

# **C-JOIST® -PCF**

**FLOOR AND ROOF SYSTEM**



**Brace up for  
a cutting-edge  
construction system**

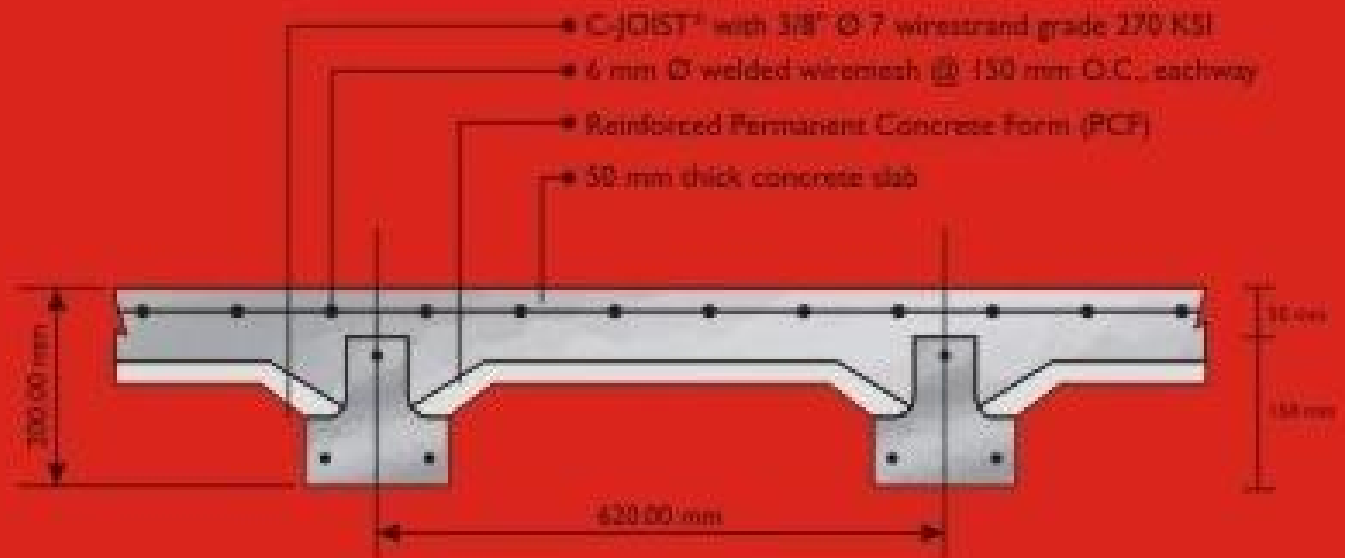
- Accelerates construction
- Renders wooden formworks useless
- Reduces labor requirement on concrete slab construction



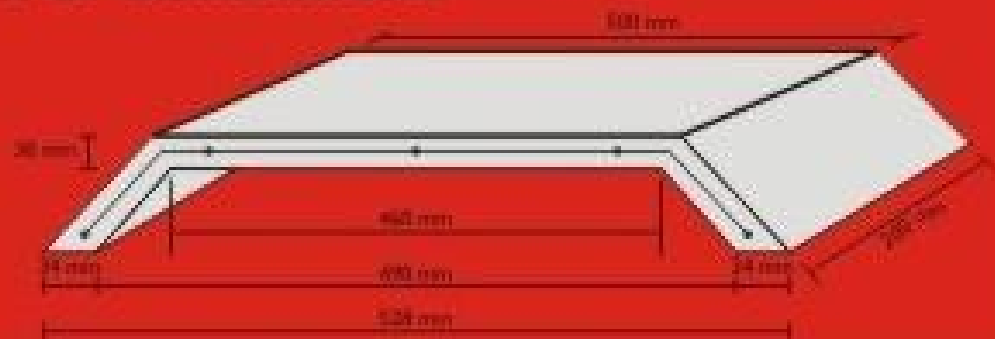
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# C-JOIST®-PCF



