www.c-joist.com

# CONCRETE VENTURES GROUP, INC.

PRESTRESSED C-JOIST • FLOOR & ROOF SLAB SYSTEM

(632) 8723 4922 contact@c-joist.com @concreteventuresgroupinc @concrete.ventures

# Leading manufacturer of precast and pre-stressed concrete joists

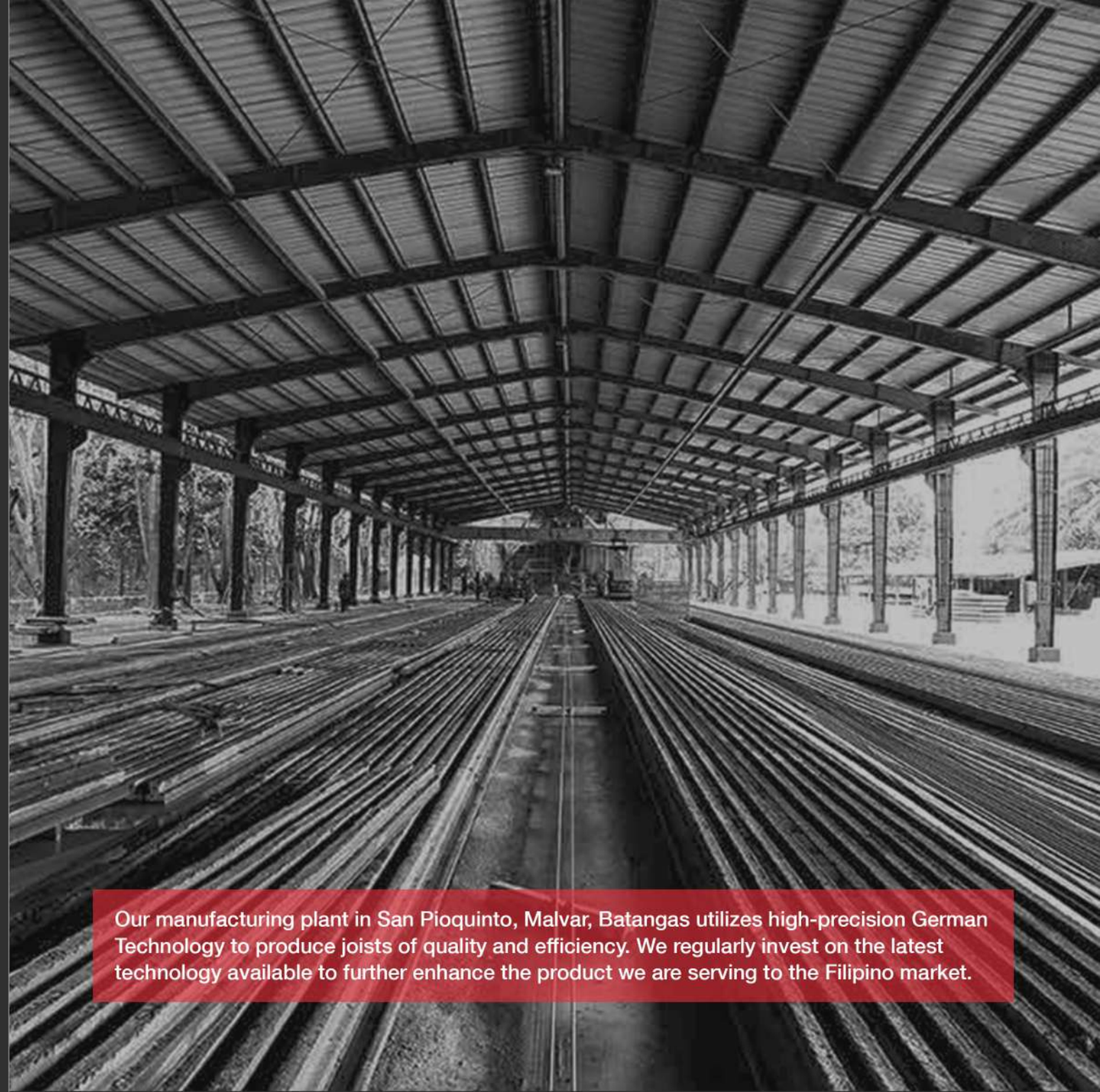
Our pre-cast concrete joists have been used by the building industry for three decades. Architects, engineers, builders, and developers favour our products because of its unmatched quality in the Philippines.

