceiling Systems, including components, standard application details, installation information, design tables and other important material. All of the information detailed, has been created in accordance with relevant New Zealand/International Standards listed in the Compliance Section of this document. In addition, SRP™ can provide advice and specific engineering design assistance for the design of non-standard ceilings subject to specific seismic loading, wind pressure.

Please be aware, however, that products, systems, building codes and any third party referenced material may change over time and interpretations could also vary. While every care has been taken to ensure the accuracy of the information, SRP™ cannot accept any responsibility or liability for any economic or consequential losses with respect to using the information contained in this Handbook. It is the responsibility of the designer, specifier and/or installer to ensure the correct use and interpretation of the information in this Handbook and ensure it is in accordance with up-to-date industry practice. SRP™ recommends that you ensure you are referring to the latest edition of this handbook and any referenced third party material prior to design, specification and/or installation. Please check the website www.srp ltd.co.nz to ensure you are using the current available information.

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If you need further information, please contact SRP™ on 09-579 0175.

TABLE 1

The materials Base Metal Thickness BMT of SRP™ Ceiling Profiles.

MATERIALS			
0.50mm BMT	0.55mm BMT	0.75mm BMT	1.15mm BMT
16.5mm Ceiling Battens	22mm Ceiling Battens	Perimeter Trim	C Section Strong Back
28mm Ceiling Battens	35mm Ceiling Battens		
	Top Cross Rail	Top Cross Rail	

PERFORMANCE OF CEILING PRODUCTS AND ASSOCIATED COMPONENTRY

The performance of SRP™ Ceiling Products is dependent upon correct installation. SRP™ Ceiling Products must be installed as specified in this publication and following good industry practice. In addition, all plasterboard ceiling products are to be installed in accordance with the plasterboard manufacturer's recommendations.

Specific design and seismic requirements will require an engineer's specific design and relevant producer statement for the level of building importance, class and seismic zoning if required for the building type, design and location.

DELIVERY, STORAGE AND HANDLING

Store in a dry flat area to avoid distortion and/or moisture damage. Exercise care and use appropriate safety equipment during installation.

SRP™ products are not to be installed in a corrosive atmosphere, or come in direct contact with CCA treated timber, copper or chemically treated materials. If this is unavoidable, a separation barrier between the galvanized SRP™ product and the potentially corrosive surface should be used. In addition, SRP™ recommends its products are not installed before the building envelope is enclosed. SRP™ also recommends that all electrical wiring regulations must be strictly adhered to.

Store and install all ceiling products in accordance with the New Zealand Steel GALVSTEEL® 50 year Durability Statement document.

SYSTEMS SUMMARY

SRP™ Ceiling Systems are divided into three distinct groups, each based on the connection between the SRP™ batten and the ceiling structure. SRP™ battens are available in multiple heights (See Table 2), and are fixed by either an SRP™ Strongback, an SRP™ Top Cross Rail, or direct-fix on an SRP™ Direct Fix Clip.

SYSTEM SELECTION

The SRP™ Ceiling Systems are all equitable in their ability to provide a base grid to fix GIB plasterboard to and their ability to be the batten system in GIB Plasterboard systems. It is important to note that all of the SRP™ Ceiling Systems included in this document can be used in GIB systems as the batten system.

The selection of an SRP™ system is determined by:

- Space requirements.**
 The plenum space or the internal room height may dictate the system. For example an SRP™ Direct Fix system provides less distance between the ceiling structure and the GIB plasterboard lining, this may be suitable when greater internal room height is required. Conversely, a SRP™ Strongback or SRP™ Top Cross Rail system would be suitable where there's a desire to make the ceiling lower than the ceiling structure.
- Experience and preference.**
 SRP™ Strongback and SRP™ Top Cross Rail systems provide similar opportunities to create space between the ceiling structure and the GIB Plasterboard. As such, the selection is usually determined by an installer's experience and preference.

TABLE 2

CEILING BATTEN SELECTION								
Product	Direct Fix Clip	Long Direct Fix Clip	Nail Up	Suspend with TCR / Strongback	Stock lengths 3.6/4.8/6.0	Volume Cut to Length	ADJ Wall Fix Clip	Resilient Clips (ST-001)
Ceiling Batten 16mm 	✓	✓		✓	✓	✓	✓	✓
Ceiling Batten 28mm 	✓	✓		✓	✓	✓	✓	✓
Ceiling Batten 22mm 	✓	✓	✓	✓	✓	✓	✓	
22mm Ceiling Batten with 50mm Face	✓	✓		✓	✓	✓	✓	
Ceiling Batten 35mm 	✓	✓	✓	✓	✓	✓	✓	
35mm Ceiling Batten with 50mm Face	✓	✓		✓	✓	✓	✓	

Producer Statements

A Producer Statement gives evidence that a design or building work complies, or will comply, with the NZ Building Code and helps Council(s) to make a decision to issue a Building Consent or Code of Compliance Certificate (CCC).

Seismic bracing of non-structural building elements is required under the NZ Building Act, and by Worksafe, with the loading requirements for these covered in NZS1170, section 5.8.

Councils are now generally asking for PS1s for Suspended Ceiling Systems, however not required for Direct-Fix Ceiling batten systems. A PS-1 Seismic ceiling design is site-specific, is a requirement by NZBC for all buildings with Importance Levels IL2 to IL4.

Seismic ceiling design needs to be carried out by a suitably qualified Engineer, who can provide a PS1.

Should you require any advice on selecting an Engineer familiar with SRP Products/ Systems, please contact an SRP Sales Representative.

SRP™ DIRECT FIX

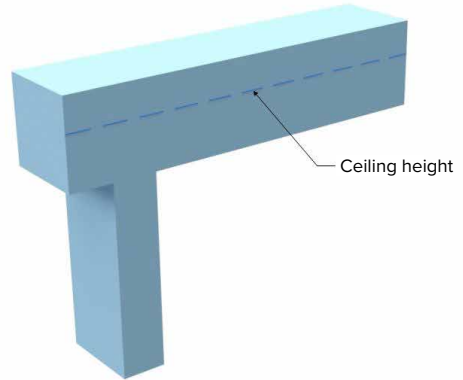
The SRP™ Direct Fix systems have been designed to allow for a high level of flexibility, including the possibility of using any of the SRP™ Batten range.

INSTALLATION INSTRUCTIONS

STEP 1: PREPARATION

Establish finished height of the ceiling for any services below joists or truss chords. A minimum of 25mm between the truss chord/joist is recommended for acoustic separation.

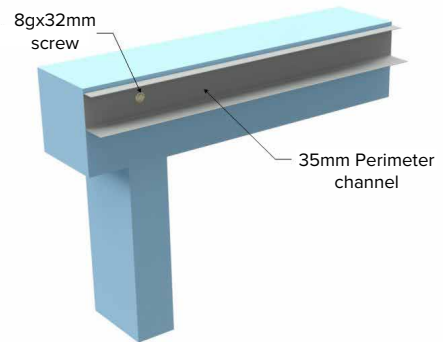
FIGURE 35



STEP 2: PERIMETER CHANNEL

Fix the perimeter channel/angle to the ribbon or top plate with 8 gauge 12 x 25mm wafer/flathead self-drilling wood screws at 450 centres max. (Long leg of channel to the bottom).