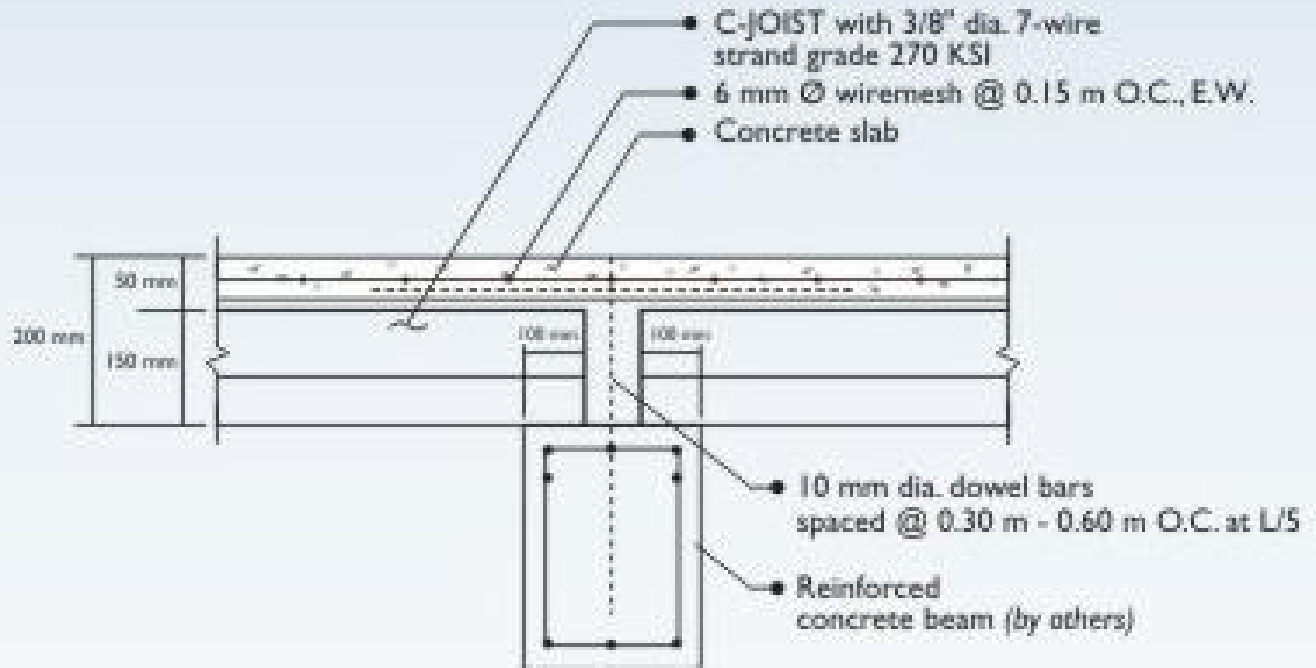
## PCF Dimensions



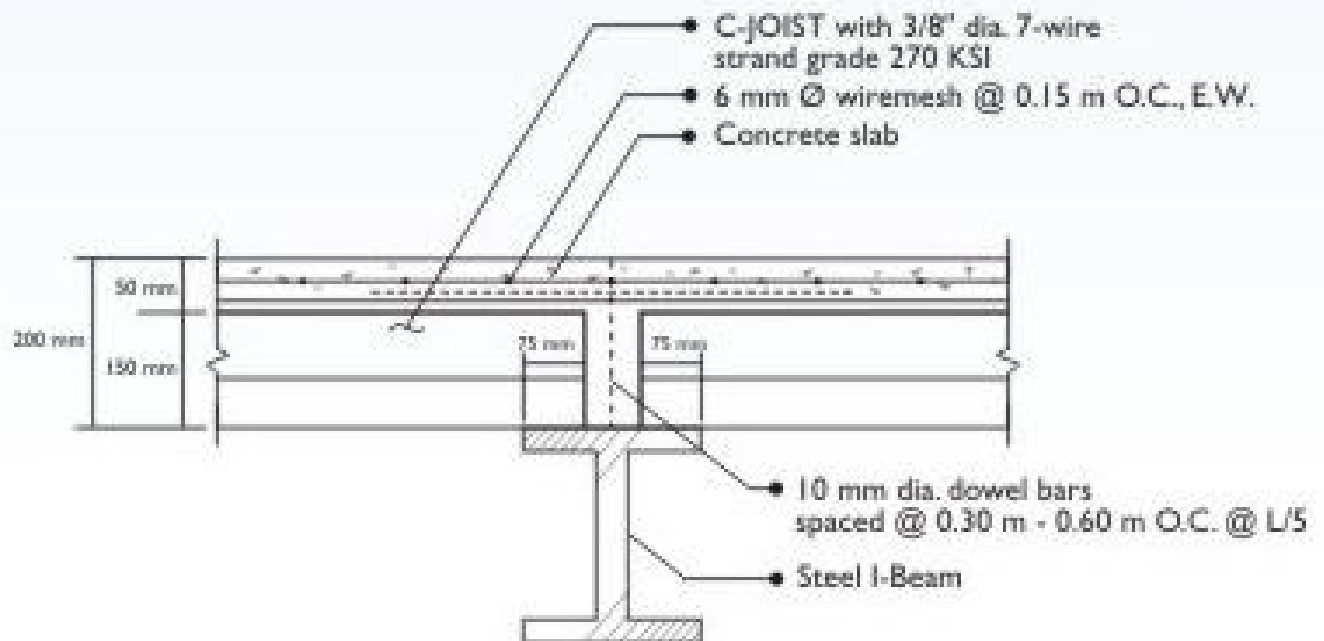
## TECHNICAL DATA

TOTAL DEAD LOAD	46.35 lbs / ft <sup>2</sup>
VOLUME OF CONCRETE SLAB	0.085 m <sup>3</sup> / sq. m
WEIGHT OF STEEL REINFORCEMENT	3.11 kgs / sq. m
C-JOIST PER SQUARE METER	1.62 lm
NO. OF PCF PER LINEAR METER	5 pcs
WEIGHT OF PCF PER PIECE	7.5 kilos

