

Q-Lock®

*The First Choice in
Permanent Formwork*

Q-Lock® Product Information

- **Permanent formwork:**

- The perfect solution for saving time and money when casting suspended concrete floors.

- **Proprietary Q-Lock® interlocking system.**

- Fastest permanent formwork construction in the industry.
- Most secure connection between panels.
- No additional clips required.
- Suitable for installation by semi-skilled labour.

- **Features:**

- Q-Lock® saves time on erection.
- Q-Lock® supports the weight of wet concrete and construction load.
- Q-Lock® Completely removes the need for temporary formwork.
- No need for additional reinforcing steel when used according to the supplied loading tables. Ref 193 Mesh required only to prevent cracking.
- Suitable for use on steel, brick and concrete structures.
- Q-Lock® greatly reduces the number of temporary propping supports required.
- Q-Lock® is easy to transport, handle and install.

- **Product Material Specification:**

- ISQ 230 grade Z200 Galvanised Steel.

- **Design Information:**

- Q-Lock® panels can be used in conjunction with additional reinforcement to increase the moment of resistance.
- Design Methods for slabs where Q-Lock® is used is the same as for conventional slab design with the Q-Lock® panels providing the tensile reinforcement.
- The propping distances for Q-Lock® vary from 1.5M to 4.0M depending on the profile and material thickness. Unpropped distances are indicated in our loading tables.
- The calculations are based on the Limited State Method (SANS 10100-1: 2000)
- SA Designs No A2016 / 00936 and F2016 / 00937

Q-Lock® Product Range

The product range consists of a standard 260mm x 50mm profile complimented by an additional range of available profiles in four different material thicknesses to suit client needs.

Q-Lock profiles can be manufactured to any requirement within a 404mm girth of material.

For quick reference and convenience this brochure contains loading tables for the most commonly used profiles across all material thicknesses.

Standard Profile:



Special Profile Examples:



Q-Lock® 260/50 1.0mm Thick ISQ230 Z200 Galv Material

Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.

Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

Slab Depth mm	Dead Load kN/m ²	SPAN IN METERS											
		2	2.5	3	3.5	4	4.25	4.5	4.75	5	5.25	5.5	
Propping Distance 1.80M	100	2.6	13.1	10.1	7.7	5.1	3.1	2.2	1.5				
	110	2.72	14.5	11.2	8.7	5.8	3.9	2.9	2.1				
	120	2.95	15.8	12.2	9.6	6.4	4.4	3.6	2.6	1.8			
	130	3.19	17.1	13.2	10.5	7	4.8	4	3.3	2.4	1.7		
	140	3.42	18.4	14.2	11.4	7.7	5.3	4.4	3.6	3	2.3		
	150	3.66	19.8	15.3	12.2	8.3	5.7	4.7	3.9	3.2	2.6	2.1	
	160	3.89	21.1	16.3	13.1	8.9	6.1	5.1	4.2	3.5	2.9	2.3	
	170	4.13	22.4	17.3	13.9	9.5	6.5	5.4	4.5	3.7	3.1	2.5	
1.50M	180	4.36	23.7	18.3	14.7	10.1	7	5.8	4.8	4	3.3	2.7	
	190	4.6	25.1	19.4	15.6	10.7	7.4	6.1	5.1	4.2	3.5	2.8	2.3
	200	4.83	26.4	20.4	16.4	11.3	7.8	6.5	5.4	4.5	3.7	3	2.4

Figures below
Blue line is
likely to exceed
transverse
bowing

Q-Lock® 215/70 1.0mm Thick ISQ230 Z200 Galv Material

Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.

Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

Slab Depth mm	Dead Load kN/m ²	SPAN IN METERS											
		2	2.5	3	3.5	4	4.25	4.5	4.75	5	5.25	5.5	
Propping Distance 2.00M	120	2.95	15.8	12.2	9.6	6.4	4.4	3.6	2.6	1.8			
	130	3.19	17.1	13.2	10.5	7	4.8	4	3.3	2.4	1.7		
	140	3.42	18.4	14.2	11.4	7.7	5.3	4.4	3.6	3	2.3		
	150	3.66	19.8	15.3	12.2	8.3	5.7	4.7	3.9	3.2	2.6	2.1	
	160	3.89	21.1	16.3	13.1	8.9	6.1	5.1	4.2	3.5	2.9	2.3	
	170	4.13	22.4	17.3	13.9	9.5	6.5	5.4	4.5	3.7	3.1	2.5	
	180	4.36	23.7	18.3	14.7	10.1	7	5.8	4.8	4	3.3	2.7	
1.80M	190	4.6	25.1	19.4	15.6	10.7	7.4	6.1	5.1	4.2	3.5	2.8	2.3
	200	4.83	26.4	20.4	16.4	11.3	7.8	6.5	5.4	4.5	3.7	3	2.4

Figures below
Blue line is
likely to exceed
transverse
bowing

Q-Lock® 175/90 1.0mm Thick ISQ230 Z200 Galv Material

Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.

Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

Slab Depth mm	Dead Load kN/m ²	SPAN IN METERS											
		2	2.5	3	3.5	4	4.25	4.5	4.75	5	5.25	5.5	
Propping Distance 2.50M	140	3.42	18.4	14.2	11.4	7.7	5.3	4.4	3.6	3	2.3		
	150	3.66	19.8	15.3	12.2	8.3	5.7	4.7	3.9	3.2	2.6	2.1	
	160	3.89	21.1	16.3	13.1	8.9	6.1	5.1	4.2	3.5	2.9	2.3	
	170	4.13	22.4	17.3	13.9	9.5	6.5	5.4	4.5	3.7	3.1	2.5	
	180	4.36	23.7	18.3	14.7	10.1	7	5.8	4.8	4	3.3	2.7	
	190	4.6	25.1	19.4	15.6	10.7	7.4	6.1	5.1	4.2	3.5	2.8	2.3
	200	4.83	26.4	20.4	16.4	11.3	7.8	6.5	5.4	4.5	3.7	3	2.4

Figures below
Blue line is
likely to exceed
transverse
bowing

Loads in Green determined by the bond.

Loads in Pink determined by the moment of resistance

Loads in Blue determined by deflection under total load (Span/250) or deflection under live load (Span/350) but ≤ 20mm

Bold Red line indicates maximum Span/Depth ratio @ 30

Q-Lock® 260/50 1.2mm Thick ISQ230 Z200 Galv Material

Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.

Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

Slab depth (mm)	Dead load kN/m ²	SPAN IN METERS														
			2	2.5	3	3.5	4	4.25	4.5	4.75	5	5.25	5.5	5.75	6	
Propping distance 1.80M	100	2.62		13	10	8	6.2	3.5	2.6	1.8						
	110	2.74		14.4	11.1	8.9	7.2	4.3	3.2	2.3						
	120	2.98		15.8	12.2	9.8	8	5.2	3.9	2.9	2.1					
	130	3.21		17.1	13.2	10.6	8.7	6.2	4.8	3.6	2.7	1.9				
	140	3.45		18.4	14.2	11.4	9.4	6.7	5.7	4.5	3.4	2.5	1.7			
	150	3.68		19.7	15.2	12.2	10.1	7.3	6.1	5.2	4.3	3.2	2.3	1.6		
	160	3.92		21.1	16.3	13.1	10.8	7.8	6.6	5.6	4.7	3.9	3	2.2		
	170	4.15		22.4	17.3	13.9	11.5	8.4	7.1	6	5	4.2	3.6	2.9	2.1	
	180	4.39		23.7	18.3	14.7	12.1	8.9	7.5	6.4	5.4	4.5	3.8	3.2	2.6	
	190	4.62		25	19.3	15.5	12.8	9.5	8	6.8	5.7	4.8	4	3.4	2.8	2.3
	200	4.86		26.4	20.4	16.4	13.5	10	8.5	7.2	6	5.1	4.3	3.6	3	2.4
	210	5.1		27.7	21.4	17.2	14.2	10.6	8.9	7.5	6.4	5.4	4.5	3.8	3.1	2.6
220	5.33		29	22.4	18	14.9	11.1	9.4	7.9	6.7	5.7	4.8	4	3.3	2.7	
230	5.57		30.3	23.4	18.8	15.5	11.7	9.9	8.3	7.1	6	5	4.2	3.5	2.9	
240	5.8		31.7	24.5	19.7	16.2	12.2	10.3	8.7	7.4	6.3	5.3	4.4	3.7	3	

