

# MiTek®

## BLACKJACK - REDJACK Structural Columns



HEAVY DUTY ADJUSTMENT ASSEMBLY  
FOR MAXIMUM LOADS

MODULAR DESIGN  
FOR GREATEST JOB SITE FLEXIBILITY

SQUARE POST  
FOR EASY AND ACCURATE CUT DOWN

USE REBAR/ROD THROUGH  $\frac{1}{16}$ " HOLE  
FOR HEIGHT ADJUSTMENT

# MiTek®

## PRO SERIES™

# BLACKJACK 2.5 Adjustable Support Column

Adjustable Support Column BlackJack 2.5 is designed and tested to meet or exceed the CAN/CGSB-7.2-94 Adjustable Steel Columns standard.

**Materials:** Tube: 2-1/2" x 2-1/2"; 11 gauge

Top Plate: 3-1/2" x 6"; 3/8" thick

Bottom Plate: 4-1/2" x 6"; 3 gauge

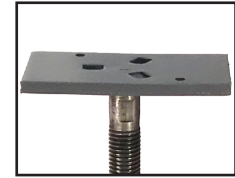
**Finish:** Tube – Powder-coated Black Paint; Plates – Grey Primer Paint

**Installation:**

- Ensure column is installed in a vertical and plumb position.
- Column base shall be aligned and secured to a proper supporting slab.
- Top plate shall cover the full width of the supported beam. Beam shall be centered on the top plate and continuous across the entire length of the plate.
- For multiple ply beams, ensure to laminate plies together to act as a single member.
- Square tube may be cut down, ensure cut is smooth, square and level.
- Rotate jack screw to desired height. Secure the top plate to wood beam with two (2) 1/4" x 2" lag screws.



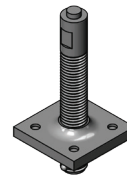
**BLACKJACK 2.5**



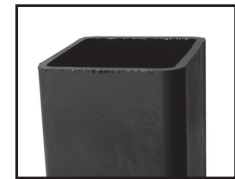
**Top plate**



**Bottom plate**



**BLACKJACK 2.5  
Adjustment assembly**



**Square tube may be cut  
(cut must be smooth  
and square)**

MiTek Stock No.	Adjustable Height		Extended Length		Column Capacity (supporting steel beam)				No. of Plies	Factored Bearing Resistance, 100% <sup>3</sup>					
	in	mm	in	mm	Allowable Load <sup>1</sup>		Factored Resistance <sup>2</sup>			1-3/4" SCL (f <sub>cp</sub> = 1,365 psi) <sup>4,5</sup>		D Fir-L		S-P-F	
					lb	kN	lb	kN		lb	kN	lb	kN	lb	kN
BJ25x90	86 - 90	2184 - 2286	90	2286	10000	44.5	14400	64.1	1-Ply	11465	51.0	7310	32.5	5535	24.6
BJ25x110	106 - 110	2692 - 2794	110	2794					2-Ply	14400	64.1	14400	64.1	11070	49.2
									3-Ply <sup>6</sup>	--	--	12790	56.9	9685	43.1
									4-Ply <sup>6</sup>	--	--	14400	64.1	12915	57.4

1) Column Allowable Load has been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.

2) The Factored Resistance of the column is soft converted by multiplying the Allowable Load by 1.44.

3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance with the code.

4) The depicted SCL Factored Bearing Resistance assumes specified compression perpendicular to grain f<sub>cp</sub> = 1,365 psi.

**For beams of weaker f<sub>cp</sub>, linear interpolate for a reduced Factored Bearing Resistance.**

5) SCL members assume 1-3/4" width. For SCL of smaller width, linear interpolate for a reduced Factored Bearing Resistance.

6) For 3-ply or 4-ply 2x beams, rotate plate to ensure full plate coverage over the width of the beam.

7) Column is not capable of resisting lateral or uplift load.

# BLACKJACK / REDJACK Adjustable Support Columns

Adjustable Support Columns are designed and tested to meet or exceed the CAN/CGSB-7.2-94 Adjustable Steel Columns standard. REDJACK 2.5, BLACKJACK 3.0 and REDJACK 3.0 are assembled with Column Cap (T2CC) or Plate at the column top to support dimensional lumber, SCL or steel beams.

**Materials:** See chart

**Finish:** REDJACK 2.5 & REDJACK 3.0 Tube – Powder-Coated Red Paint;  
 BLACKJACK 3.0 Tube – Powder-Coated Black Paint;  
 Plates, Column Caps – Grey Primer Paint

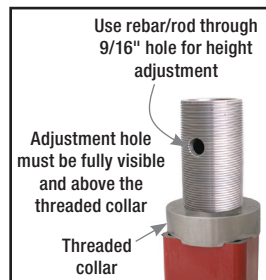
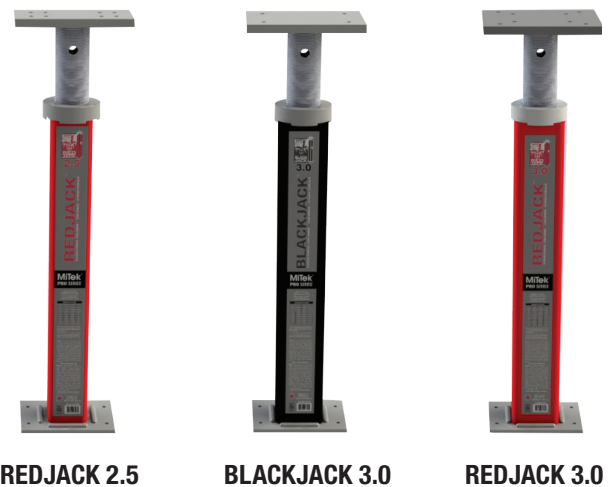
**Installation:**