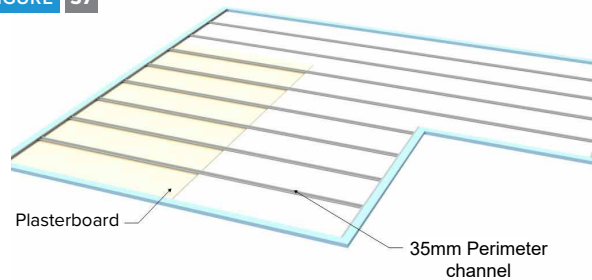
FIGURE 36



STEP 3: SETOUT

Set out batten centres to suit plasterboard system type and thickness in accordance with the plasterboard manufacturers recommendations.

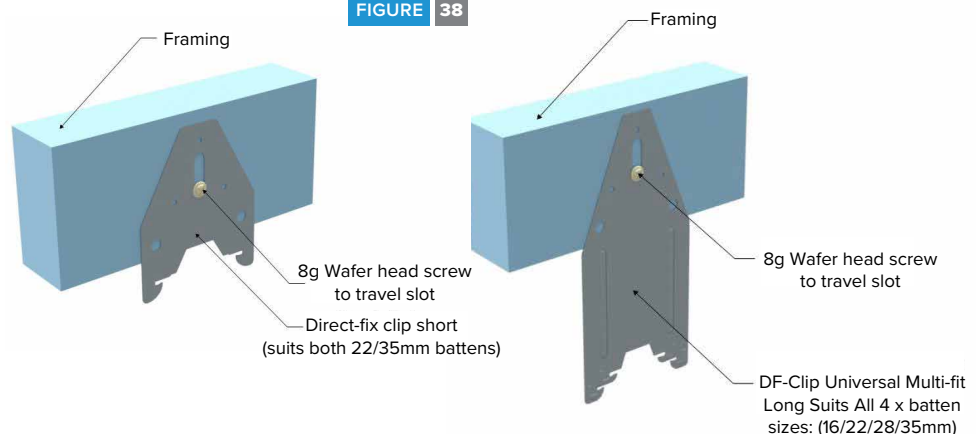
FIGURE 37



STEP 4: FIXING CLIPS

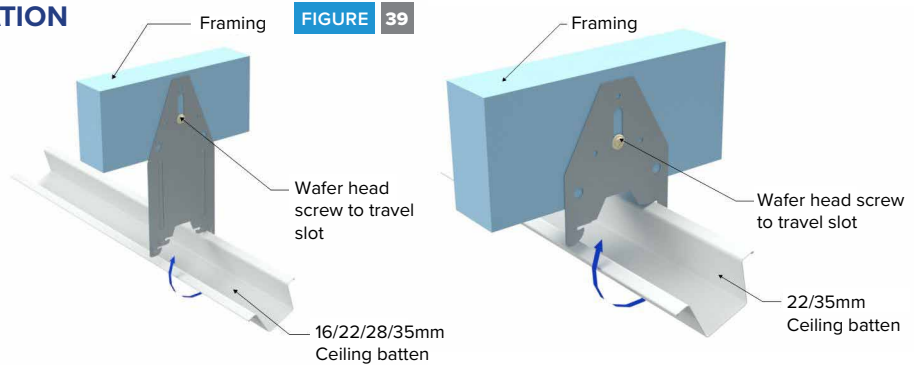
Using the travel slots, secure the direct fix clips to joist/truss chords with a single 8 gauge 12 x 25mm wafer flathead self-drilling wood screws or 30 x 2.5 mm galv clout. Leave fasteners slightly loose to allow for final adjustment.

FIGURE 38

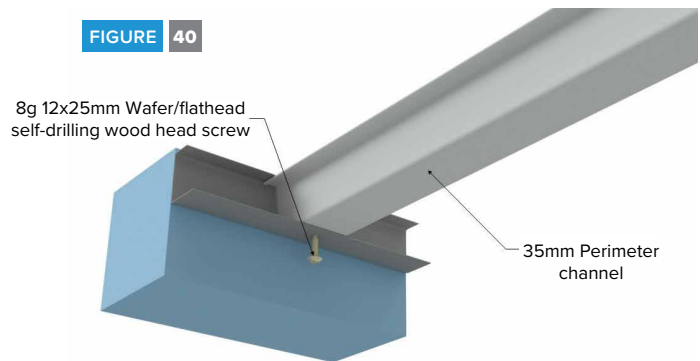


STEP 5: BATTEN INSTALLATION

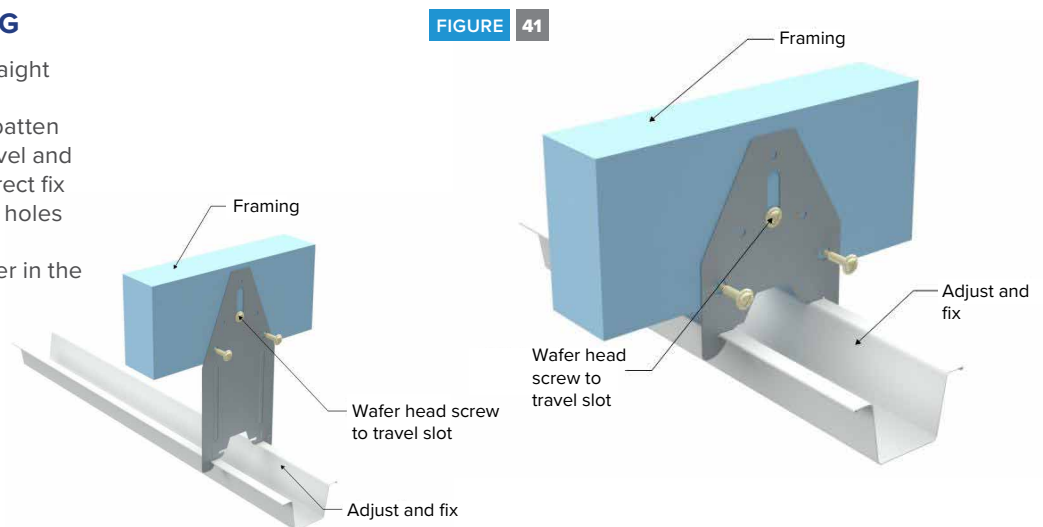
Offer one side of batten flange to clip stirrup and in one motion squeeze the flanges together and rotate upwards to click batten into position.

**STEP 6: PERIMETER FIXING**

Secure batten from the underside through perimeter channel leg or angle with two wafer head screws 8 gauge – 16 x 12mm minimum.

**STEP 7: LEVELING**

Once string lined, straight edged or rotary laser levelled, ensure the batten plains are straight, level and uniform. Fix off the direct fix clips in the additional holes provided as well as tightening the fastener in the travel slot.



SRP™ TOP CROSS RAIL SYSTEMS

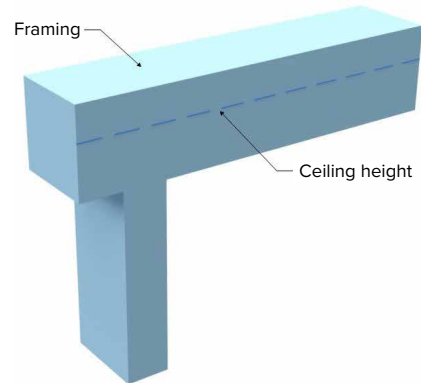
The SRP™ Top Cross Rail Systems have been designed to allow for either the SRP™ 16 or the SRP™ 28 batten, when suspended on wire or droppers.

INSTALLATION INSTRUCTIONS

STEP 1: PREPARATION

Establish height of finished ceiling in accordance with architectural design and mechanical services requirements.