Figures below Blue line is likeley to exceed transverse bowing

Q-Lock® 215/70 1.2mm Thick ISQ230 Z200 Galv Material

Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.

Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

Slab depth (mm)	Dead load kN/m ²	SPAN IN METERS														
			2	2.5	3	3.5	4	4.25	4.5	4.75	5	5.25	5.5	5.75	6	
Propping distance 2.50M	120	2.98		15.8	12.2	9.8	8	5.2	3.9	2.9	2.1					
	130	3.21		17.1	13.2	10.6	8.7	6.2	4.8	3.6	2.7	1.9				
	140	3.45		18.4	14.2	11.4	9.4	6.7	5.7	4.5	3.4	2.5	1.7			
	150	3.68		19.7	15.2	12.2	10.1	7.3	6.1	5.2	4.3	3.2	2.3	1.6		
	160	3.92		21.1	16.3	13.1	10.8	7.8	6.6	5.6	4.7	3.9	3	2.2		
Propping distance 2.0M	170	4.15		22.4	17.3	13.9	11.5	8.4	7.1	6	5	4.2	3.6	2.9	2.1	
	180	4.39		23.7	18.3	14.7	12.1	8.9	7.5	6.4	5.4	4.5	3.8	3.2	2.6	
	190	4.62		25	19.3	15.5	12.8	9.5	8	6.8	5.7	4.8	4	3.4	2.8	2.3
	200	4.86		26.4	20.4	16.4	13.5	10	8.5	7.2	6	5.1	4.3	3.6	3	2.4
	210	5.1		27.7	21.4	17.2	14.2	10.6	8.9	7.5	6.4	5.4	4.5	3.8	3.1	2.6
	220	5.33		29	22.4	18	14.9	11.1	9.4	7.9	6.7	5.7	4.8	4	3.3	2.7
	230	5.57		30.3	23.4	18.8	15.5	11.7	9.9	8.3	7.1	6	5	4.2	3.5	2.9
	240	5.8		31.7	24.5	19.7	16.2	12.2	10.3	8.7	7.4	6.3	5.3	4.4	3.7	3

Figures below Blue line is likeley to exceed transverse bowing

Q-Lock® 175/90 1.2mm Thick ISQ230 Z200 Galv Material

Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.

Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

Slab depth (mm)	Dead load kN/m ²	SPAN IN METERS														
			2	2.5	3	3.5	4	4.25	4.5	4.75	5	5.25	5.5	5.75	6	
Propping distance 3.0M	140	3.45		18.4	14.2	11.4	9.4	6.7	5.7	4.5	3.4	2.5	1.7			
	150	3.68		19.7	15.3	12.2	10.1	7.3	6.1	5.2	4.3	3.2	2.3	1.6		
	160	3.92		21.1	16.3	13.1	10.8	7.8	6.6	5.6	4.7	3.9	3	2.2		
	170	4.15		22.4	17.3	13.9	11.5	8.4	7.1	6	5	4.2	3.6	2.9	2.1	
	180	4.39		23.7	18.3	14.7	12.1	8.9	7.5	6.4	5.4	4.5	3.8	3.2	2.6	
	190	4.62		25	19.4	15.6	12.8	9.5	8	6.8	5.7	4.8	4	3.4	2.8	2.3
	200	4.86		26.4	20.4	16.4	13.5	10	8.5	7.2	6	5.1	4.3	3.6	3	2.4
	210	5.1		27.7	21.4	17.2	14.2	10.6	8.9	7.5	6.4	5.4	4.5	3.8	3.1	2.6
	220	5.33		29	22.4	18	14.9	11.1	9.4	7.9	6.7	5.7	4.8	4	3.3	2.7
	2.50M	230	2.57		30.3	23.4	18.8	15.5	11.7	9.9	8.3	7.1	6	5	4.2	3.5
240		5.8		31.7	24.5	19.7	16.2	12.2	10.3	8.7	7.4	6.3	5.3	4.4	3.7	3