Our growth and success is a direct result of the innovativeness and tenacity of our founder and chairman, Mr. Charlie Aniceto V. Gorayeb. His expertise in the construction industry combined with his patience, hard work, and wholehearted dedication to Concrete Ventures Group, Inc. has been proven effective since our founding in 1990.

# Local Manufacturing.

## Up to 50,000 linear meters a month.

C-JOIST®



Our manufacturing plant in San Pioquinto, Malvar, Batangas utilizes high-precision German Technology to produce joists of quality and efficiency. We regularly invest on the latest technology available to further enhance the product we are serving to the Filipino market.

C-JOIST™

# Configurations

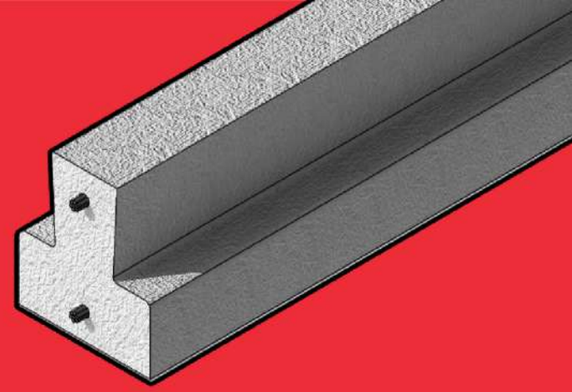
C-Joist is a precast and prestressed concrete joist designed as an alternative product to floor and roof slab systems. It has a compressive strength of 5,500psi and is equipped with pre-tensioned tendons as reinforcements to support longer spans.

- C-Joist Type 101 has 2-sets of 7-wire, high tensile strength, prestressed wires used for light loads of short to long spans.
  (e.g., residential and light commercial)

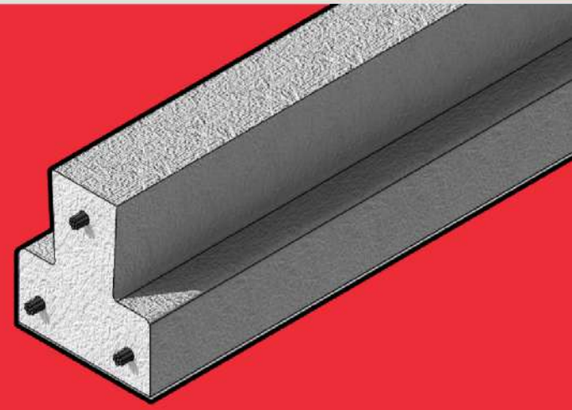
- C-Joist Type 201 has 3-sets of 7-wire, high tensile strength, prestressed wires used for heavier loads of mid to longer spans.
  (e.g., commercial, heavy residential, institutional, government/public buildings)

- C-Joist Type 301 has 4-sets of 7-wire, high tensile strength, prestressed wires used for heavy loads of 6-6.5m in span.
  (e.g., heavy commercial, industrial loading, essential facilities)