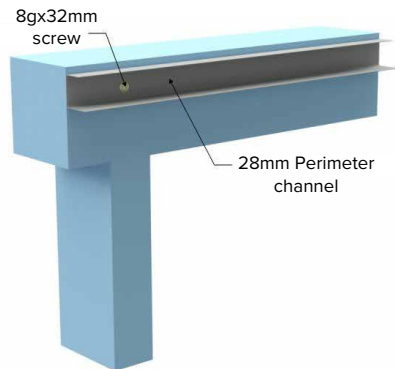
FIGURE 42



STEP 2: PERIMETER CHANNEL

Fix Perimeter channel or angle in place around the wall edges with 8 gauge x 32mm screws at 600 centres. This will supply sufficient edge support to complement suspended components.

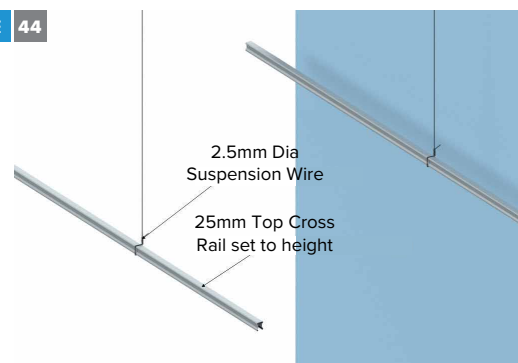
FIGURE 43



STEP 3: TOP RAIL INSTALLATION

Top Cross Rail support should be no closer than 200mm from walls.

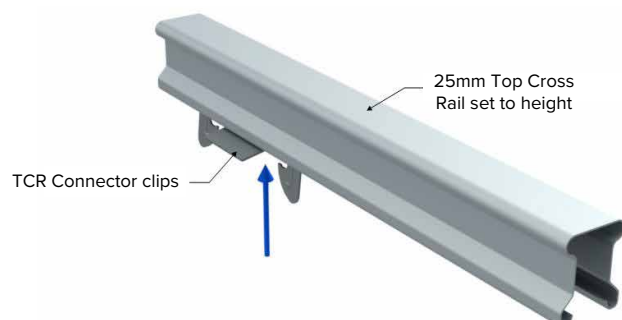
FIGURE 44



STEP 4: CONNECTOR CLIPS

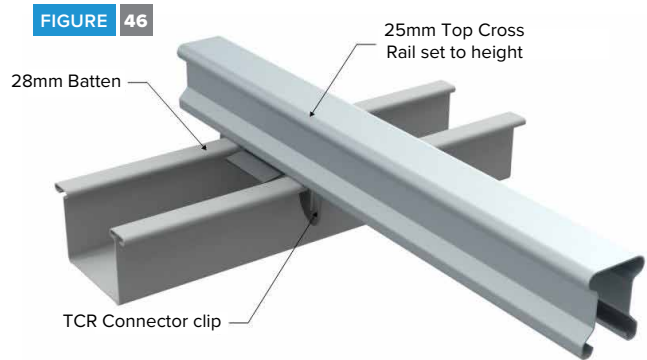
Top Cross Rail connector clips should be securely snap locked into position. Positive engagement is confirmed by definite clicking sound of the engagement points.

FIGURE 45



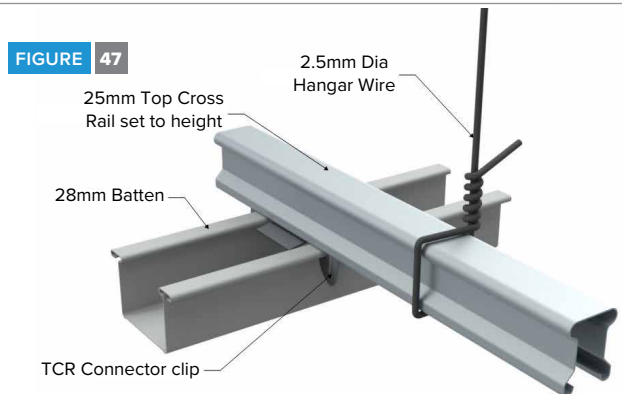
STEP 5: BATTEN INSTALLATION

28mm or 16mm ceiling battens are then located into locating lugs in the legs of the Top Cross Rail clips to allow seating into final location point. Top Cross Rails should be placed at 1200 centres or as per the centres specified in the loading charts.



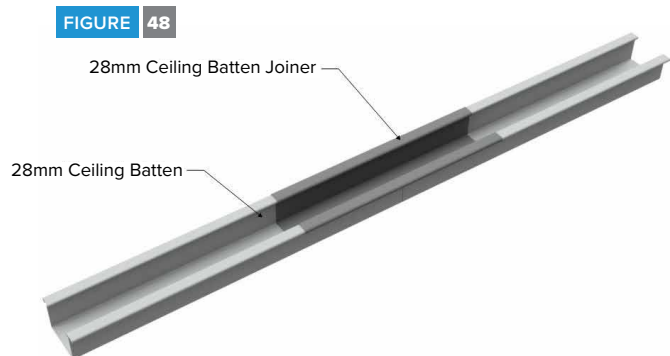
STEP 6: SUSPENSION WIRES

Wires are set at 1200mm centres or as per the charts and wrapped around the Top Cross Rail one wrap and then twiched back on itself a minimum of 3 turns.



STEP 7: JOINING BATTENS

Snap in batten joiners are available for 16mm and 28mm battens 200mm long overlapping 100mm each way. These are fixed in place using two wafer tech button head screws within 100mm and no closer than 12mm to butt joint.



SRP™ STRONGBACK SYSTEMS

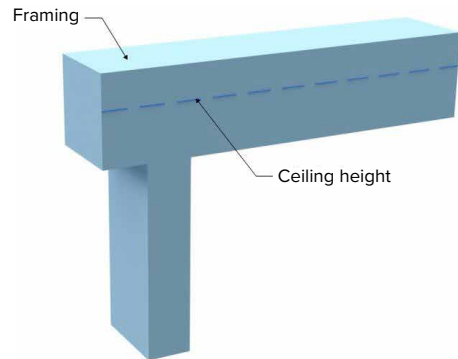
The SRP™ Strongback System has been designed to combine with the SRP™ 22mm batten.

INSTALLATION INSTRUCTIONS

STEP 1: PREPARATION

Establish height of finished ceiling in accordance with architectural design and mechanical services requirements.

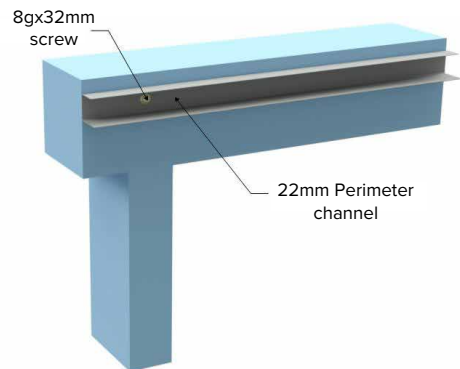
FIGURE 50



STEP 2: PERIMETER CHANNEL

Fix Perimeter channel in place around the wall edges with 8 gauge 32mm screws at 600 centres. This will supply sufficient edge support to complement suspended components. Maximum weight loading should not exceed 25k/m².