- Ensure column is installed in a vertical and plumb position.
- Column base shall be aligned and secured to a proper supporting slab.
- Top plate shall cover the full width of the supported beam. Beam shall be centered on the top plate and continuous across the entire length of the plate.
- For multiple ply beams, ensure to laminate plies together to act as a single member.
- Square tube may be cut down, ensure cut is smooth, square and level.
- Turn threaded collar or threaded pipe to extend the column to the desired height. Maximum 4" adjustment. Secure the top plate to wood beam with four (4) 1/4" x 2" lag screws.

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- USE REBAR/ROD THROUGH 9/16" HOLE FOR HEIGHT ADJUSTMENT

**Column Height Specification Table**

REDJACK 2.5: Tube 2-1/2" x 2-1/2", 11 Gauge				
MiTek Stock No.	Adjustable Height		Extended Length	
	in	mm	in	mm
RJ25x84	80 - 84	2032 - 2134	84	2134
RJ25x88	84 - 88	2134 - 2235	88	2235
RJ25x90	86 - 90	2184 - 2286	90	2286
RJ25x96	92 - 96	2337 - 2438	96	2438
RJ25x102	98 - 102	2489 - 2591	102	2591
RJ25x108	104 - 108	2642 - 2743	108	2743
RJ25x114	110 - 114	2794 - 2896	114	2896
RJ25x120	116 - 120	2946 - 3048	120	3048
BLACKJACK 3.0: Tube 3" x 3", 10 Gauge				
MiTek Stock No.	Adjustable Height		Extended Length	
	in	mm	in	mm
BJ30x84	80 - 84	2032 - 2134	84	2134
BJ30x88	84 - 88	2134 - 2235	88	2235
BJ30x90	86 - 90	2184 - 2286	90	2286
BJ30x96	92 - 96	2337 - 2438	96	2438
BJ30x102	98 - 102	2489 - 2591	102	2591
BJ30x108	104 - 108	2642 - 2743	108	2743
BJ30x114	110 - 114	2794 - 2896	114	2896
BJ30x120	116 - 120	2946 - 3048	120	3048
REDJACK 3.0: Tube 3" x 3", 8 Gauge				
MiTek Stock No.	Adjustable Height		Extended Length	
	in	mm	in	mm
RJ30x84	80 - 84	2032 - 2134	84	2134
RJ30x88	84 - 88	2134 - 2235	88	2235
RJ30x90	86 - 90	2184 - 2286	90	2286
RJ30x96	92 - 96	2337 - 2438	96	2438
RJ30x102	98 - 102	2489 - 2591	102	2591
RJ30x108	104 - 108	2642 - 2743	108	2743
RJ30x114	110 - 114	2794 - 2896	114	2896
RJ30x120	116 - 120	2946 - 3048	120	3048
RJ30x144	140 - 144	3556 - 3658	144	3658



**BLACKJACK 3.0, REDJACK 3.0 Adjustment Assembly**

**Square tube design**



# BLACKJACK / REDJACK Adjustable Support Columns

## Plate Specification Table

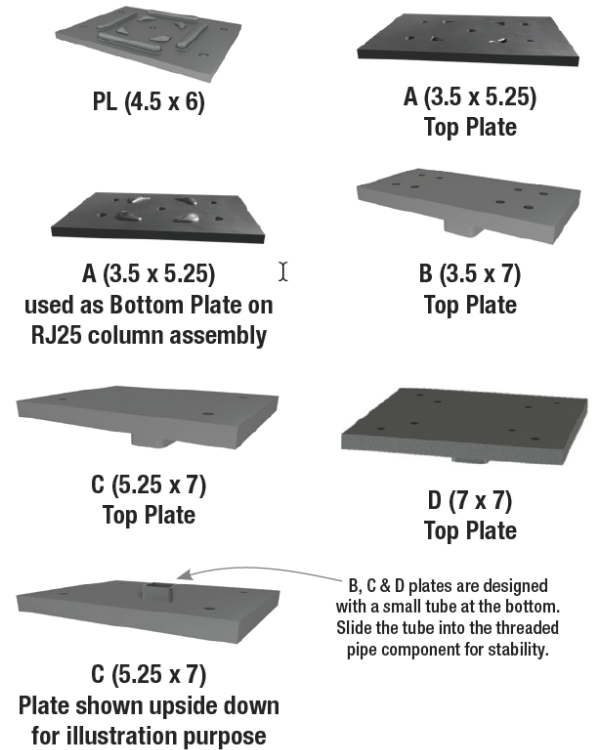
Plate	Dimensions (in)		Gauge / Thickness	Beam Size	Installation Notes	
	W	L				
PL (4.5 x 6) Bottom Plate	4.5	6	3 GA	3-Ply 2x	Inter-changeable with A (3.5 x 5.25) plate and use as top plate on RJ25 columns	
				4-Ply 2x		
A (3.5 x 5.25) Top Plate	3.5	5.25	3 GA	2-Ply SCL	Inter-changeable with PL (4.5 x 6) plate and use as bottom plate on RJ25 columns	
				3-Ply SCL		
				2-Ply 2x		
				3-Ply 2x		
B (3.5 x 7) Top Plate	3.5	7	1/2"	2-Ply SCL	Use 4 outer holes for beam attachment	
				4-Ply SCL		
				2-Ply 2x		
				4-Ply 2x		
				3-Ply SCL		Use 4 inner holes for beam attachment
				3-Ply 2x		
C (5.25 x 7) Top Plate	5.25	7	1/2"	3-Ply SCL	Use all 4 holes for beam attachment	
				4-Ply SCL		
				3-Ply 2x		
				4-Ply 2x		
D (7 x 7) Top Plate	7	7	1/2"	4-Ply SCL	Use 4 outer holes for beam attachment	
				4-Ply 2x		
				3-Ply SCL	Use 4 inner holes for beam attachment	
				3-Ply 2x		