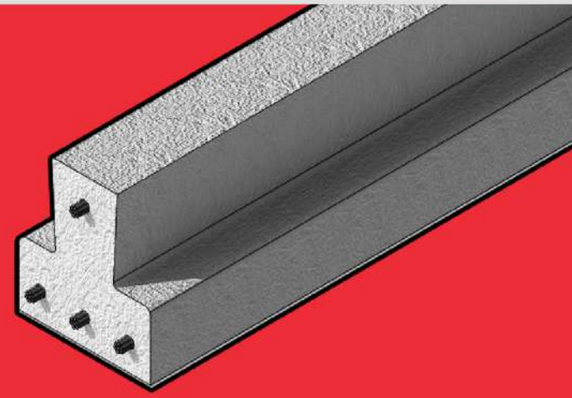
Type
101



Type
201



Type
301



# Three products.
# One brand.

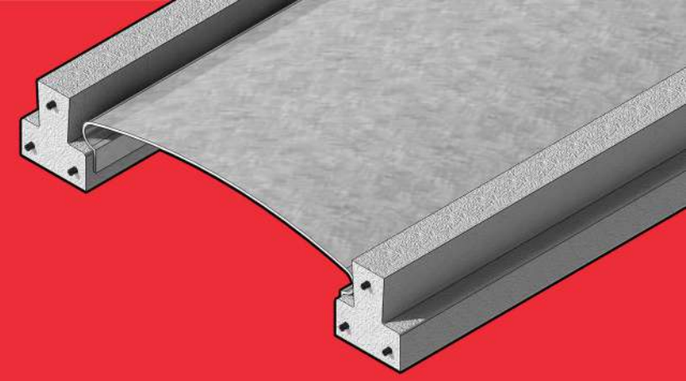
C-Joist's structural forms are made to provide the structure with the sufficient amount of strength specified for its structural requirements and client needs.

- C-Joist with Removable Steel Form (RSF) has been sought out by various clients because of its appealing form. When shown exposed in interior spaces, its rounded alcoves provide subtle gradients from the light bouncing off it.

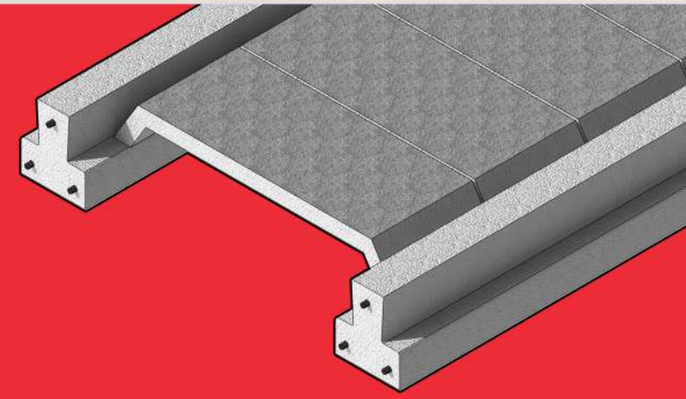
- C-Joist Permanent Concrete Form (PCF) is the most basic of all the products. Its straight and geometric shape makes it ideal for designs or buildings that offer the same character.

- C-Joist Structural Concrete Form (SCF) is made to enhance the C-Joist PCF. SY^2+Associates Inc., a structural engineering firm, designed the C-Joist SCF to act not only as a fixed form but also as a structural component. Making it a well-integrated part of the whole system.