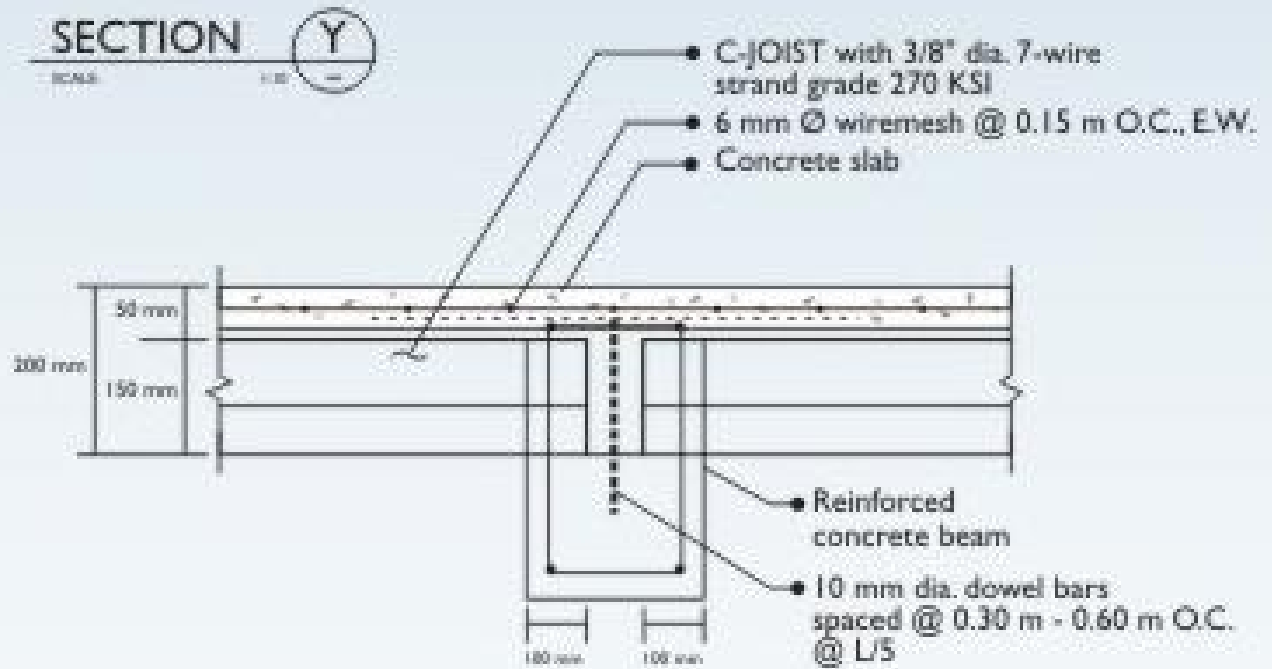
# TYPICAL DETAILS OF CONNECTIONS



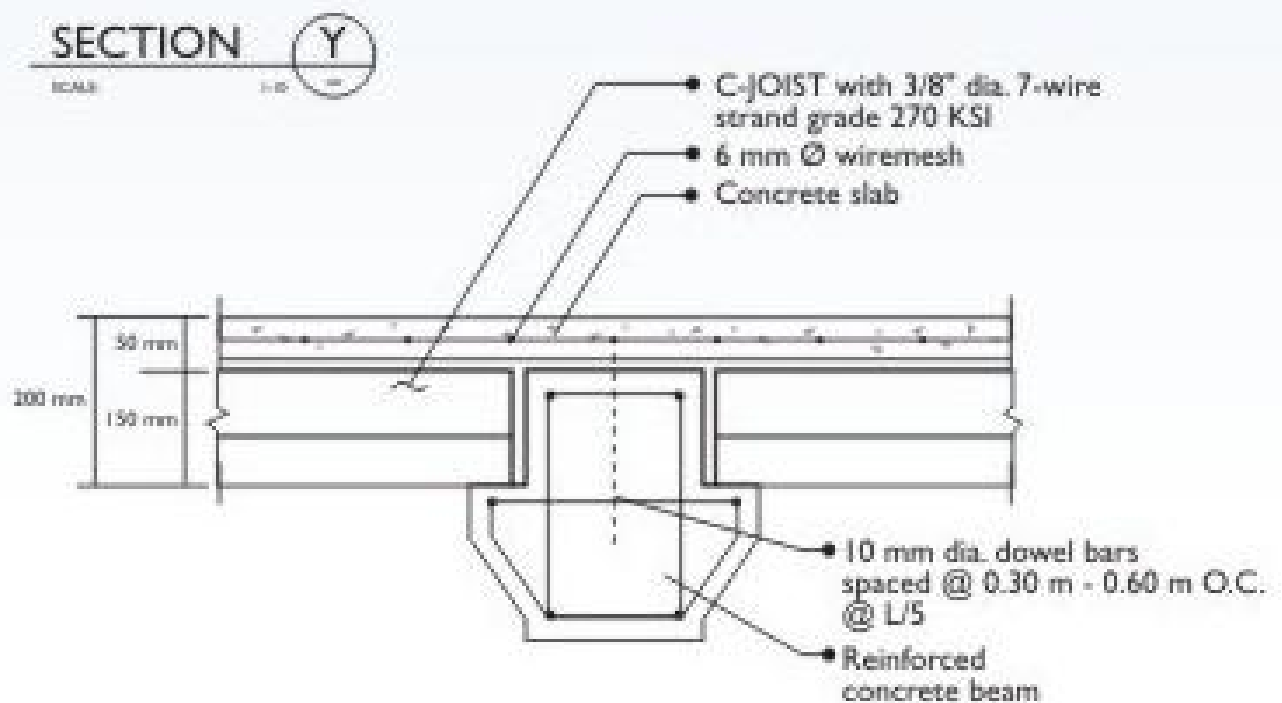
## C-JOIST on Top of Beam



## C-JOIST on Steel I-Beam



### C-JOIST Integrated at Beam



### C-JOIST on Corbel Type