

High Performance Wi Column - Preliminary Design Tables Using Wi Slot Blocks

Maximum spacing between Wi Columns

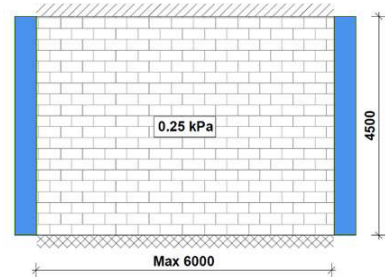
140mm Blockwork				
Wall panel height (mm)	Wind Load (kPa)			
	0.25	0.5	0.75	1
	Max. blockwork infill panel length (mm)			
2500	7000	7000	5000	3500
3000	7000	6000	4000	3000
3500	7000	5200	3400	2700
4000	7000	4500	3100	2500
4500	6000 *	4100	3000	2400
5000	5000	3900	2800	2300
5500	4600	3700	2700	2200
6000	4400	3600	2500	1900
6500	4200	3400	2200	1500
7000	4000	3200	1800	1200

190mm Blockwork				
Wall panel height (mm)	Wind Load (kPa)			
	0.25	0.5	0.75	1
	Max. blockwork infill panel length (mm)			
2500	7000	7000	6000	6000
3000	7000	7000	6000	5000
3500	7000	6500	5600	4000
4000	7000	6000	5000	3600
4500	7000	6000	4400	3400
5000	7000	5800	4000	3200
5500	7000	5600	3800	3100
6000	6000	5200 *	3500	2500
6500	6000	5000	3000	2000
7000	5700	4200	2400	1600

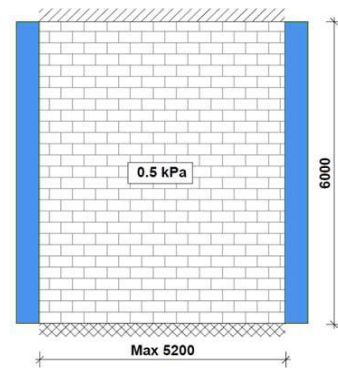
215mm Blockwork				
Wall panel height (mm)	Wind Load (kPa)			
	0.25	0.5	0.75	1
	Max. blockwork infill panel length (mm)			
2500	7000	7000	7000	7000
3000	7000	7000	6500	6000
3500	7000	7000	6000	5000
4000	7000	6500	5800	4300
4500	7000	6300	5200	4000 *
5000	7000	6100	4800	3700
5500	7000	6000	4500	3500
6000	7000	6000	4200	3400
6500	7000	5500	4000	3000
7000	7000	5500	3500	2500

Wi Columns and panel

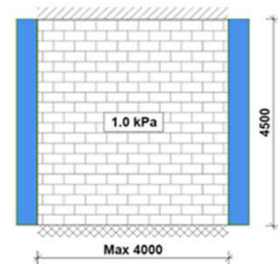
* Design Examples



Note:
Wi Columns provide simple support to panel



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Wi Columns provide simple support to panel



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Wi Columns provide simple support to panel

Notes:

The above tables are based on unreinforced walls and 7.3 N/mm², 1450 kg/m³ density Wi Slot Blocks.
 Maximum spacing valid for non-load bearing wall panels, simply supported on sides and top, fixed at the bottom.
 Based on vertical ties at 450 centres & head restraints at 900 centres as standard.
 Wall panels with openings have reduced capacity, maximum allowable spacing may change.
 These tables are for general guidance. Panel and Wi Column design should be completed by a qualified civil or structural engineer.

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High Performance Wi Column - Preliminary Design Tables Using Generic Blocks

Maximum spacing between Wi Columns

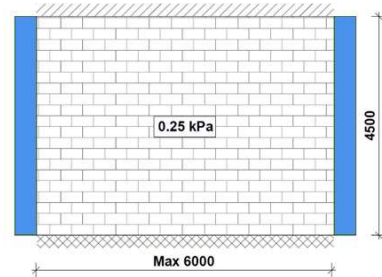
140mm Blockwork				
Wall panel height (mm)	Wind Load (kPa)			
	0.25	0.5	0.75	1
	Max. blockwork infill panel length (mm)			
2500	6000	6000	5000	3400
3000	6000	6000	3900	2900
3500	6000	5100	3400	2600
4000	6000	4400	3100	2500
4500	6000 *	4100	2900	2400
5000	5000	3900	2800	2300
5500	4200	3600	2700	2200
6000	4200	3500	2500	1900
6500	4200	3400	2200	1500
7000	4000	3200	1800	1200