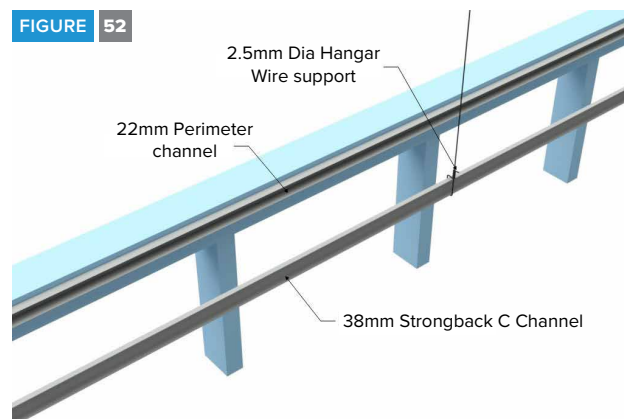
FIGURE 51



STEP 3: DROPPER INSTALLATION

Position the 20 x 20 solid droppers or wire to be above the Strongback at the prescribed centres. Tie off the wires or screw the droppers to the Strongback. Twist off the wire with one complete runs around the vertical strand then twitch back on itself a minimum of 3 turns, setting the height of the Strongback so that the battens are attached under the Strongback and will land in the perimeter channel.

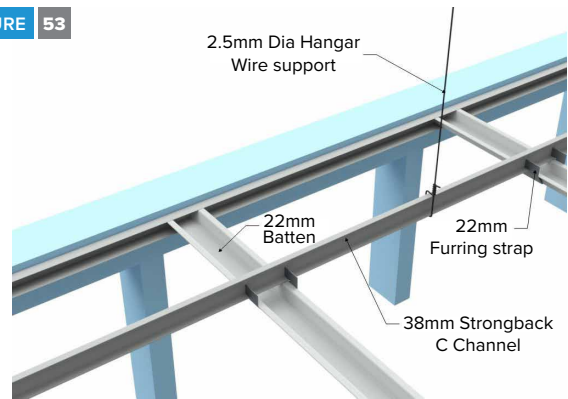
FIGURE 52



STEP 4: STRONGBACK INSTALLATION

Strongbacks are joined by way of lapping 200mm back to back and screwing together with two self-tapping wafer head screws. Should perimeter track be used, the top leg provides a suitable landing for the Strongback. If angle is used, provide a short batten packer between the Strongback and the angle or position a batten close to the perimeter angle. Once the furring strap is placed over the face of the ceiling batten at an appropriate fixing point, lock ceiling battens to C Strong back leading edge with furring strap receiving slot.

FIGURE 53

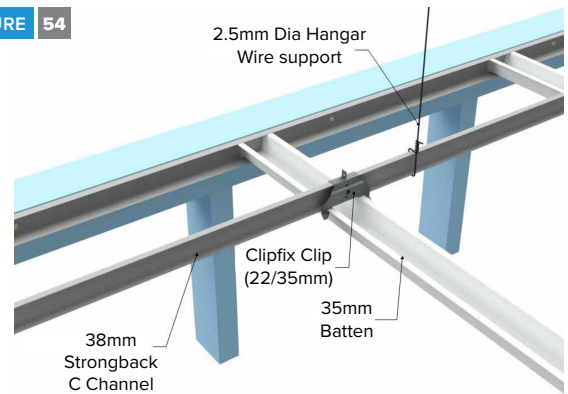


STEP 5: STRONGBACK SYSTEM 2 - CLIPFIX CLIP

SRP Furring strap is only suitable for use with SRP 22mm Ceiling Batten.

SRP ClipFix Clip is designed for securely attaching either 22mm or 35mm SRP Ceiling Battens, to the Strongback C Channel, for suspended ceilings. SRP ClipFix fits over the Strongback C Channel, at regular centres (as required), for quick and easy batten fixing/ installation beneath.

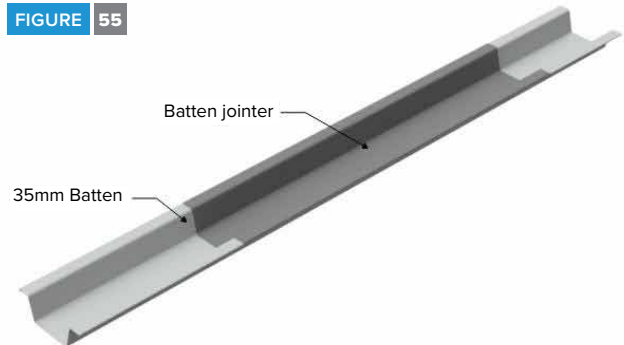
FIGURE 54



STEP 6: BATTEN JOINTING

Joining of battens may be achieved by using batten joiners at a minimum length of 200mm to allow for a 100mm overlap of butt joint each side. These must be fixed in place by wafer tech screws at a minimum of two within 100mm and no closer than 12mm to the butt joint itself. All batten joints and Strongback joints should be staggered.

FIGURE 55



STEP 7: BATTEN END FIXING

Fix the ends of the battens to the perimeter section with a single wafer head screw.

Ceiling battens are spaced at 450 centres for 10mm Gib Plasterboard and 600 centres for 13mm Gib plasterboard.