Beam



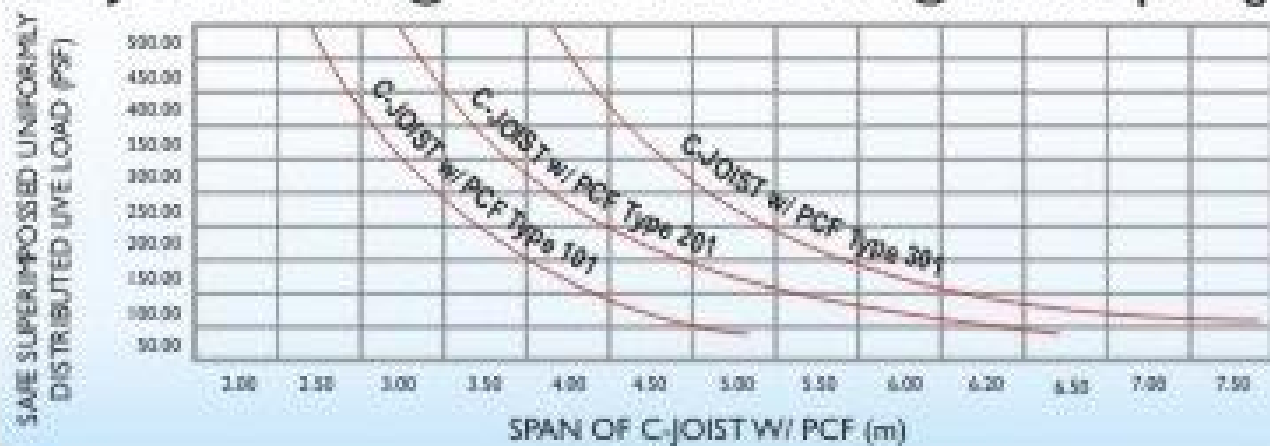
# DESIGN DATA

## Ultimate Moment Capacity

TYPE	CJ - 101 Kn-m	CJ - 201 Kn-m	CJ - 301 Kn-m
C-JOIST w/ 50 mm Concrete Slab	21.33 Kn-m	34.63 Kn-m	46.95 Kn-m
C-JOIST w/ 75 mm Concrete Slab	24.87 Kn-m	39.88 Kn-m	53.91 Kn-m