Figures below Blue line is likeley to exceed transverse bowing

Loads in Green determined by the bond.

Loads in Pink determined by the moment of resistance

Loads in Blue determined by deflection under total load (Span/250) or deflection under live load (Span/350) but ≤ 20mm

Bold Red line indicates maximum Span/Depth ratio @ 30

Q-Lock® 260/50 1.6mm Thick ISQ230 Z200 Galv Material
 Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.
 Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

	Slab depth mm	Dead load kN/M ²	SPAN IN METERS									
				2	2.5	3	3.5	4	4.5	5	5.5	6
Propping distance 1.80M	100	2.66		13	10	8	6.6	3.9	2			
	110	2.78		14.4	11.1	8.9	7.3	4.7	2.6			
	120	3.01		15.7	12.1	9.7	8	5.6	3.1			
	130	3.25		17.1	13.2	10.6	8.7	6.7	3.9	2.1		
	140	3.49		18.4	14.2	11.4	9.4	7.9	4.8	2.7		
	150	3.72		19.7	15.2	12.2	10.1	8.5	5.9	3.4		
	160	3.96		21	16.2	13	10.7	9	6.8	5	3.6	2.2
	170	4.19		22.4	17.3	13.9	11.4	9.6	7.3	5.3	3.9	2.6
	180	4.43		23.7	18.3	14.7	12.1	10.2	7.8	5.7	4.1	3
Propping distance 1.50M	190	4.66		25	19.3	15.5	12.8	10.7	8.3	6.1	4.4	3.1
	200	4.9		26.3	20.3	16.3	13.5	11.3	8.8	6.4	4.7	3.4
	220	5.33				18	14.8	12.5	9.8	7.2	5.2	3.7
	240	5.85				19.6	16.2	13.6	10.8	7.9	5.8	4.1
	260	6.09				21.3	17.5	14.8	11.8	8.6	6.3	4.6

Q-Lock® 215/70 1.6mm Thick ISQ230 Z200 Galv Material
 Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.
 Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

	Slab depth mm	Dead load kN/M ²	SPAN IN METERS									
				2	2.5	3	3.5	4	4.5	5	5.5	6
Propping distance 3.0M	120	3.01		15.7	12.1	9.7	8	5.6	3.1			
	130	3.25		17.1	13.2	10.6	8.7	6.7	3.9	2.1		
	140	3.49		18.4	14.2	11.4	9.4	7.9	4.8	2.7		
	150	3.66		19.7	15.2	12.2	10.1	8.5	5.9	3.4		
	160	3.89		21	16.2	13	10.7	9	6.8	5	3.6	2.2
	170	4.13		22.4	17.3	13.9	11.4	9.6	7.3	5.3	3.9	2.6
	180	4.36		23.7	18.3	14.7	12.1	10.2	7.8	5.7	4.1	3
Propping distance 2.50M	190	4.6		25	19.3	15.5	12.8	10.7	8.3	6.1	4.4	3.1
	200	4.83		26.3	20.3	16.3	13.5	11.3	8.8	6.4	4.7	3.4
	220	5.33				18	14.8	12.5	9.8	7.2	5.2	3.7
	240	5.85				19.6	16.2	13.6	10.8	7.9	5.8	4.1
	260	6.09				21.3	17.5	14.8	11.8	8.6	6.3	4.6