FIGURE 56

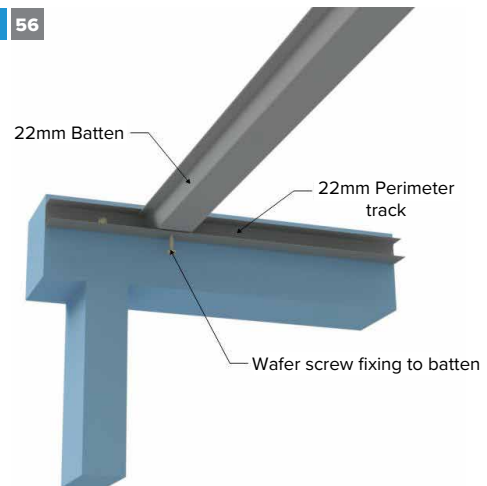


TABLE 3

SUSPENDED CEILING - STRONG BACK WITH 22_0.55 BATTEN - MAXIMUM LOADING (kg/m ²)		900				1200				1500					
		900	1200	1500	1800	900	1200	1500	1800	900	1200	1500	1800		
Deflection limit Span/xx - L/360	Suspension distance - A (mm)	900	1200	1500	1800	900	1200	1500	1800	900	1200	1500	1800		
	Primary Support Spacing - B (mm)	300	37.2	19.0	11.0	59.4	32.4	18.5	11.0	37.3	23.6	15.1	9.9		
	Single Span Ceiling Batten (secondary support spacing) GIB fastening centres - C (mm)	400	66.1	27.9	14.3	8.3	52.3	26.9	14.3	8.3	34.8	20.9	12.8	8.0	
		450	58.7	24.8	12.7	7.3	49.4	24.8	12.7	7.3	33.6	19.7	11.8	7.3	
		600	44.0	18.6	9.5	5.5	42.3	18.6	9.5	5.5	30.6	16.9	9.5	5.5	
		300	114.8	76.0	43.0	26.0	64.6	48.5	33.2	22.1	40.9	30.6	22.6	16.6	
	Continuous Span Ceiling Batten (secondary support spacing) GIB fastening centres - C (mm)	400	114.8	61.9	33.9	19.9	64.6	44.7	28.0	17.9	40.9	28.7	20.2	14.3	
		450	114.5	56.7	30.6	17.7	64.6	42.3	25.9	16.4	40.6	27.8	19.2	13.4	
		600	96.1	44.8	22.9	13.3	63.8	36.2	21.2	13.0	38.7	25.4	16.8	11.2	
		Suspension distance - A (mm)	900	1200	1500	1800	900	1200	1500	1800	900	1200	1500	1800	
	Deflection limit Span/xx - L/500	Primary Support Spacing - B (mm)	300	26.8	13.7	7.9	42.8	23.3	13.3	7.9	26.8	17.0	10.9	7.1	
		Single Span Ceiling Batten (secondary support spacing) GIB fastening centres - C (mm)	400	47.6	20.1	10.3	5.9	37.7	19.4	10.3	5.9	25.0	15.0	9.2	5.8
450			42.3	17.8	9.1	5.3	35.6	17.8	9.1	5.3	24.2	14.2	8.5	5.3	
600			31.7	13.4	6.8	4.0	30.4	13.4	6.8	4.0	22.0	12.2	6.8	4.0	
300			101.8	54.7	31.0	18.7	56.0	36.5	23.9	15.9	29.4	22.1	16.3	11.9	
Continuous Span Ceiling Batten (secondary support spacing) GIB fastening centres - C (mm)		400	88.0	44.6	24.4	14.3	52.2	32.2	20.1	12.9	29.4	20.7	14.6	10.3	
		450	82.4	40.8	22.0	12.7	50.5	30.4	18.7	11.8	29.2	20.0	13.8	9.6	
		600	69.2	32.2	16.5	9.5	45.9	26.1	15.3	9.4	27.9	18.3	12.1	8.1	
		Suspension distance - A (mm)	900	1200	1500	1800	900	1200	1500	1800	900	1200	1500	1800	
Deflection limit Span/xx - L/600		Primary Support Spacing - B (mm)	300	22.3	11.4	6.6	35.6	19.5	11.1	6.6	22.4	14.2	9.1	5.9	
		Single Span Ceiling Batten (secondary support spacing) GIB fastening centres - C (mm)	400	39.6	16.7	8.6	5.0	31.4	16.1	8.6	5.0	20.9	12.5	7.7	4.8
			450	35.2	14.9	7.6	4.4	29.6	14.9	7.6	4.4	20.2	11.8	7.1	4.4
	600		26.4	11.1	5.7	3.3	25.4	11.1	5.7	3.3	18.4	10.2	5.7	3.3	
	300		84.9	45.6	25.8	15.6	46.7	30.4	19.9	13.3	24.5	18.4	13.6	10.0	
	Continuous Span Ceiling Batten (secondary support spacing) GIB fastening centres - C (mm)	400	73.3	37.2	20.4	11.9	43.5	26.8	16.8	10.8	24.5	17.2	12.1	8.6	
		450	68.7	34.0	18.3	10.6	42.1	25.4	15.5	9.8	24.4	16.7	11.5	8.0	
		600	57.7	26.9	13.8	8.0	38.3	21.7	12.7	7.8	23.2	15.2	10.1	6.7	

* For A, B, C dimensions refer to relevant figure

See notes

TABLE 4

SUSPENDED CEILING - TOP CROSS RAIL - MAXIMUM LOADING (kg/m²)

		900					1200					1500														
		900	1200	1500	1800	28	900	1200	1500	1800	28	900	1200	1500	1800	28										
Suspension distance - A (mm)		16.5	28	16.5	28	16.5	28	16.5	28	16.5	28	16.5	28	16.5	28	16.5	28									
Primary Support Spacing - B (mm)		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50									
Batten type		300	34.0	51.1	16.5	36.9	8.6	23.1	5.0	14.9	21.6	25.5	12.7	19.1	7.6	14.9	4.8	10.8	12.7	13.0	8.6	9.8	5.8	7.8	4.0	6.5
Single Span		400	28.4	51.1	12.7	31.5	6.5	18.9	3.8	11.8	19.5	25.5	10.8	18.7	6.2	13.1	3.8	9.2	12.1	13.0	7.7	9.8	5.0	7.8	3.3	6.3
Ceiling Batten (secondary support spacing)		450	26.2	51.1	11.3	29.4	5.8	17.3	3.3	10.7	18.6	25.5	10.0	18.1	5.7	12.4	3.3	8.6	11.8	13.0	7.4	9.8	4.7	7.8	3.0	6.0
GIB fastening centres - C (mm)		600	20.0	45.4	8.4	24.4	4.3	13.8	2.5	8.4	16.3	24.9	8.3	16.3	4.3	10.7	2.5	7.1	10.9	13.0	6.5	9.8	3.9	7.2	2.5	5.3
Continuous Span		300	34.0	51.1	16.5	36.9	8.6	23.1	5.0	14.9	21.6	25.5	12.7	19.1	7.6	14.9	4.8	10.8	12.7	13.0	8.6	9.8	5.8	7.8	4.0	6.5
Ceiling Batten (secondary support spacing)		400	28.4	51.1	12.7	31.5	6.5	18.9	3.8	11.8	19.5	25.5	10.8	18.7	6.2	13.1	3.8	9.2	12.1	13.0	7.7	9.8	5.0	7.8	3.3	6.3
GIB fastening centres - C (mm)		450	26.2	51.1	11.3	29.4	5.8	17.3	3.3	10.7	18.6	25.5	10.0	18.1	5.7	12.4	3.3	8.6	11.8	13.0	7.4	9.8	4.7	7.8	3.0	6.0
600		20.0	45.4	8.4	24.4	4.3	13.8	2.5	8.4	16.3	24.9	8.3	16.3	4.3	10.7	2.5	7.1	10.9	13.0	6.5	9.8	3.9	7.2	2.5	5.3	

Deflection limit
Span/xx - L/360

		900					1200					1500														
		900	1200	1500	1800	28	900	1200	1500	1800	28	900	1200	1500	1800	28										
Suspension distance - A (mm)		16.5	28	16.5	28	16.5	28	16.5	28	16.5	28	16.5	28	16.5	28	16.5	28									
Primary Support Spacing - B (mm)		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50									
Batten type		300	24.5	42.7	11.9	26.6	6.2	16.7	3.6	10.7	15.5	18.3	9.1	13.8	5.5	10.7	3.4	7.8	9.2	9.4	6.2	7.0	4.2	5.6	2.9	4.7
Single Span		400	20.4	38.7	9.1	22.7	4.7	13.6	2.7	8.5	14.0	18.3	7.8	13.5	4.5	9.5	2.7	6.6	8.7	9.4	5.6	7.0	3.6	5.6	2.4	4.6
Ceiling Batten (secondary support spacing)		450	18.8	37.0	8.1	21.2	4.2	12.5	2.4	7.7	13.4	18.3	7.2	13.0	4.1	8.9	2.4	6.2	8.5	9.4	5.3	7.0	3.4	5.6	2.2	4.3
GIB fastening centres - C (mm)		600	14.4	32.7	6.1	17.6	3.1	10.0	1.8	6.0	11.7	17.9	6.0	11.7	3.1	7.7	1.8	5.1	7.9	9.4	4.7	7.0	2.8	5.2	1.8	3.8
Continuous Span		300	37.8	43.5	21.9	32.6	13.0	26.1	8.1	19.7	18.3	18.3	13.2	13.8	9.2	11.0	6.4	9.2	9.4	9.4	7.0	7.0	5.6	5.6	4.4	4.7
Ceiling Batten (secondary support spacing)		400	33.5	43.5	18.2	32.6	10.4	23.8	6.3	16.5	18.1	18.3	12.0	13.8	7.9	11.0	5.3	9.2	9.4	9.4	7.0	7.0	5.3	5.6	3.9	4.7
GIB fastening centres - C (mm)		450	31.7	43.5	16.8	32.6	9.5	22.3	5.7	15.2	17.7	18.3	11.4	13.8	7.4	11.0	4.9	9.2	9.4	9.4	7.0	7.0	5.1	5.6	3.7	4.7
600		27.3	43.5	13.7	29.1	7.5	18.8	4.3	12.4	16.4	18.3	10.0	13.8	6.2	11.0	4.0	8.6	9.4	9.4	6.5	7.0	4.6	5.6	3.2	4.7	