Each component kit comes with one PL plate + one A or B or C or D plate.

SCL members assume 1-3/4" width.

**Bold:** Beam size that plate is sized for.

Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.



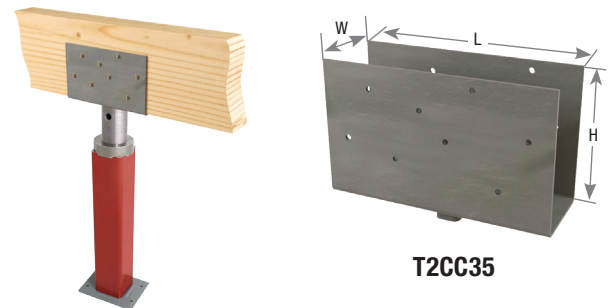
## T2CC BLACKJACK / REDJACK Column Caps

Cap version for BLACKJACK 3.0 / REDJACK 2.5/3.0 Adjustable Structural Columns, T2CC are sized to suit various SCL beam sizes and help to resist beam rotation.

**Materials:** T2CC35, T2CC55: 7 gauge ASTM A1011;  
T2CC525, T2CC71: 3 gauge ASTM A 36 steel

### Installation:

- Replaces BLACKJACK / REDJACK Top Plate.
- Slide column cap tube into the top of the threaded pipe component.
- MiTek's WS3 structural wood screws, 1/4" dia. x 3" long, are supplied with T2CC Column Caps.
- Beam shall be continuous across the entire length of the column cap.



Typical T2CC Installation

MiTek Stock No.	Steel Gauge	Dimensions (in)			Fastener Schedule <sup>3</sup>		D Fir-L Factored Resistance		S-P-F Factored Resistance	
		W	H	L	Beam		Bearing (100%)		Bearing (100%)	
					Qty	Type	Lbs	kN	Lbs	kN
T2CC35	7	3-5/8	6-1/2	11	16	WS3	31270	139.1	23675	105.3
T2CC525	3	5-1/4	8	13	16	WS3	54115	240.7	40970	182.2
T2CC55	7	5-1/2	6-1/2	11	16	WS3	46905	208.6	35515	158.0
T2CC71	3	7-1/4	6-1/2	11	16	WS3	62540	278.2	47350	210.6

1) Factored bearing resistances are for standard term loading; reduce for other load durations in accordance with the code.

2) Bearing loads are based on compression perpendicular to grain values published in CSA O86:19 and having the bucket base in full contact with the supported member.

3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with T2CC Column Caps.

4) Beams shall be designed to support the required loads. Beam shear may limit loads to less than listed.

5) The factored resistance of the T2CC may exceed the column capacity. Refer to the BLACKJACK / REDJACK Column load tables (supporting steel beam) for the maximum factored resistance based on column length.

New products or updated product information are designated in blue font.

# REDJACK 2.5 Adjustable Support Columns

Unit: lb (Imperial)