190mm Blockwork				
Wall panel height (mm)	Wind Load (kPa)			
	0.25	0.5	0.75	1
	Max. blockwork infill panel length (mm)			
2500	6000	6000	6000	6000
3000	6000	6000	6000	4800
3500	6000	6000	5500	4000
4000	6000	6000	4700	3600
4500	6000	6000	4300	3300
5000	6000	5800	4000	3200
5500	6000	5500	3800	3100
6000	6000	5100 *	3500	2500
6500	6000	4900	3000	2000
7000	5700	4200	2400	1600

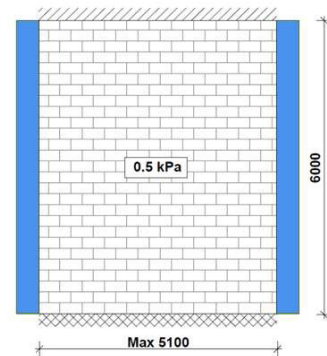
215mm Blockwork				
Wall panel height (mm)	Wind Load (kPa)			
	0.25	0.5	0.75	1
	Max. blockwork infill panel length (mm)			
2500	6000	6000	6000	6000
3000	6000	6000	6000	6000
3500	6000	6000	6000	4800
4000	6000	6000	5700	4200
4500	6000	6000	5000	3800 *
5000	6000	6000	4600	3600
5500	6000	6000	4300	3400
6000	6000	6000	4100	3300
6500	6000	5500	4000	3000
7000	6000	5400	3500	2500

Wi Columns and panel

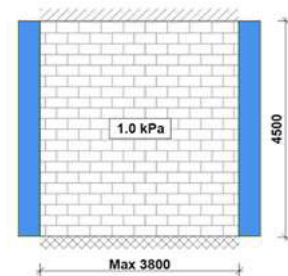
* Design Examples



Note:
Wi Columns provide simple support to panel



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Note:
Wi Columns provide simple support to panel

Notes:

The above tables are based on unreinforced walls and 7.3 N/mm², 1450 kg/m³ density generic concrete aggregate blocks.

Maximum spacing valid for non-load bearing wall panels, simply supported on sides and top, fixed at the bottom.

Based on vertical ties at 450 centres & head restraints at 900 centres as standard.

Wall panels with openings have reduced capacity, maximum allowable spacing may change.

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High Performance Wi Beam - Preliminary Design Tables using Wi Slot Blocks

Maximum panel sizes with single Wi Beam

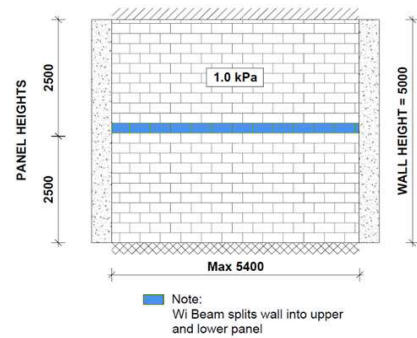
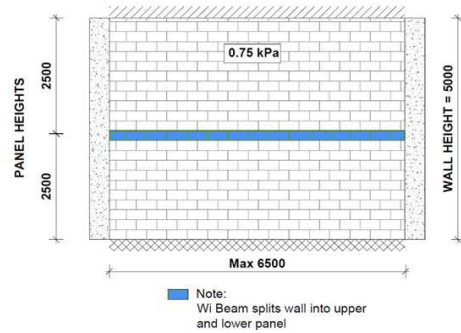
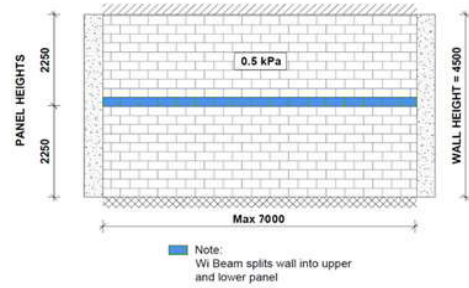
140mm Blockwork					
Wall height (mm)	Panel heights (mm)	Wind Load (kPa)			
		0.25	0.5	0.75	1
		Max. blockwork infill panel length (mm)			
2500	1250	11000	11000	11000	9000
3000	1500	11000	10000	9000	6800
3500	1750	11000	9000	7000	4100
4000	2000	11000	8000	5000	3400
4500	2250	11000	7000 *	4200	3000
5000	2500	11000	6000	3600	2800
5500	2750	11000	5000	3400	2600
6000	3000	11000	4500	3200	2500
6500	3250	10500	4250	3000	2400
7000	3500	9000	4000	2900	2400

190mm Blockwork					
Wall height (mm)	Panel heights (mm)	Wind Load (kPa)			
		0.25	0.5	0.75	1
		Max. blockwork infill panel length (mm)			
2500	1250	11000	11000	11000	11000
3000	1500	11000	11000	11000	10000
3500	1750	11000	11000	11000	9500
4000	2000	11000	11000	10500	7500
4500	2250	11000	11000	9000	5200
5000	2500	11000	11000	6500 *	4500
5500	2750	11000	11000	5500	4000
6000	3000	11000	9000	5000	3700
6500	3250	11000	7200	4500	3500
7000	3500	11000	7000	4300	3300