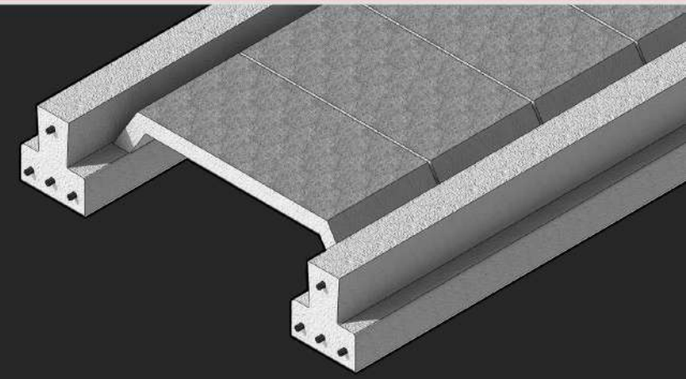
C-JOIST™
RSF



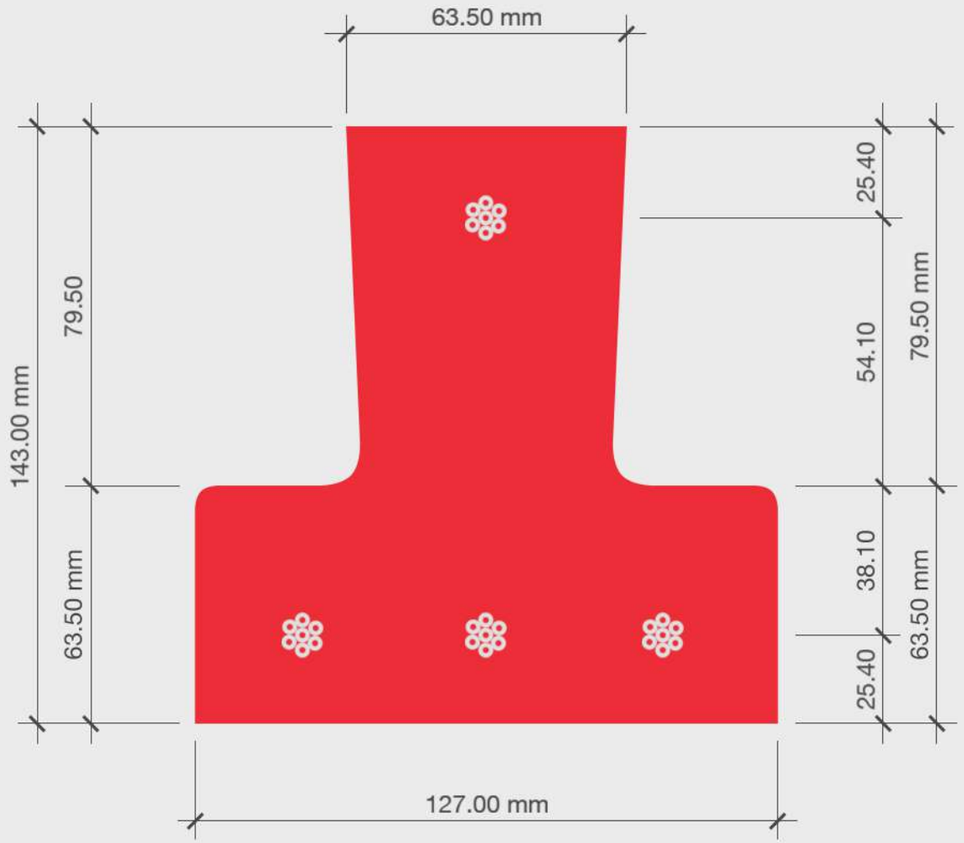
C-JOIST™
PCF



C-JOIST™
SCF



# Designed for uniformity. Manufactured for efficiency.



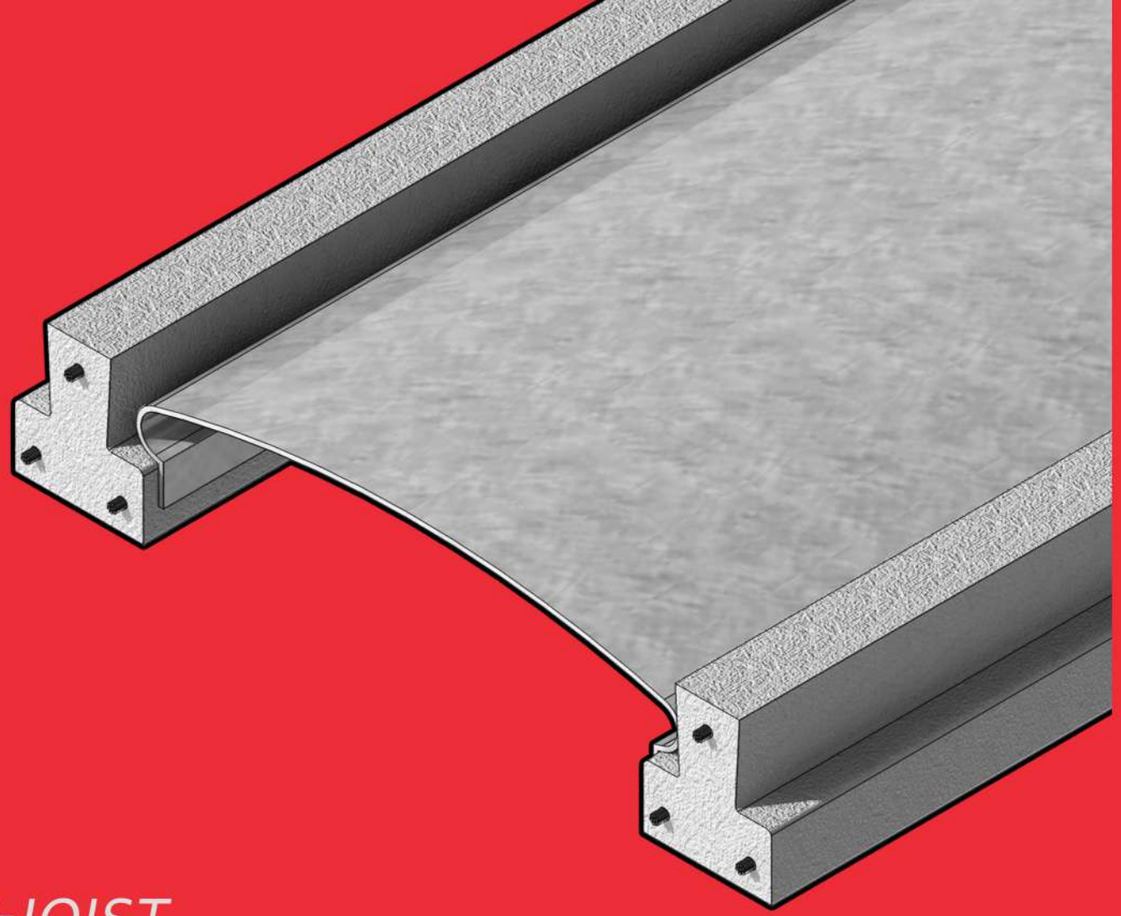

The C-Joist Cutting List was developed years ago to standardize the dimensions and details required in building the joist components consistently and efficiently. Through our Cutting List Form, drawings done by our customers are sent to our Engineering Department for approval and/or corrections. Once complete, the final list is then set for fabrication. This method saves time and enables our joists to be delivered faster.

# Flexible configurations. Different building types.

C-JOIST®

Throughout the years, we have provided support and cost-effective construction solutions for a wide range of building types. We offer value-engineering support during the schematic stage and installation support during construction to ensure optimum results.

| | |
|---|---|
| Residential | Mass housing<br>Socialized housing<br>High end housing<br>Townhouses<br>Privately-owned residences |
| Mixed-Use & Commercial | Commercial buildings<br>Mall buildings<br>Condominiums<br>Walk-up buildings<br>Medium-rise<br>High-rise buildings |
| Public & Private Institutions | Government<br>Private schools<br>Municipal buildings<br>Hospitals<br>Churches |
| Industrial & Assembly | Light and Heavy warehouses<br>Factories<br>Car parking<br>Stadium<br>Gymnasiums<br>Cockpit arena<br>Amusement park<br>Agricultural farm buildings |