Q-Lock® 175/90 1.6mm Thick ISQ230 Z200 Galv Material
 Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.
 Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

	Slab depth mm	Dead load kN/M ²	SPAN IN METERS									
				2	2.5	3	3.5	4	4.5	5	5.5	6
Propping distance 4.0M	150	3.66		19.7	15.2	12.2	10.1	8.5	5.9	3.4		
	160	3.89		21	16.2	13	10.7	9	6.8	5	3.6	2.2
	170	4.13		22.4	17.3	13.9	11.4	9.6	7.3	5.3	3.9	2.6
	180	4.36		23.7	18.3	14.7	12.1	10.2	7.8	5.7	4.1	3
Propping distance 3.5M	190	4.6		25	19.3	15.5	12.8	10.7	8.3	6.1	4.4	3.1
	200	4.83		26.3	20.3	16.3	13.5	11.3	8.8	6.4	4.7	3.4
	220	5.33				18	14.8	12.5	9.8	7.2	5.2	3.7
	240	5.85				19.6	16.2	13.6	10.8	7.9	5.8	4.1
Propping distance 3.0M	260	6.32				21.3	17.5	14.8	11.8	8.6	6.3	4.6
	280	6.79				22.9	18.9	15.9	12.8	9.4	6.9	5
	300	7.26				24.6	20.3	17.1	13.8	10.1	7.4	5.4

Lloads in Green determined by the bond.

Lloads in Pink determined by the moment of resistance

Lloads in Blue determined by deflection under total load (Span/250) or deflection under live load (Span/350) but ≤

Bold Red line indicates maximum Span/Depth ratio @ 30

Q-Lock® 260/50 1.9mm Thick ISQ230 Z200 Galv Material

Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.
Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

Slab depth mm	Dead load kN/M ²	SPAN IN METERS										
			2	2.5	3	3.5	4	4.5	5	5.5	6	
Propping distance 1.80M	100	2.7		13	10	8	6.5	4.2	2.3			
	110	2.8		14.4	11.1	8.9	7.3	5.1	2.8			
	120	3.1		15.7	12.1	9.7	8	6	3.4			
	130	3.25		17	13.1	10.5	8.7	7.2	4.2	2.3		
	140	3.49		18.4	14.2	11.4	9.4	7.9	4.8	2.7		
	150	3.66		19.7	15.2	12.2	10.1	8.4	6.3	3.7		
	160	3.89		21	16.2	13	10.7	9	7.6	4.6		
	170	4.13		22.3	17.2	13.8	11.4	9.6	8.2	5.7		
	180	4.36		23.7	18.3	14.7	12.1	10.2	8.7	6.9	5.2	
	190	4.6		25	19.3	15.5	12.8	10.7	9.1	7.9	5.2	5
	200	4.83		26.3	20.3	16.3	13.4	11.3	9.6	8.3	6.4	5
	220	5.42						12.4	10.6	9.1	7.4	5.5
240	5.9						13.6	11.6	10	8.1	6.1	
260	6.37						14.7	12.6	10.8	8.9	6.7	

Q-Lock® 215/70 1.9mm Thick ISQ230 Z200 Galv Material

Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.
Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

Slab depth mm	Dead load kN/M ²	SPAN IN METERS										
			2	2.5	3	3.5	4	4.5	5	5.5	6	
Propping distance 3.0M	120	3.1		15.7	12.1	9.7	8	6	3.4			
	130	3.3		17	13.1	10.5	8.7	7.2	4.2	2.3		
	140	3.5		18.4	14.2	11.4	9.4	7.9	4.8	2.7		
	150	3.8		19.7	15.2	12.2	10.1	8.4	6.3	3.7		
	160	4		21	16.2	13	10.7	9	7.6	4.6		
	170	4.2		22.3	17.2	13.8	11.4	9.6	8.2	5.7		
	180	4.5		23.7	18.3	14.7	12.1	10.2	8.7	6.9	5.2	
	190	4.7		25	19.3	15.5	12.8	10.7	9.1	7.9	5.2	5
	200	4.9		26.3	20.3	16.3	13.4	11.3	9.6	8.3	6.4	5
	220	5.42						12.4	10.6	9.1	7.4	5.5
	240	5.9						13.6	11.6	10	8.1	6.1
	260	6.37						14.7	12.6	10.8	8.9	6.7