## Load-Span Analysis

### C-JOIST w/ PCF @ 0.05 m Concrete Slab @ 0.62 m Spacing



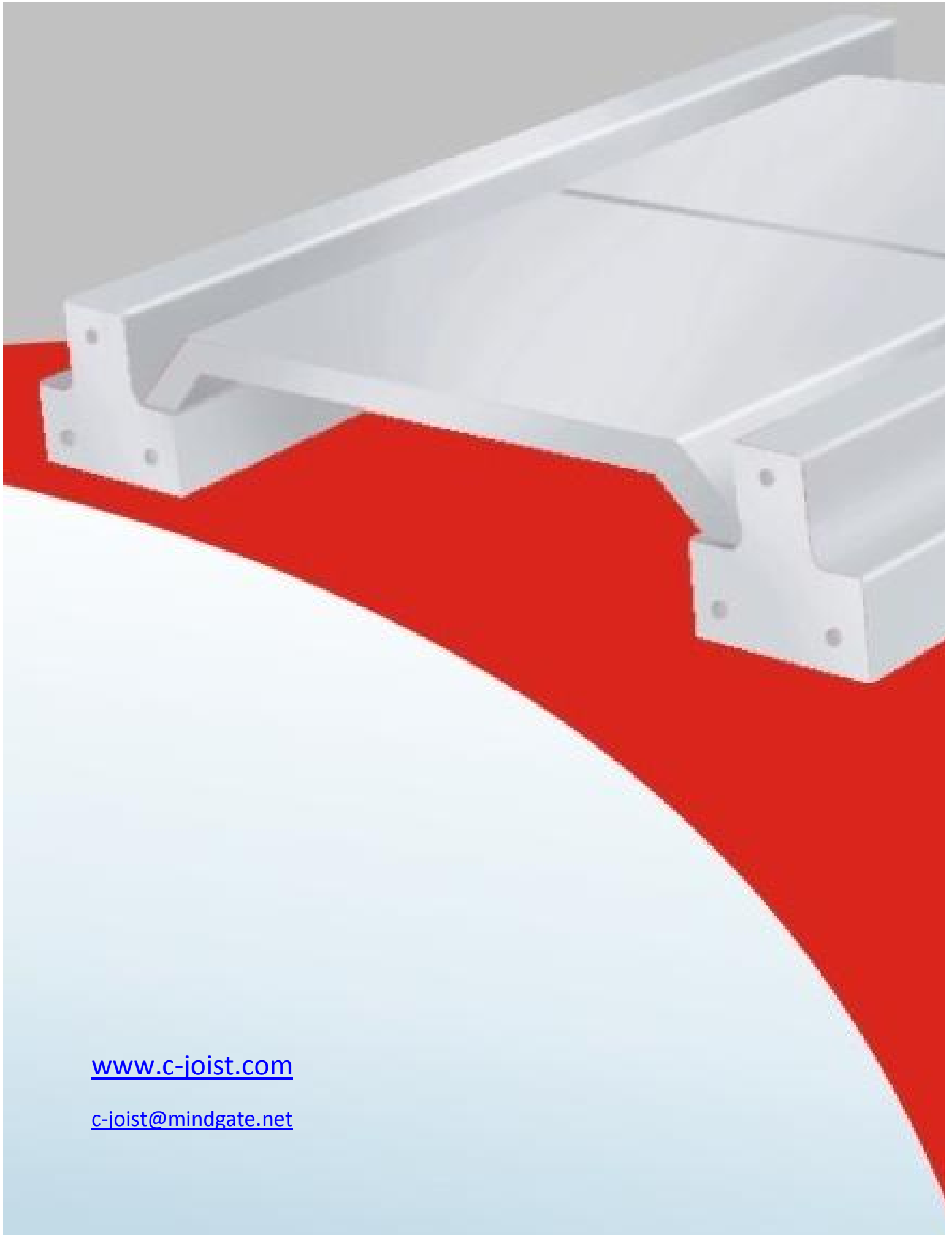
### C-JOIST w/ PCF - Type 201 @ 0.075 m Concrete Slab @ 0.62 m Spacing Mu = 39.88 Kn/m