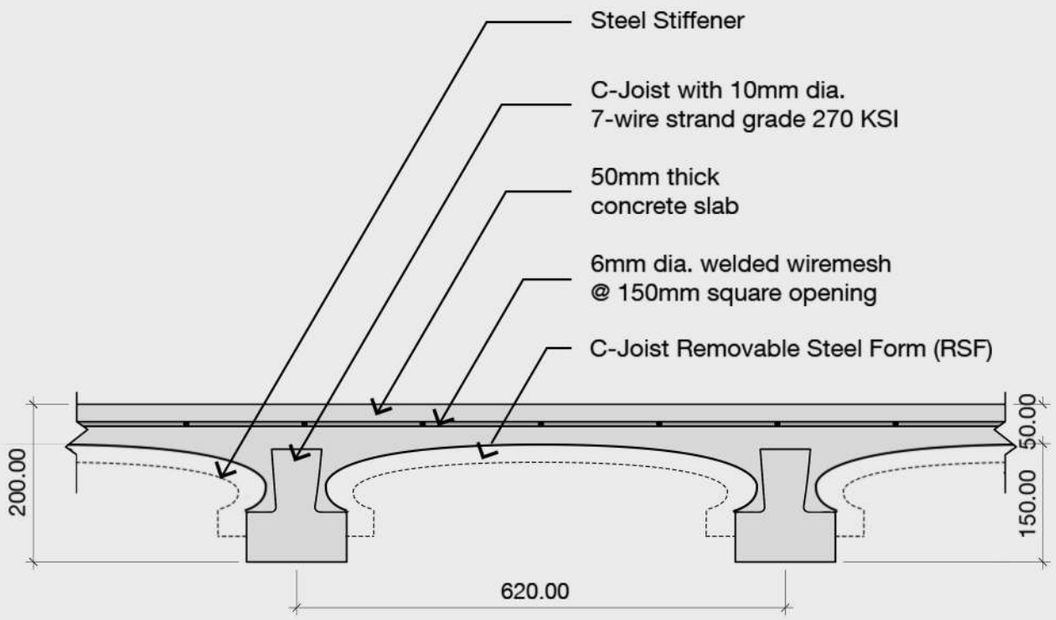
# C-JOIST™ RSF

C-Joist with Removable Steel Form (RSF) has been sought out by various clients because of its appealing form. When shown exposed in interior spaces, its rounded alcoves provide subtle gradients from the light bouncing off it.