Q-Lock® 175/90 1.9mm Thick ISQ230 Z200 Galv Material

Load Tables for Q-Lock® Composite Slab Without Reinforcement Propped During Construction.
Maximum Uniformly Distributed Superimposed Load (Inclusive of Finishes) in KN/M²

Slab depth mm	Dead load kN/M ²	SPAN IN METERS										
			2	2.5	3	3.5	4	4.5	5	5.5	6	
Propping distance 4.0m	140	3.5		18.4	14.2	11.4	9.4	7.9	4.8	2.7		
	150	3.8		19.7	15.2	12.2	10.1	8.4	6.3	3.7		
	160	4		21	16.2	13	10.7	9	7.6	4.6		
	170	4.2		22.3	17.2	13.8	11.4	9.6	8.2	5.7		
	180	4.5		23.7	18.3	14.7	12.1	10.2	8.7	6.9	5.2	
	190	4.7		25	19.3	15.5	12.8	10.7	9.1	7.9	5.2	5
	200	4.9		26.3	20.3	16.3	13.4	11.3	9.6	8.3	6.4	5
Propping distance 3.5M	220	5.42						12.4	10.6	9.1	7.4	5.5
	240	5.9						13.6	11.6	10	8.1	6.1
	260	6.37						14.7	12.6	10.8	8.9	6.7
	280	6.84						15.9	13.5	11.7	9.7	7.3
	300	7.31						17	14.5	12.5	10.5	7.9

Lloads in Greendetermined by the bond.

Lloads in Pink determined by the moment of

Lloads in Blue determined by deflection under total load (Span/250) or deflection under live load (Span/350) but ≤