REDJACK 2.5, TOP PLATE: PL (4.5 x 6) / A (3.5 x 5.25)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) <sup>3,6</sup>								
			1-3/4" SCL ( $f_{cp} = 1,365 \text{ psi}$ ) <sup>4,5</sup>			D Fir-L			S-P-F		
	Allowable Load (lb) <sup>1</sup>	Factored Resistance (lb) <sup>2</sup>	1-Ply	2-Ply	3-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
			A (3.5x5.25)	A (3.5x5.25)	A (3.5x5.25)	A (3.5x5.25)	PL (4.5x6)	PL (4.5x6)	A (3.5x5.25)	PL (4.5x6)	PL (4.5x6)
RJ25x84	16900	26000	10030	20060	20060	12790	21920	21920	9680	16600	16600
RJ25x88	15500	24300									
RJ25x90	15000	23700	10030	20060	20060	12790	21920	21920	9680	16600	16600
RJ25x96	13600	21800					21800	21800			
RJ25x102	12800	20050	10030	20050	20050	12790	20050	20050	9680	16600	16600
RJ25x108	12200	18400		18400	18400		18400	18400			
RJ25x114	11500	17000	10030	17000	17000	12790	17000	17000	9680	16600	16600
RJ25x120	10900	15600		15600	15600		15600	15600		15600	15600
REDJACK 2.5, TOP PLATE: B (3.5 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) <sup>3,6</sup>								
			1-3/4" SCL ( $f_{cp} = 1,365 \text{ psi}$ ) <sup>4,5</sup>			D Fir-L			S-P-F		
	Allowable Load (lb) <sup>1</sup>	Factored Resistance (lb) <sup>2</sup>	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x84	16900	26000	26000	20060	26000	17050	12790	17050	12910	9680	12910
RJ25x88	15500	24300	24300		24300						
RJ25x90	15000	23700	23700	20060	23700	17050	12790	17050	12910	9680	12910
RJ25x96	13600	21800	21800		21800						
RJ25x102	12800	20050	20050	20050	20050	17050	12790	17050	12910	9680	12910
RJ25x108	12200	18400	18400	18400	18400						
RJ25x114	11500	17000	17000	17000	17000	17000		17000	12910	9680	12910
RJ25x120	10900	15600	15600	15600	15600	15600	12790	15600			
REDJACK 2.5, TOP PLATE: C (5.25 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) <sup>3,6</sup>								
			1-3/4" SCL ( $f_{cp} = 1,365 \text{ psi}$ ) <sup>4,5</sup>			D Fir-L			S-P-F		
	Allowable Load (lb) <sup>1</sup>	Factored Resistance (lb) <sup>2</sup>	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x84	16900	26000	26000	26000	26000	17050	25580	25580	12910	19370	19370
RJ25x88	15500	24300	24300	24300	24300		24300	24300			
RJ25x90	15000	23700	23700	23700	23700	17050	23700	23700	12910	19370	19370
RJ25x96	13600	21800	21800	21800	21800		21800	21800			
RJ25x102	12800	20050	20050	20050	20050	17050	20050	20050	12910	19370	19370
RJ25x108	12200	18400	18400	18400	18400		18400	18400		18400	18400
RJ25x114	11500	17000	17000	17000	17000	17000	17000	17000	12910	17000	17000
RJ25x120	10900	15600	15600	15600	15600	15600	15600	15600		15600	15600
RedJack 2.5, TOP PLATE: D (7 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) <sup>3,6</sup>								
			1-3/4" SCL ( $f_{cp} = 1,365 \text{ psi}$ ) <sup>4,5</sup>			D Fir-L			S-P-F		
	Allowable Load (lb) <sup>1</sup>	Factored Resistance (lb) <sup>2</sup>	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x84	16900	26000	26000	26000	26000	17050	25580	26000	12910	19370	25820
RJ25x88	15500	24300	24300	24300	24300		24300	24300			24300
RJ25x90	15000	23700	23700	23700	23700	17050	23700	23700	12910	19370	23700
RJ25x96	13600	21800	21800	21800	21800		21800	21800			21800
RJ25x102	12800	20050	20050	20050	20050	17050	20050	20050	12910	19370	20050
RJ25x108	12200	18400	18400	18400	18400		18400	18400		18400	18400
RJ25x114	11500	17000	17000	17000	17000	17000	17000	17000	12910	17000	17000
RJ25x120	10900	15600	15600	15600	15600	15600	15600	15600		15600	15600

- 1) Column Allowable Loads have been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
- 2) Column Factored Resistance is limited by the tube's axial compressive strength. The depicted values are established in accordance with CSA S16.
- 3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance to the code.
- 4) SCL Factored Bearing Resistance assumes specified compression perpendicular to grain  $f_{cp} = 1,365 \text{ psi}$ .  
**For beams of weaker  $f_{cp}$ , linear interpolate for a reduced Factored Bearing Resistance.**
- 5) SCL members assume 1-3/4" width. For SCL of smaller width, linear interpolate for a reduced Factored Bearing Resistance.
- 6) Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.
- 7) Column is not capable of resisting lateral or uplift load.



# REDJACK 2.5 Adjustable Support Columns

Unit: kN (Metric)