Deflection limit
Span/xx - L/500

		900					1200					1500														
		900	1200	1500	1800	28	900	1200	1500	1800	28	900	1200	1500	1800	28										
Suspension distance - A (mm)		16.5	28	16.5	28	16.5	28	16.5	28	16.5	28	16.5	28	16.5	28	16.5	28									
Primary Support Spacing - B (mm)		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50									
Batten type		300	20.4	35.5	9.9	22.1	5.2	13.9	3.0	8.9	12.9	15.3	7.6	11.5	4.6	8.9	2.9	6.5	7.6	7.8	5.1	5.9	3.5	4.7	2.4	3.9
Single Span		400	17.0	32.3	7.6	18.9	3.9	11.3	2.3	7.1	11.7	15.3	6.5	11.2	3.7	7.9	2.3	5.5	7.2	7.8	4.6	5.9	3.0	4.7	2.0	3.8
Ceiling Batten (secondary support spacing)		450	15.7	30.8	6.8	17.6	3.5	10.4	2.0	6.4	11.1	15.3	6.0	10.8	3.4	7.5	2.0	5.1	7.1	7.8	4.4	5.9	2.8	4.7	1.8	3.6
GIB fastening centres - C (mm)		600	12.0	27.2	5.1	14.6	2.6	8.3	1.5	5.0	9.8	14.9	5.0	9.8	2.6	6.4	1.5	4.3	6.6	7.8	3.9	5.9	2.4	4.3	1.5	3.2
Continuous Span		300	31.5	36.2	18.2	27.2	10.8	21.7	6.7	16.4	15.3	15.3	11.0	11.5	7.7	9.2	5.3	7.6	7.8	7.8	5.9	5.9	4.7	4.7	3.7	3.9
Ceiling Batten (secondary support spacing)		400	27.9	36.2	15.2	27.2	8.7	19.8	5.3	13.7	15.1	15.3	10.0	11.5	6.6	9.2	4.4	7.6	7.8	7.8	5.9	5.9	4.4	4.7	3.3	3.9
GIB fastening centres - C (mm)		450	26.4	36.2	14.0	27.2	7.9	18.6	4.8	12.7	14.7	15.3	9.5	11.5	6.2	9.2	4.1	7.6	7.8	7.8	5.8	5.9	4.2	4.7	3.1	3.9
600		22.8	36.2	11.4	24.2	6.2	15.7	3.6	10.3	13.7	15.3	8.4	11.5	5.2	9.2	3.3	7.1	7.8	7.8	5.4	5.9	3.8	4.7	2.7	3.9	

Deflection limit
Span/xx - L/600

* For A, B, C dimensions refer to relevant figure

See notes

TABLE 5

		DIRECT FIX - CEILING - MAXIMUM LOADING (kg/m ²)																								
		900						1200						1500						1800						
Batten fastening distance - B (mm)	Batten type	16.5	28	22	35	35W	16.5	28	22	35	35W	16.5	28	22	35	35W	16.5	28	22	35	35W	16.5	28	22	35	35W
		0.50	0.50	0.55	0.55	0.55	0.50	0.50	0.55	0.55	0.55	0.50	0.50	0.55	0.55	0.55	0.50	0.50	0.55	0.55	0.55	0.50	0.50	0.55	0.55	0.55
Deflection limit Span/xx - L/360	300	40.0	136.9	88.1	255.3	283.2	16.9	57.7	37.2	107.7	119.5	8.6	29.6	19.0	55.1	61.2	5.0	17.1	11.0	31.9	35.4	5.0	17.1	11.0	31.9	35.4
	400	30.0	102.6	66.1	191.5	212.4	12.7	43.3	27.9	80.8	89.6	6.5	22.2	14.3	41.4	45.9	3.8	12.8	8.3	23.9	26.5	3.8	12.8	8.3	23.9	26.5
	450	26.7	91.2	58.7	170.2	188.8	11.3	38.5	24.8	71.8	79.6	5.8	19.7	12.7	36.8	40.8	3.3	11.4	7.3	21.3	23.6	3.3	11.4	7.3	21.3	23.6
	600	20.0	68.4	44.0	127.7	141.6	8.4	28.9	18.6	53.9	59.7	4.3	14.8	9.5	27.6	30.6	2.5	8.6	5.5	16.0	17.7	2.5	8.6	5.5	16.0	17.7
	300	96.5	256.4	203.8	389.3	398.2	40.7	139.1	89.5	219.0	224.0	20.8	71.2	45.8	132.8	143.4	12.1	41.2	26.5	76.9	85.3	12.1	41.2	26.5	76.9	85.3
	400	72.3	192.3	152.9	292.0	298.7	30.5	104.3	67.1	164.2	168.0	15.6	53.4	34.4	99.6	107.5	9.0	30.9	19.9	57.7	64.0	9.0	30.9	19.9	57.7	64.0
Deflection limit Span/xx - L/500	450	64.3	170.9	135.9	259.5	265.5	27.1	92.7	59.7	146.0	149.3	13.9	47.5	30.6	88.6	95.6	8.0	27.5	17.7	51.3	56.8	8.0	27.5	17.7	51.3	56.8
	600	48.2	128.2	101.9	194.6	199.1	20.3	69.5	44.8	109.5	112.0	10.4	35.6	22.9	66.4	71.7	6.0	20.6	13.3	38.4	42.6	6.0	20.6	13.3	38.4	42.6
	300	69.5	237.4	152.8	389.3	398.2	29.3	100.1	64.5	186.8	207.2	15.0	51.3	33.0	95.6	106.1	8.7	29.7	19.1	55.4	61.4	8.7	29.7	19.1	55.4	61.4
	400	52.1	178.0	114.6	292.0	298.7	22.0	75.1	48.3	140.1	155.4	11.3	38.5	24.8	71.7	79.6	6.5	22.3	14.3	41.5	46.0	6.5	22.3	14.3	41.5	46.0
	450	46.3	158.2	101.9	259.5	265.5	19.5	66.8	43.0	124.5	138.1	10.0	34.2	22.0	63.8	70.7	5.8	19.8	12.7	36.9	40.9	5.8	19.8	12.7	36.9	40.9
	600	34.7	118.7	76.4	194.6	199.1	14.7	50.1	32.2	93.4	103.6	7.5	25.6	16.5	47.8	53.0	4.3	14.8	9.5	27.7	30.7	4.3	14.8	9.5	27.7	30.7
Deflection limit Span/xx - L/600	300	16.5	28	22	35	35W	16.5	28	22	35	35W	16.5	28	22	35	35W	16.5	28	22	35	35W	16.5	28	22	35	35W
	400	0.50	0.50	0.55	0.55	0.55	0.50	0.50	0.55	0.55	0.55	0.50	0.50	0.55	0.55	0.55	0.50	0.50	0.55	0.55	0.55	0.50	0.50	0.55	0.55	0.55
	450	24.0	82.1	52.9	153.2	169.9	10.1	34.6	22.3	64.6	71.7	5.2	17.7	11.4	33.1	36.7	3.0	10.3	6.6	19.1	21.2	3.0	10.3	6.6	19.1	21.2
	600	18.0	61.6	39.6	114.9	127.4	7.6	26.0	16.7	48.5	53.8	3.9	13.3	8.6	24.8	27.5	2.3	7.7	5.0	14.4	15.9	2.3	7.7	5.0	14.4	15.9
	300	57.9	197.8	127.3	369.0	398.2	24.4	83.5	53.7	155.7	172.7	12.5	42.7	27.5	79.7	88.4	7.2	24.7	15.9	46.1	51.2	7.2	24.7	15.9	46.1	51.2
	400	43.4	148.4	95.5	276.8	298.7	18.3	62.6	40.3	116.8	129.5	9.4	32.0	20.6	59.8	66.3	5.4	18.5	11.9	34.6	38.4	5.4	18.5	11.9	34.6	38.4
* For A, B, C dimensions refer to relevant figure See notes	450	38.6	131.9	84.9	246.0	265.5	16.3	55.6	35.8	103.8	115.1	8.3	28.5	18.3	53.1	58.9	4.8	16.5	10.6	30.8	34.1	4.8	16.5	10.6	30.8	34.1
	600	28.9	98.9	63.7	184.5	199.1	12.2	41.7	26.9	77.8	86.3	6.3	21.4	13.8	39.9	44.2	3.6	12.4	8.0	23.1	25.6	3.6	12.4	8.0	23.1	25.6