Bold Red line indicates maximum Span/Depth

Q-Lock® Installation Notes

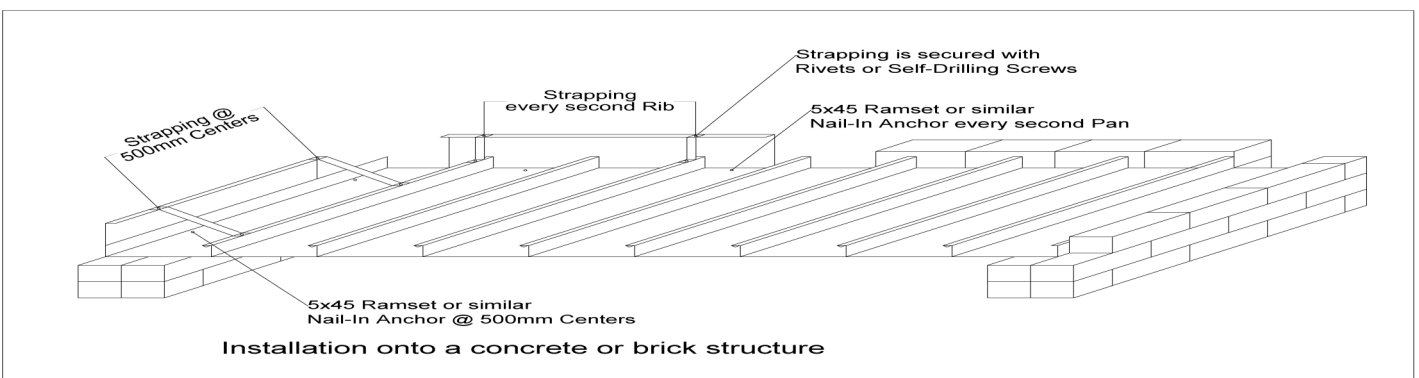
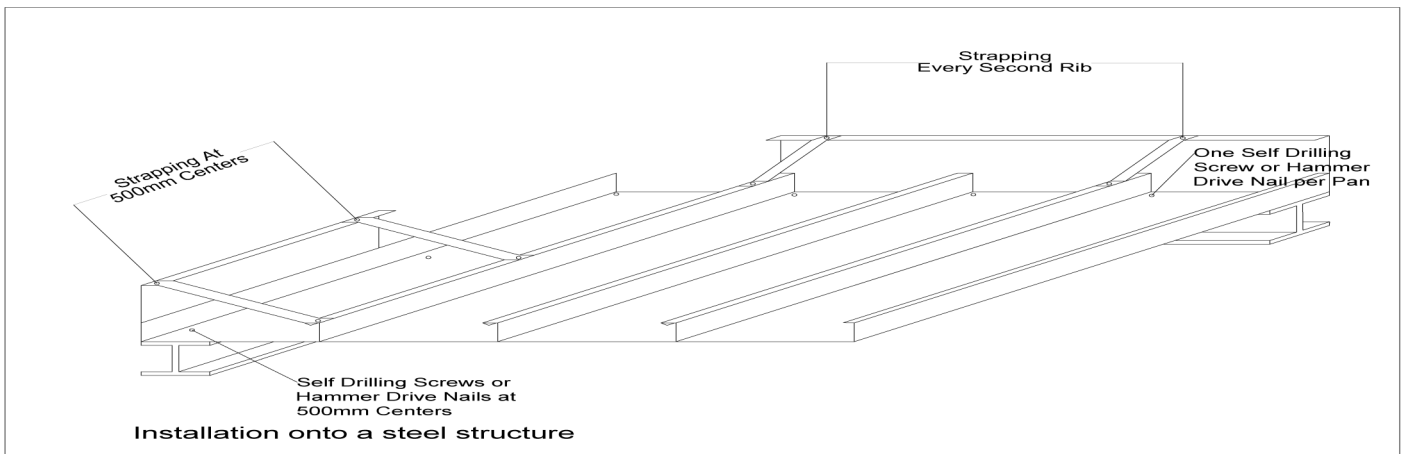
Q-Lock® panels are designed to interlock and require no further fastening between panels.

Steel:

- When installed onto a steel structure the panels are secured to the structure on every beam in every Q-Lock® pan by means of a suitable self-drilling or hammer drive screw or nail.
- A minimum 50mm end bearing is required for installation onto a steel structure.