REDJACK 2.5, TOP PLATE: PL (4.5 x 6) / A (3.5 x 5.25)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL (f <sub>cp</sub> = 1,365 psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			1-Ply A (3.5x5.25)	2-Ply A (3.5x5.25)	3-Ply A (3.5x5.25)	2-Ply A (3.5x5.25)	3-Ply PL (4.5x6)	4-Ply PL (4.5x6)	2-Ply A (3.5x5.25)	3-Ply PL (4.5x6)	4-Ply PL (4.5x6)
RJ25x84	75.2	115.7									
RJ25x88	68.9	108.1	44.6	89.2	89.2	56.9	97.5	97.5	43.1	73.8	73.8
RJ25x90	66.7	105.4	44.6	89.2	89.2	56.9	97.5	97.5	43.1	73.8	73.8
RJ25x96	60.5	97.0									
RJ25x102	56.9	89.2		89.2	89.2		89.2	89.2			
RJ25x108	54.3	81.8	44.6	81.8	81.8	56.9	81.8	81.8	43.1	73.8	73.8
RJ25x114	51.2	75.6		75.6	75.6		75.6	75.6		73.8	73.8
RJ25x120	48.5	69.4	44.6	69.4	69.4	56.9	69.4	69.4	43.1	69.4	69.4
REDJACK 2.5, TOP PLATE: B (3.5 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL (f <sub>cp</sub> = 1,365 psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x84	75.2	115.7	115.7		115.7						
RJ25x88	68.9	108.1	108.1	89.2	108.1	75.8	56.9	75.8	57.4	43.1	57.4
RJ25x90	66.7	105.4	105.4	89.2	105.4	75.8	56.9	75.8	57.4	43.1	57.4
RJ25x96	60.5	97.0	97.0		97.0						
RJ25x102	56.9	89.2	89.2	89.2	89.2						
RJ25x108	54.3	81.8	81.8	81.8	81.8	75.8	56.9	75.8	57.4	43.1	57.4
RJ25x114	51.2	75.6	75.6	75.6	75.6	75.6		75.6			
RJ25x120	48.5	69.4	69.4	69.4	69.4	69.4	56.9	69.4	57.4	43.1	57.4
REDJACK 2.5, TOP PLATE: C (5.25 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL (f <sub>cp</sub> = 1,365 psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x84	75.2	115.7	115.7	115.7	115.7						
RJ25x88	68.9	108.1	108.1	108.1	108.1	75.8	113.8	113.8	57.4	86.2	86.2
RJ25x90	66.7	105.4	105.4	105.4	105.4						
RJ25x96	60.5	97.0	97.0	97.0	97.0	75.8	105.4	105.4	57.4	86.2	86.2
RJ25x102	56.9	89.2	89.2	89.2	89.2						
RJ25x108	54.3	81.8	81.8	81.8	81.8	75.8	97.0	97.0	57.4	86.2	86.2
RJ25x114	51.2	75.6	75.6	75.6	75.6	75.8	89.2	89.2	57.4	86.2	86.2
RJ25x120	48.5	69.4	69.4	69.4	69.4	75.8	81.8	81.8	57.4	81.8	81.8
										75.6	75.6
										69.4	69.4
RedJack 2.5, TOP PLATE: D (7 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL (f <sub>cp</sub> = 1,365 psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x84	75.2	115.7	115.7	115.7	115.7						
RJ25x88	68.9	108.1	108.1	108.1	108.1	75.8	113.8	113.7	57.4	86.2	114.9
RJ25x90	66.7	105.4	105.4	105.4	105.4						
RJ25x96	60.5	97.0	97.0	97.0	97.0	75.8	108.1	108.1	57.4	86.2	108.1
RJ25x102	56.9	89.2	89.2	89.2	89.2						
RJ25x108	54.3	81.8	81.8	81.8	81.8	75.8	105.4	105.4	57.4	86.2	105.4
RJ25x114	51.2	75.6	75.6	75.6	75.6	75.8	97.0	97.0	57.4	86.2	97.0
RJ25x120	48.5	69.4	69.4	69.4	69.4	75.8	89.2	89.2	57.4	86.2	89.2
										81.8	81.8
										75.6	75.6
										69.4	69.4

- 1) Column Allowable Loads have been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
- 2) Column Factored Resistance is limited by the tube's axial compressive strength. The depicted values are established in accordance with CSA S16.
- 3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance to the code.
- 4) SCL Factored Bearing Resistance assumes specified compression perpendicular to grain f<sub>cp</sub> = 1,365 psi.  
**For beams of weaker f<sub>cp</sub>, linear interpolate for a reduced Factored Bearing Resistance.**
- 5) SCL members assume 1-3/4" width. For SCL of smaller width, linear interpolate for a reduced Factored Bearing Resistance.
- 6) Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.
- 7) Column is not capable of resisting lateral or uplift load.





# BLACKJACK 3.0 Adjustable Support Columns

Unit: kN (Metric)

BLACKJACK 3.0, TOP PLATE: A (3.5 x 5.25)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL (f <sub>cp</sub> = 1,365 psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply
BJ30x84	135.2	184.6									
BJ30x88	122.8	176.1	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
BJ30x90	117.4	171.7									
BJ30x96	106.8	160.6	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
BJ30x102	101.9	149.7									
BJ30x108	99.2	139.7	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
BJ30x114	97.9	133.0									
BJ30x120	97.4	121.0	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1

BLACKJACK 3.0, TOP PLATE: B (3.5 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL (f <sub>cp</sub> = 1,365 psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
BJ30x84	135.2	184.6									
BJ30x88	122.8	176.1	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
BJ30x90	117.4	171.7									
BJ30x96	106.8	160.6	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
BJ30x102	101.9	149.7									
BJ30x108	99.2	139.7	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
BJ30x114	97.9	133.0									
BJ30x120	97.4	121.0	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4

BLACKJACK 3.0, TOP PLATE: C (5.25 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL (f <sub>cp</sub> = 1,365 psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
BJ30x84	135.2	184.6									
BJ30x88	122.8	176.1	119.0	178.5	178.5	75.8	113.8	113.8	57.4	86.2	86.2
BJ30x90	117.4	171.7									
BJ30x96	106.8	160.6	119.0	171.7	171.7	75.8	113.8	113.8	57.4	86.2	86.2
BJ30x102	101.9	149.7									
BJ30x108	99.2	139.7	119.0	149.7	149.7	75.8	113.8	113.8	57.4	86.2	86.2
BJ30x114	97.9	133.0									
BJ30x120	97.4	121.0	119.0	139.7	139.7	75.8	113.8	113.8	57.4	86.2	86.2