TABLE 6

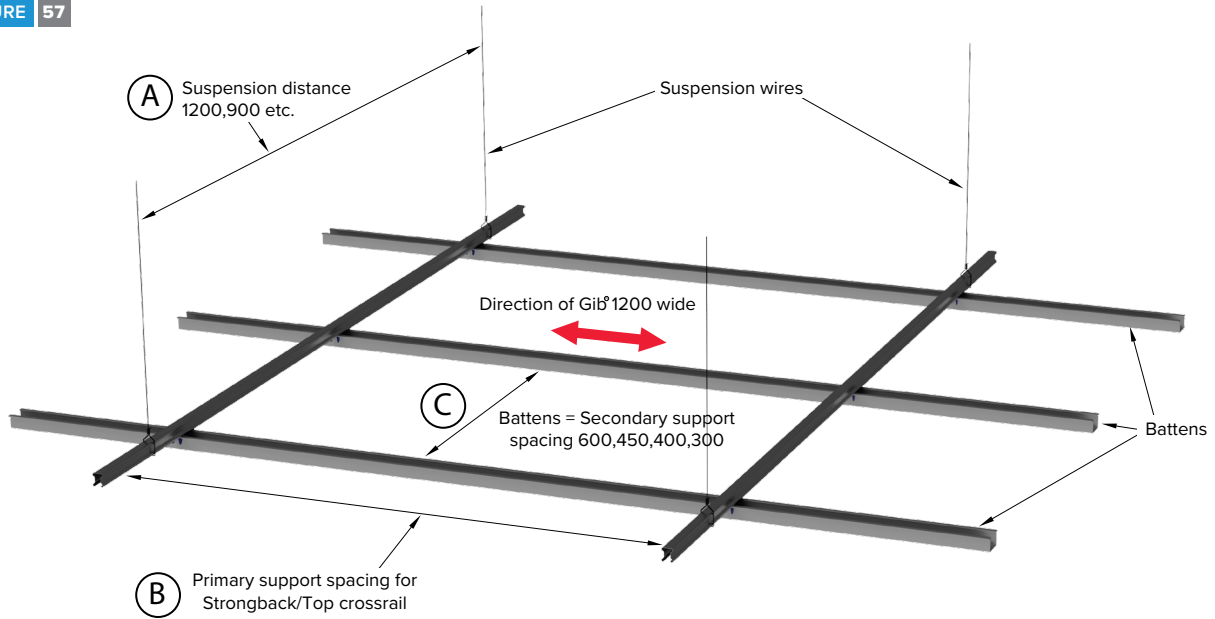
DIRECT FIX - WALL - MAXIMUM FACE LOADING (kg/m²)

Batten fastening distance - B (mm)		900						1200						1500					
		16.5	28	22	35	35W	16.5	28	22	35	35W	16.5	28	22	35	35W			
Deflection limit Span/xx - L/360	Batten type	0.50	0.50	0.55	0.55	0.55	0.50	0.50	0.55	0.55	0.55	0.50	0.50	0.55	0.55	0.55			
	Single Span	40.0	136.9	88.1	255.3	283.2	16.9	57.7	37.2	107.7	119.5	8.6	29.6	19.0	55.1	61.2			
	Ceiling Batten (secondary support spacing)	30.0	102.6	66.1	191.5	212.4	12.7	43.3	27.9	80.8	89.6	6.5	22.2	14.3	41.4	45.9			
	GIB fastening centres - C (mm)	450	26.7	91.2	170.2	188.8	11.3	38.5	24.8	71.8	79.6	5.8	19.7	12.7	36.8	40.8			
		600	20.0	68.4	127.7	141.6	8.4	28.9	18.6	53.9	59.7	4.3	14.8	9.5	27.6	30.6			
Deflection limit Span/xx - L/500	Continuous Span	96.5	256.4	203.8	389.3	398.2	40.7	139.1	89.5	219.0	224.0	20.8	71.2	45.8	132.8	143.4			
	Ceiling Batten (secondary support spacing)	400	72.3	192.3	152.9	298.7	30.5	104.3	67.1	164.2	168.0	15.6	53.4	34.4	99.6	107.5			
	GIB fastening centres - C (mm)	450	64.3	170.9	135.9	259.5	26.5	92.7	59.7	146.0	149.3	13.9	47.5	30.6	88.6	95.6			
		600	48.2	128.2	101.9	194.6	19.9	20.3	44.8	109.5	112.0	10.4	35.6	22.9	66.4	71.7			
Deflection limit Span/xx - L/600	Batten type	16.5	28	22	35	35W	16.5	28	22	35	35W	16.5	28	22	35	35W			
	Single Span	28.8	98.5	63.4	183.8	203.9	12.2	41.6	26.8	77.6	86.0	6.2	21.3	13.7	39.7	44.0			
	Ceiling Batten (secondary support spacing)	400	21.6	73.9	47.6	137.9	9.1	31.2	20.1	58.2	64.5	4.7	16.0	10.3	29.8	33.0			
	GIB fastening centres - C (mm)	450	19.2	65.7	42.3	122.5	135.9	8.1	27.7	17.8	51.7	4.2	14.2	9.1	26.5	29.4			
	600	14.4	49.3	31.7	91.9	101.9	6.1	20.8	13.4	38.8	43.0	3.1	10.6	6.8	19.9	22.0			
Deflection limit Span/xx - L/500	Continuous Span	69.5	237.4	152.8	389.3	398.2	29.3	100.1	64.5	186.8	207.2	15.0	51.3	33.0	95.6	106.1			
	Ceiling Batten (secondary support spacing)	400	52.1	178.0	114.6	292.0	22.0	75.1	48.3	140.1	155.4	11.3	38.5	24.8	71.7	79.6			
	GIB fastening centres - C (mm)	450	46.3	158.2	101.9	259.5	265.5	19.5	66.8	43.0	124.5	138.1	10.0	34.2	22.0	63.8	70.7		
		600	34.7	118.7	76.4	194.6	199.1	14.7	50.1	32.2	93.4	103.6	7.5	25.6	16.5	47.8	53.0		
Deflection limit Span/xx - L/600	Batten type	16.5	28	22	35	35W	16.5	28	22	35	35W	16.5	28	22	35	35W			
	Single Span	24.0	82.1	52.9	153.2	169.9	10.1	34.6	22.3	64.6	71.7	5.2	17.7	11.4	33.1	36.7			
	Ceiling Batten (secondary support spacing)	400	18.0	61.6	39.6	114.9	7.6	26.0	16.7	48.5	53.8	3.9	13.3	8.6	24.8	27.5			
	GIB fastening centres - C (mm)	450	16.0	54.7	35.2	102.1	113.3	6.8	23.1	14.9	43.1	47.8	3.5	11.8	7.6	22.1	24.5		
	600	12.0	41.1	26.4	76.6	85.0	5.1	17.3	11.1	32.3	35.8	2.6	8.9	5.7	16.5	18.3			
Deflection limit Span/xx - L/600	Continuous Span	57.9	197.8	127.3	369.0	398.2	24.4	83.5	53.7	155.7	172.7	12.5	42.7	27.5	79.7	88.4			
	Ceiling Batten (secondary support spacing)	400	43.4	148.4	95.5	276.8	18.3	62.6	40.3	116.8	129.5	9.4	32.0	20.6	59.8	66.3			
	GIB fastening centres - C (mm)	450	38.6	131.9	84.9	246.0	265.5	16.3	55.6	35.8	103.8	115.1	8.3	28.5	18.3	53.1	58.9		
		600	28.9	98.9	63.7	184.5	199.1	12.2	41.7	26.9	77.8	86.3	6.3	21.4	13.8	39.9	44.2		