## Spacing Options

### 620 mm


### 900 mm



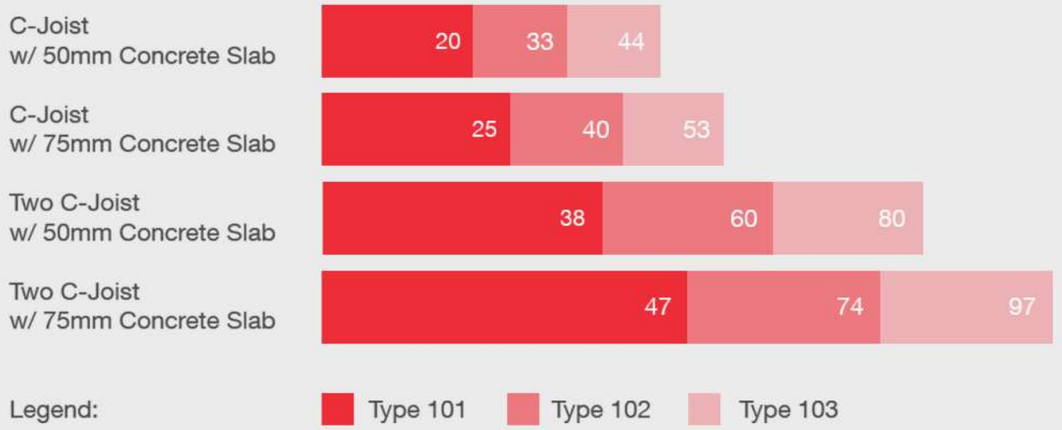

# Technical Information

**Total Dead Load**

1900 Pa (41 psf)

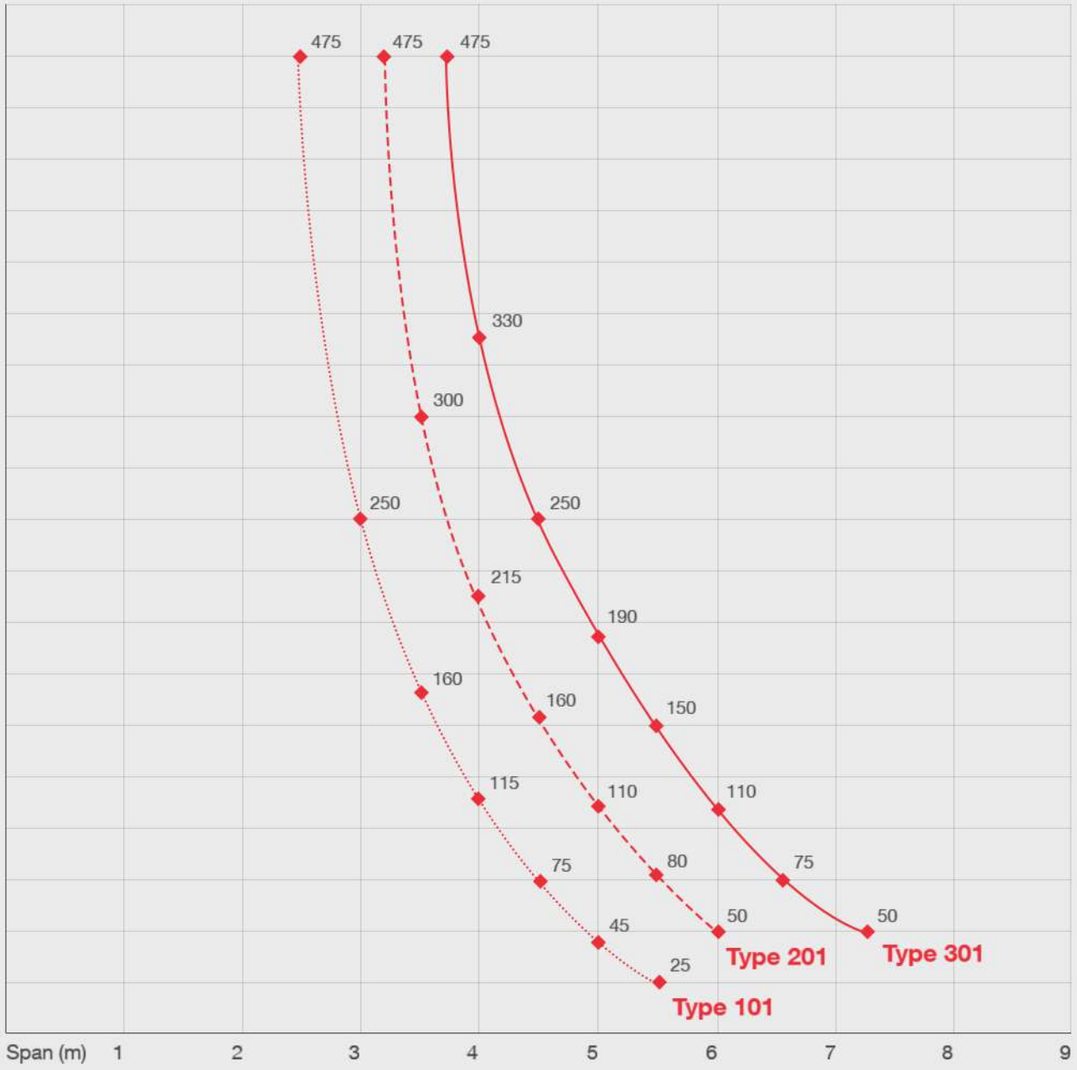
| | |
|---|---|
| Volume of Concrete Slab | 0.085 $m^3$ |
| Weight of Steel Reinforcement | 4.50 kg/sq.m |
| C-Joist per linear meter | 1.62 lm |
| C-Joist RSF per linear meter | 1.50 pieces |
| Steel Stiffener per linear meter | 4.50 pieces |