BLACKJACK 3.0, TOP PLATE: D (7 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL (f <sub>cp</sub> = 1,365 psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
BJ30x84	135.2	184.6									
BJ30x88	122.8	176.1	119.0	178.5	184.6	75.8	113.8	151.7	57.4	86.2	114.9
BJ30x90	117.4	171.7									
BJ30x96	106.8	160.6	119.0	176.1	176.1	75.8	113.8	151.7	57.4	86.2	114.9
BJ30x102	101.9	149.7									
BJ30x108	99.2	139.7	119.0	171.7	171.7	75.8	113.8	151.7	57.4	86.2	114.9
BJ30x114	97.9	133.0									
BJ30x120	97.4	121.0	119.0	160.6	160.6	75.8	113.8	151.7	57.4	86.2	114.9

- 1) Column Allowable Loads have been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
- 2) Column Factored Resistance is limited by the tube's axial compressive strength. The depicted values are established in accordance with CSA S16.
- 3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance to the code.
- 4) SCL Factored Bearing Resistance assumes specified compression perpendicular to grain f<sub>cp</sub> = 1,365 psi.  
For beams of weaker f<sub>cp</sub>, linear interpolate for a reduced Factored Bearing Resistance.
- 5) SCL members assume 1-3/4" width. For SCL of smaller width, linear interpolate for a reduced Factored Bearing Resistance.
- 6) Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.
- 7) Column is not capable of resisting lateral or uplift load.





# REDJACK 3.0 Adjustable Support Columns

Unit: lb (Imperial)

REDJACK 3.0, TOP PLATE: A (3.5 x 5.25)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) <sup>3,6</sup>								
			1-3/4" SCL ( $f_{cp} = 1,365 \text{ psi}$ ) <sup>4,5</sup>			D Fir-L			S-P-F		
	Allowable Load (lb) <sup>1</sup>	Factored Resistance (lb) <sup>2</sup>	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply
RJ30x84	39600	49900	10030	20060	20060	6390	12790	12790	4840	9680	9680
RJ30x88	36600	47300									
RJ30x90	35500	46400	10030	20060	20060	6390	12790	12790	4840	9680	9680
RJ30x96	32100	43400									
RJ30x102	30000	40300	10030	20060	20060	6390	12790	12790	4840	9680	9680
RJ30x108	28300	37600									
RJ30x114	27500	35100	10030	20060	20060	6390	12790	12790	4840	9680	9680
RJ30x120	26800	32700									
RJ30x144	21300	24800	10030	20060	20060	6390	12790	12790	4840	9680	9680
REDJACK 3.0, TOP PLATE: B (3.5 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) <sup>3,6</sup>								
			1-3/4" SCL ( $f_{cp} = 1,365 \text{ psi}$ ) <sup>4,5</sup>			D Fir-L			S-P-F		
	Allowable Load (lb) <sup>1</sup>	Factored Resistance (lb) <sup>2</sup>	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x84	39600	49900	26750	20060	26750	17050	12790	17050	12910	9680	12910
RJ30x88	36600	47300									
RJ30x90	35500	46400	26750	20060	26750	17050	12790	17050	12910	9680	12910
RJ30x96	32100	43400									
RJ30x102	30000	40300	26750	20060	26750	17050	12790	17050	12910	9680	12910
RJ30x108	28300	37600									
RJ30x114	27500	35100	26750	20060	26750	17050	12790	17050	12910	9680	12910
RJ30x120	26800	32700									
RJ30x144	21300	24800	24800	20060	24800	17050	12790	17050	12910	9680	12910
REDJACK 3.0, TOP PLATE: C (5.25 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) <sup>3,6</sup>								
			1-3/4" SCL ( $f_{cp} = 1,365 \text{ psi}$ ) <sup>4,5</sup>			D Fir-L			S-P-F		
	Allowable Load (lb) <sup>1</sup>	Factored Resistance (lb) <sup>2</sup>	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x84	39600	49900	26750	40130	40130	17050	25580	25580	12910	19370	19370
RJ30x88	36600	47300									
RJ30x90	35500	46400	26750	40130	40130	17050	25580	25580	12910	19370	19370
RJ30x96	32100	43400									
RJ30x102	30000	40300	26750	40130	40130	17050	25580	25580	12910	19370	19370
RJ30x108	28300	37600		37600	37600						
RJ30x114	27500	35100	26750	35100	35100	17050	25580	25580	12910	19370	19370
RJ30x120	26800	32700		32700	32700						
RJ30x144	21300	24800	24800	24800	24800	17050	24800	24800	12910	19370	19370
REDJACK 3.0, TOP PLATE: D (7 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) <sup>3,6</sup>								
			1-3/4" SCL ( $f_{cp} = 1,365 \text{ psi}$ ) <sup>4,5</sup>			D Fir-L			S-P-F		
	Allowable Load (lb) <sup>1</sup>	Factored Resistance (lb) <sup>2</sup>	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x84	39600	49900	26750	40130	49900	17050	25580	34110	12910	19370	25820
RJ30x88	36600	47300			47300						
RJ30x90	35500	46400	26750	40130	46400	17050	25580	34110	12910	19370	25820
RJ30x96	32100	43400			43400						
RJ30x102	30000	40300	26750	40130	40300	17050	25580	34110	12910	19370	25820
RJ30x108	28300	37600		37600	37600						
RJ30x114	27500	35100	26750	35100	35100	17050	25580	34110	12910	19370	25820
RJ30x120	26800	32700		32700	32700			32700			
RJ30x144	21300	24800	24800	24800	24800	17050	24800	24800	12910	19370	24800

- 1) Column Allowable Loads have been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
- 2) Column Factored Resistance is limited by the tube's axial compressive strength. The depicted values are established in accordance with CSA S16.
- 3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance to the code.
- 4) SCL Factored Bearing Resistance assumes specified compression perpendicular to grain  $f_{cp} = 1,365 \text{ psi}$ .  
**For beams of weaker  $f_{cp}$ , linear interpolate for a reduced Factored Bearing Resistance.**
- 5) SCL members assume 1-3/4" width. For SCL of smaller width, linear interpolate for a reduced Factored Bearing Resistance.
- 6) Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.
- 7) Column is not capable of resisting lateral or uplift load.