* For A, B, C dimensions refer to relevant figure

See notes

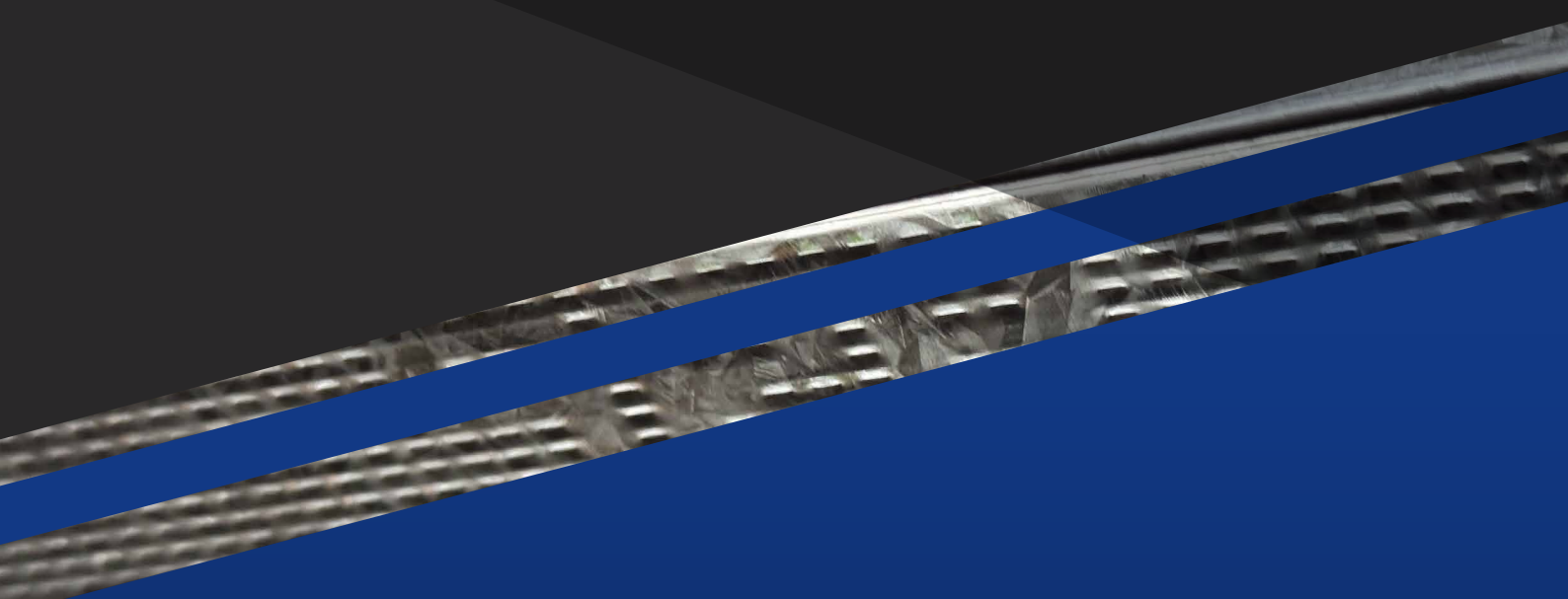
FIGURE 57



SRP™ CEILING TABLES 3 – 6 NOTES

- SRP™ Ceiling Tables are for internal ceiling applications for Importance Level 1 or 2 only where seismic considerations are not specifically required (example non-structural ceilings designed to NZS 3604:2011). Institutional applications or Importance Level 3 or 4 Specific Engineering Design is required. Contact SRP™ for further details.
- Strength and serviceability calculations as per AS/NZS 1170 and AS/NZS 4600 for uniformly distributed gross maximum loading (kg/m^2) with a deflection limit of SRP™ Ceiling element span /360 /500 /600. Ultimate Limit State wind pressure, or concentrated live/dead loading will require Specific Engineering Design. Contact SRP™ for further details.
- Serviceability wind pressure and self-weight ($2.5\text{kg}/\text{m}^2$ for 300 c/c, $1.5\text{kg}/\text{m}^2$ for 600 c/c batters; use linear interpolation for other batten spacing) of the ceiling structure itself to be deducted from specified maximum loadings.
- Suspended and Direct fix ceiling and wall tables assume no deflection and adequate capacity within overall building structure to withstand design loads applied from Steel SRP™ Ceiling literature. This should be confirmed by the project Structural Engineer.
- Tables are applicable for either suspended or direct fix ceiling and wall structure options with minimum 10mm Plasterboard applied to the external face in accordance with Manufacturers' requirements and SRP™ Handbook. *Standard GIB® plasterboard is assumed, performance and/or specialty boards may also be used, subject to having equal or better structural properties.
- Standard SRP™ brackets and clips to be directly fixed to the ceiling, wall (concrete or masonry) for direct fix applications. Adequate minimum resistance to uplift as per NZS 2785 to be designed and assessed by a suitably qualified Structural Engineer on a case by case basis. Contact SRP™ for more information. Strength of fixings, splice connections and suspension struts/cables are subject to further consideration.
- Converting kg/m^2 to kN/m^2 apply a conversion factor of 9.81×10^{-3} or 0.00981.
- Material as per AS 1397 G250 Z275 steel (or greater). BMT = Base metal thickness, TCT = Total coated thickness.
- Consideration has not been given to fire – specialist fire engineering will also be required for FRR ceilings.
- Acoustic requirements are not considered and are the responsibility of the specifier.
- Storage and installation should be in strict accordance with SRP™ Handbook and project specific design documentation.
- Designers should factor in the effects of temperature and creep when selecting SRP™ product sizes.
- No service holes are allowed in the SRP™ Ceiling products.
- For more information on any of the above, please contact SRP™ on 09-579 0175





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