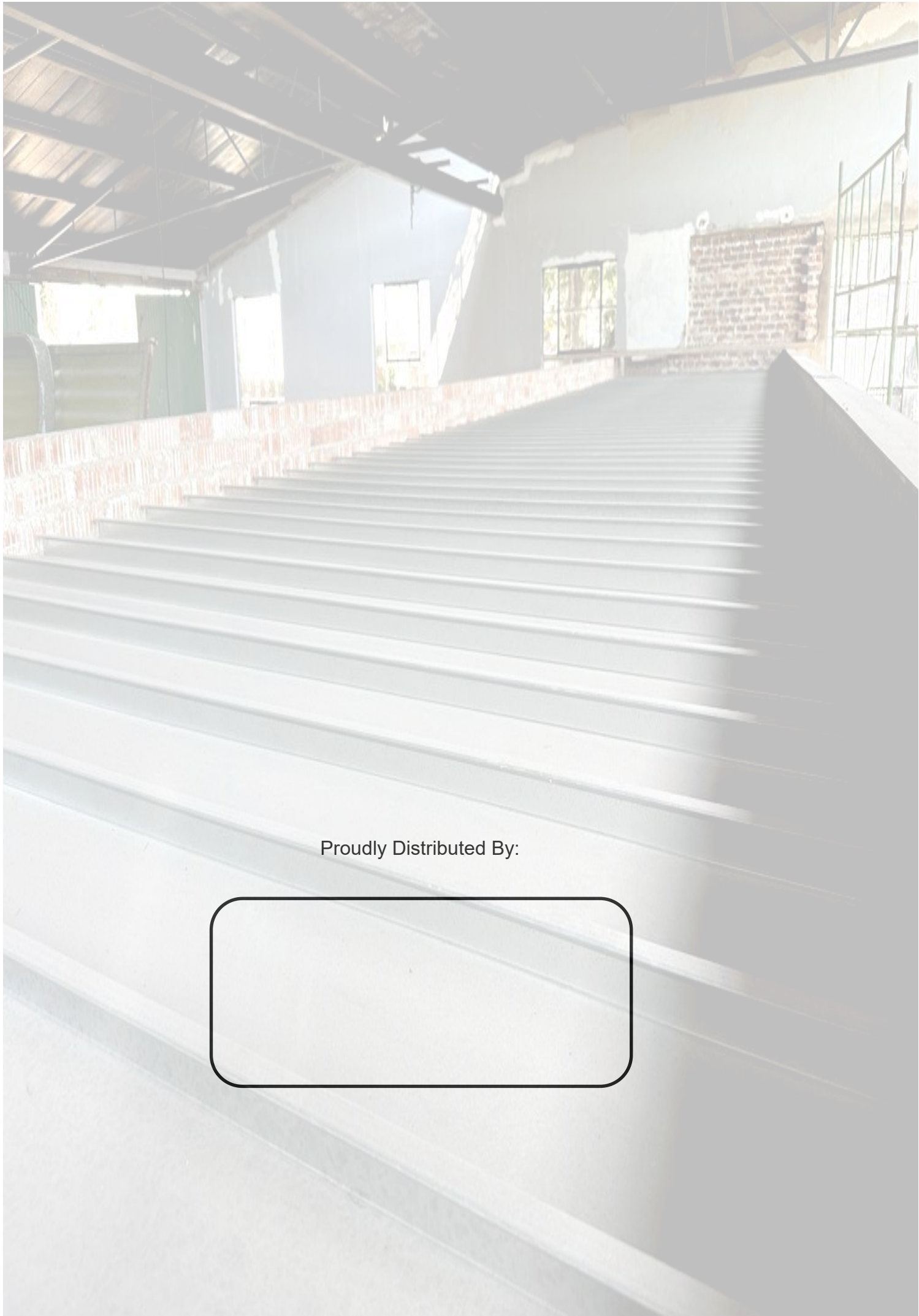
Concrete:

- When installed onto a concrete or brick structure the lower lip of any flashing is secured by means of nail-in or similar concrete fasteners at 500mm centers.
- The Q-Lock® panels do not require any fastening to a concrete or brick structure.
- A minimum 75mm end bearing is required for installation onto a concrete or brick structure.



Guidelines to Recommended Design Imposed Loads

Building Type	Intensity of distributed load	
	kN/M ²	Kgf/M ²
Banking halls	4.0	408
Colleges		
Assembly area without fixed seating	5.0	510
Classrooms, lecture theatres	3.0	204
Dining rooms, kitchens	3.0	306
Dormitories	1.5	153
Gymnasiums	5.0	510
Libraries	5.0	510
Stairs, corridors	3.0	306
Light workshops	3.0	306
Factories, workshops and similar buildings	5.0 or	510 or
	7.5 or	765 or
	10.0	1020
Flats and houses	1.5	153
Garages		
Car parking only for passenger vehicles and light vans NOT exceeding 2500Kg (2.5 Ton gross)	2.0	204
Repair workshops for all types of vehicles and parking for unloaded vehicles exceeding 2500Kg (2.5 Ton gross)	5.0	510
Offices		
Filing and storage spaces	5.0	510
General use offices	2.5	255
Lightweight partitions	1.0	102
Corridors, lobbies	3.0	306
Shop floors		
For the sale and display of merchandise	4.0	408



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