Continued on next page

# REDJACK 3.0 Adjustable Support Columns

Unit: kN (Metric)

REDJACK 3.0, TOP PLATE: A (3.5 x 5.25)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL ( $f_{cp} = 1,365$ psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply
RJ30x84	176.1	222.0	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
RJ30x88	162.8	210.4									
RJ30x90	157.9	206.4	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
RJ30x96	142.8	193.1									
RJ30x102	133.4	179.3	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
RJ30x108	125.9	167.3									
RJ30x114	122.3	156.1	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
RJ30x120	119.2	145.5									
RJ30x144	94.7	110.3	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
REDJACK 3.0, TOP PLATE: B (3.5 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL ( $f_{cp} = 1,365$ psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x84	176.1	222.0	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
RJ30x88	162.8	210.4									
RJ30x90	157.9	206.4	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
RJ30x96	142.8	193.1									
RJ30x102	133.4	179.3	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
RJ30x108	125.9	167.3									
RJ30x114	122.3	156.1	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
RJ30x120	119.2	145.5									
RJ30x144	94.7	110.3	110.3	89.2	110.3	75.8	56.9	75.8	57.4	43.1	57.4
REDJACK 3.0, TOP PLATE: C (5.25 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL ( $f_{cp} = 1,365$ psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x84	176.1	222.0	119.0	178.5	178.5	75.8	113.8	113.8	57.4	86.2	86.2
RJ30x88	162.8	210.4									
RJ30x90	157.9	206.4	119.0	178.5	178.5	75.8	113.8	113.8	57.4	86.2	86.2
RJ30x96	142.8	193.1									
RJ30x102	133.4	179.3	119.0	178.5	178.5	75.8	113.8	113.8	57.4	86.2	86.2
RJ30x108	125.9	167.3		167.3	167.3						
RJ30x114	122.3	156.1	119.0	156.1	156.1	75.8	113.8	113.8	57.4	86.2	86.2
RJ30x120	119.2	145.5		145.5	145.5						
RJ30x144	94.7	110.3	110.3	110.3	110.3	75.8	110.3	110.3	57.4	86.2	86.2
REDJACK 3.0, TOP PLATE: D (7 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) <sup>3,6</sup>								
	Allowable Load (kN) <sup>1</sup>	Factored Resistance (kN) <sup>2</sup>	1-3/4" SCL ( $f_{cp} = 1,365$ psi) <sup>4,5</sup>			D Fir-L			S-P-F		
			2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x84	176.1	222.0	119.0	178.5	222.0	75.8	113.8	151.7	57.4	86.2	114.9
RJ30x88	162.8	210.4			210.4						
RJ30x90	157.9	206.4	119.0	178.5	206.4	75.8	113.8	151.7	57.4	86.2	114.9
RJ30x96	142.8	193.1			193.1						
RJ30x102	133.4	179.3	119.0	178.5	179.3	75.8	113.8	151.7	57.4	86.2	114.9
RJ30x108	125.9	167.3		167.3	167.3						
RJ30x114	122.3	156.1	119.0	156.1	156.1	75.8	113.8	151.7	57.4	86.2	114.9
RJ30x120	119.2	145.5		145.5	145.5			145.5			
RJ30x144	94.7	110.3	110.3	110.3	110.3	75.8	110.3	110.3	57.4	86.2	110.3

- 1) Column Allowable Loads have been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
- 2) Column Factored Resistance is limited by the tube's axial compressive strength. The depicted values are established in accordance with CSA S16.
- 3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance to the code.
- 4) SCL Factored Bearing Resistance assumes specified compression perpendicular to grain  $f_{cp} = 1,365$  psi.  
**For beams of weaker  $f_{cp}$ , linear interpolate for a reduced Factored Bearing Resistance.**
- 5) SCL members assume 1-3/4" width. For SCL of smaller width, linear interpolate for a reduced Factored Bearing Resistance.
- 6) Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.
- 7) Column is not capable of resisting lateral or uplift load.



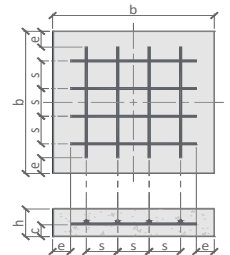
# Footing Specifications

Use in conjunction with MiTek Adjustable Support Columns, BLACKJACK & REDJACK series