215mm Blockwork					
Wall height (mm)	Panel heights (mm)	Wind Load (kPa)			
		0.25	0.5	0.75	1
		Max. blockwork infill panel length (mm)			
2500	1250	11000	11000	11000	11000
3000	1500	11000	11000	11000	10000
3500	1750	11000	11000	11000	9500
4000	2000	11000	11000	10500	8000
4500	2250	11000	11000	10000	6500
5000	2500	11000	11000	9500	5400 *
5500	2750	11000	11000	7000	4800
6000	3000	11000	10500	6000	4300
6500	3250	11000	10000	5500	4000
7000	3500	11000	8000	5000	3800

Wall panel and Wi Beam

*Design Examples



Notes:

The above tables are based on unreinforced walls up to 7 m and incorporating 3.5 mm ϕ BJR at 450 centres for longer walls.

Based on 7.3 N/mm², 1450 kg/m³ density Wi Slot Blocks.

Maximum panel sizes valid for non-load bearing wall panels, simply supported on all four sides.

Based on vertical ties at 450 centres & head restraints at 900 centres as standard.

Wall panels with openings have reduced capacity, maximum panel size may change.

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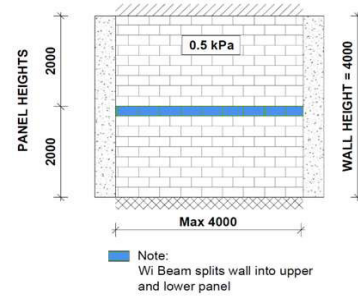
High Performance Wi Beam - Preliminary Design Tables using Wi Slot Blocks

Maximum panel sizes with single 100 Wi Beam

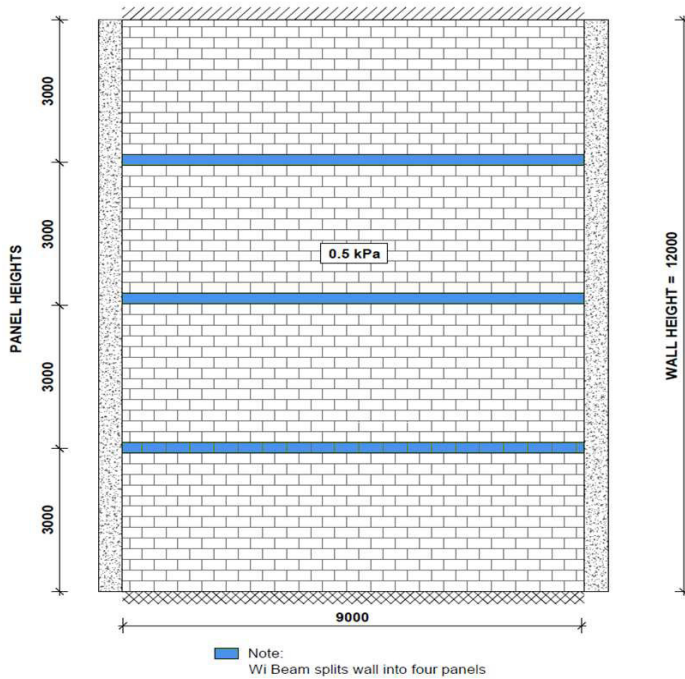
		100mm Blockwork			
Wall height (mm)	Panel heights (mm)	Wind Load (kPa)			
		0.25	0.5	0.75	1
		Max. blockwork infill panel length (mm)			
2500	1250	6000	6000	4000	3300
3000	1500	6000	5500	3500	2500
3500	1750	6000	5000	3000	2200
4000	2000	6000	4000 *	2600	2000
4500	2250	6000	3500	2400	1900
5000	2500	6000	3000	2200	1800

Wall panel and Wi Beam

*Design Example



Example using multiple 190 Wi Beams



Notes:

This example utilises 3 No. Wi Beams to laterally restrain a 190 mm wall 9 m long and 12 m high subject to a lateral pressure of 0.5 kPa.

The Wi Beams are checked against the allowable load tables for panel heights of 3m and length of 9 m.

The panels have been checked with the incorporation of 3.5 mm ϕ bed joint reinforcement at 450 centres.

Notes:

The above tables are based on unreinforced walls up to 7 m and incorporating 3.5 mm ϕ BJR at 450 centres for longer walls.

Based on 7.3 N/mm², 1450 kg/m³ density Wi Slot Blocks.

Maximum panel sizes valid for non-load bearing wall panels, simply supported on all four sides.

Based on vertical ties at 450 centres & head restraints at 900 centres as standard.

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