Span (L) (M)	Wu Kn/m	Wll Kn/m	LL Kn/sq.m	LL lbs/sq.ft
2.00	79.76	44.03	71.01	1,486.97
2.50	51.05	27.14	43.77	916.52
3.00	35.45	17.96	28.97	606.64
3.50	26.04	12.43	20.05	419.79
4.00	19.94	8.84	14.26	298.52
4.50	15.76	6.38	10.28	215.38
5.00	12.76	4.62	7.45	155.91
5.50	10.55	3.31	5.34	111.91
6.00	8.86	2.32	3.75	78.44
6.50	7.55	1.55	2.50	52.39

# Installation Guide of C-JOIST - PCF

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- 1 C-JOISTS delivered on site are installed manually using hoisting equipment.
- 2 C-JOISTS are then laid on top of beams (concrete or steel I-beams). Minimum of 4 inches seating clearance on concrete beams and at least 3 inches bearing capacity for steel I-beams. It is then laid out on its specified spacing.
- 3 After setting up of C-JOISTS in its final spacing, PCF are then placed on top of C-JOISTS shoulder in between distances. It is laid piece per piece starting on the interior face of the beam up to the other end of the span.
- 4 Dowel bars on beams are required as shear connectors. Minimum of 10 mm diameter spaced at a minimum of 0.30 m to a maximum of 0.60 m with about L/5 bend development length.
- 5 Installation of temperature slab reinforcement of 6 mm diameter @ 0.15 m.o.c., b.w., welded wiremesh or equivalent. Temperature bars are placed  $d/2$  of the slab thickness specified.
- 6 Concrete pouring of slab at least 3,000 psi compressive strength @ 28th days. Minimum of 2 inches on top of C-JOIST to a maximum of 3 inches structural slab topping.
- 7 Shoring for C-JOIST: For C-JOIST 2.50 m span and below, no more shoring is needed. For above 2.50 m up to 5.00 m length, midspan shoring is required. While for C-JOIST above 5.00 m span, quarter spacing of shoring is needed.  
*Note: After 7 days of pouring, shorings can be removed.*
- 8 Electrical utilities are installed in a manner similar to that of the conventional system.



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