Table 1. Concrete Footing Recommendations, 20 MPa Concrete Strength							
Soil Bearing Capacity kPa (psf)	Max. Footing Capacity				Min. Footing Dimensions b x b x h	Rebar Specifications	
	Unfactored Load, P <sub>s</sub> (Working Stress Design) kN (lb)		Factored Load, P <sub>f</sub> (Limit States Design) kN (lb)			Qty & Size	Spacing, s
75 (1,570)	27.8	[6,270]	40.4	[9,090]	24" x 24" x 9"	2 - 10M	@ 18" E/W
	43.5	[9,790]	63.1	[14,200]	30" x 30" x 9"	3 - 10M 2 - 15M	@ 12" E/W @ 19.5" E/W
	62.7	[14,100]	90.9	[20,440]	36" x 36" x 9"	4 - 10M 2 - 15M	@ 10" E/W @ 19.5" E/W
	85.3	[19,190]	123.7	[27,820]	42" x 42" x 9"	5 - 10M 3 - 15M	@ 9" E/W @ 18" E/W
	111.4	[25,060]	161.6	[36,340]	48" x 48" x 9"	6 - 10M 3 - 15M	@ 8" E/W @ 19.5" E/W
	141.0	[31,720]	204.5	[45,990]	54" x 54" x 10"	7 - 10M 4 - 15M	@ 8" E/W @ 16" E/W
	174.1	[39,160]	252.5	[56,780]	60" x 60" x 11"	9 - 10M 5 - 15M	@ 6.5" E/W @ 13.5" E/W
	210.7	[47,380]	305.6	[68,710]	66" x 66" x 12"	11 - 10M 6 - 15M	@ 6" E/W @ 12" E/W
	37.1	[8,350]	53.8	[12,110]	24" x 24" x 9"	2 - 10M	@ 18" E/W
	58.0	[13,050]	84.1	[18,930]	30" x 30" x 9"	3 - 10M 2 - 15M	@ 12" E/W @ 19.5" E/W
100 (2,090)	83.6	[18,800]	121.2	[27,260]	36" x 36" x 9"	4 - 10M 3 - 15M	@ 10" E/W @ 15" E/W
	113.8	[25,580]	165.0	[37,100]	42" x 42" x 9"	5 - 10M 3 - 15M	@ 9" E/W @ 18" E/W
	148.6	[33,420]	215.5	[48,450]	48" x 48" x 10" 48" x 48" x 11"	7 - 10M 4 - 15M	@ 7" E/W @ 14" E/W
	188.1	[42,290]	272.7	[61,320]	54" x 54" x 12"	9 - 10M 5 - 15M	@ 6" E/W @ 12" E/W
	46.4	[10,440]	67.3	[15,140]	24" x 24" x 9"	3 - 10M 2 - 15M	@ 9" E/W @ 18" E/W
	72.5	[16,320]	105.2	[23,660]	30" x 30" x 9"	4 - 10M 2 - 15M	@ 8" E/W @ 19.5" E/W
125 (2,610)	104.5	[23,500]	151.5	[34,070]	36" x 36" x 9"	5 - 10M 3 - 15M	@ 7.5" E/W @ 15" E/W
	142.2	[31,980]	206.2	[46,370]	42" x 42" x 10"	6 - 10M 3 - 15M	@ 7" E/W @ 18" E/W
	185.8	[41,770]	269.4	[60,570]	48" x 48" x 11" 48" x 48" x 12"	7 - 10M 4 - 15M	@ 7" E/W @ 14" E/W
	55.7	[12,530]	80.8	[18,170]	24" x 24" x 9"	3 - 10M 2 - 15M	@ 9" E/W @ 18" E/W
	87.0	[19,580]	126.2	[28,390]	30" x 30" x 9"	4 - 10M 3 - 15M	@ 8" E/W @ 12" E/W
150 (3,130)	125.4	[28,200]	181.8	[40,880]	36" x 36" x 10"	5 - 10M 3 - 15M	@ 7.5" E/W @ 15" E/W
	170.7	[38,380]	247.5	[55,650]	42" x 42" x 11"	6 - 10M 3 - 15M	@ 7" E/W @ 18" E/W
	222.9	[50,130]	323.3	[72,680]	48" x 48" x 12"	8 - 10M 4 - 15M	@ 6" E/W @ 14" E/W
	111.4	[25,060]	161.6	[36,340]	24" x 24" x 10"	4 - 10M 3 - 15M	@ 6" E/W @ 9" E/W
300 (6,270)	174.1	[39,160]	252.5	[56,780]	30" x 30" x 11"	5 - 10M 4 - 15M	@ 6" E/W @ 8" E/W
	250.8	[56,390]	363.7	[81,770]	36" x 36" x 13"	6 - 10M 4 - 15M	@ 6" E/W @ 10" E/W

- 1) Footing design is in accordance with CAN/CSA A23.3, and meets or exceeds the prescriptive requirements of NBCC Part 9 and its provincial counterparts.
- 2) Soil bearing capacity and load(s) to be supported by the footing shall be verified by an engineer.
- 3) Concrete shall be normal Portland cement, Type 10 or Type 50 as required, slump +/- 75 mm (3"), entrained air 4-7%, maximum aggregate 20 mm (3/4") diameter, minimum strength of 20 MPa (2,900 psi) at 28 days.
- 4) Rebar shall be Grade 400, tied at all intersections, and placed in conformance with Figure 1.
- 5) Column shall be installed at the center of the footing; eccentric loading reduces the footing capacity. Design is based on MiTek Adjustable Support Column steel base plate size 4-1/2" x 6".
- 6) Refer to Table 1 for footing size (b x b x h) and rebar spacing (s). Footing height (h) indicates the depth of footing below the column base plate. Rebar edge distance (e) and depth of concrete below rebar (c) shall be no less than 3".

Figure 1 :  
Rebar layout



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