**Ultimate Moment Capacity (Kn-m)**



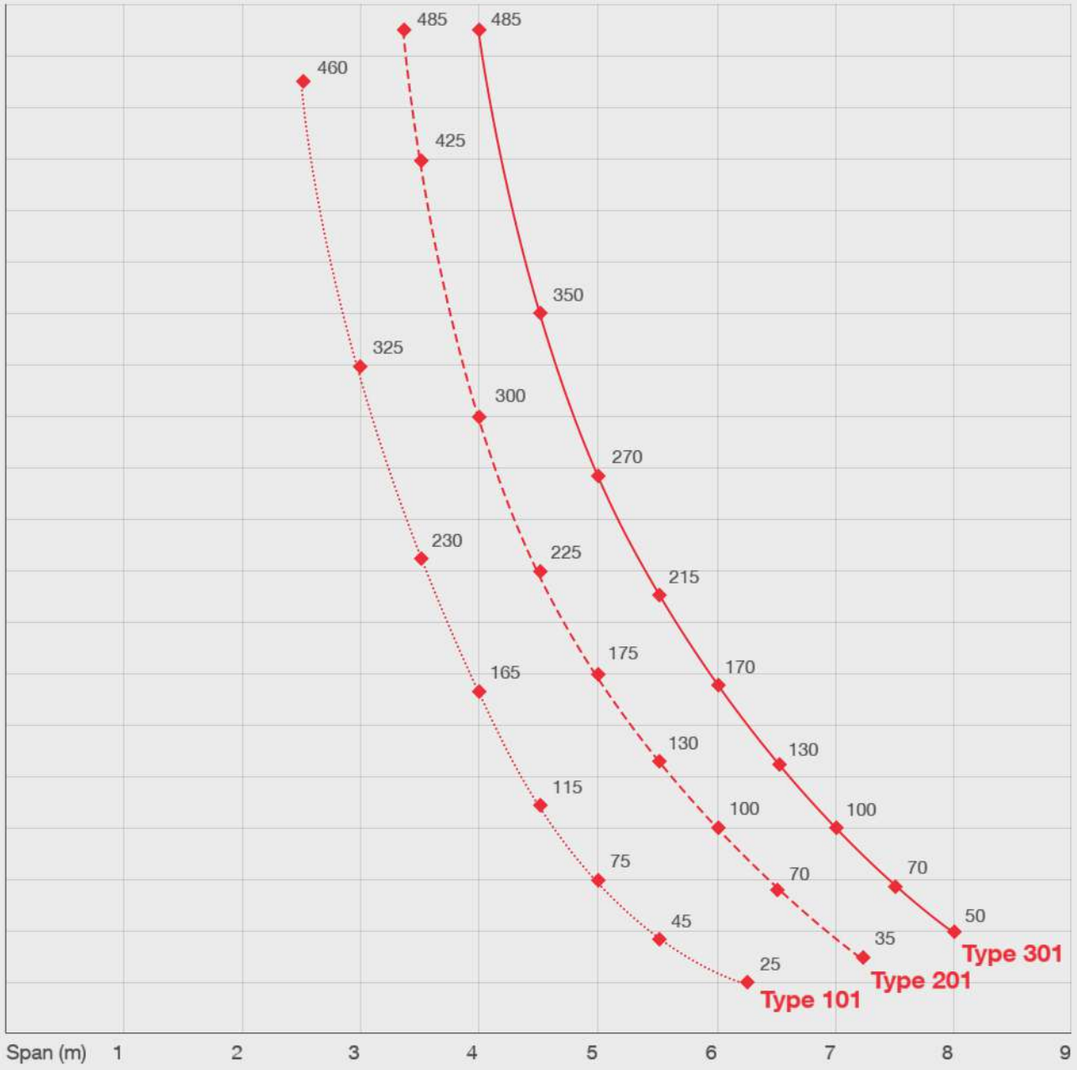
## Safe Superimposed Uniformly Distributed Live Load (psf)

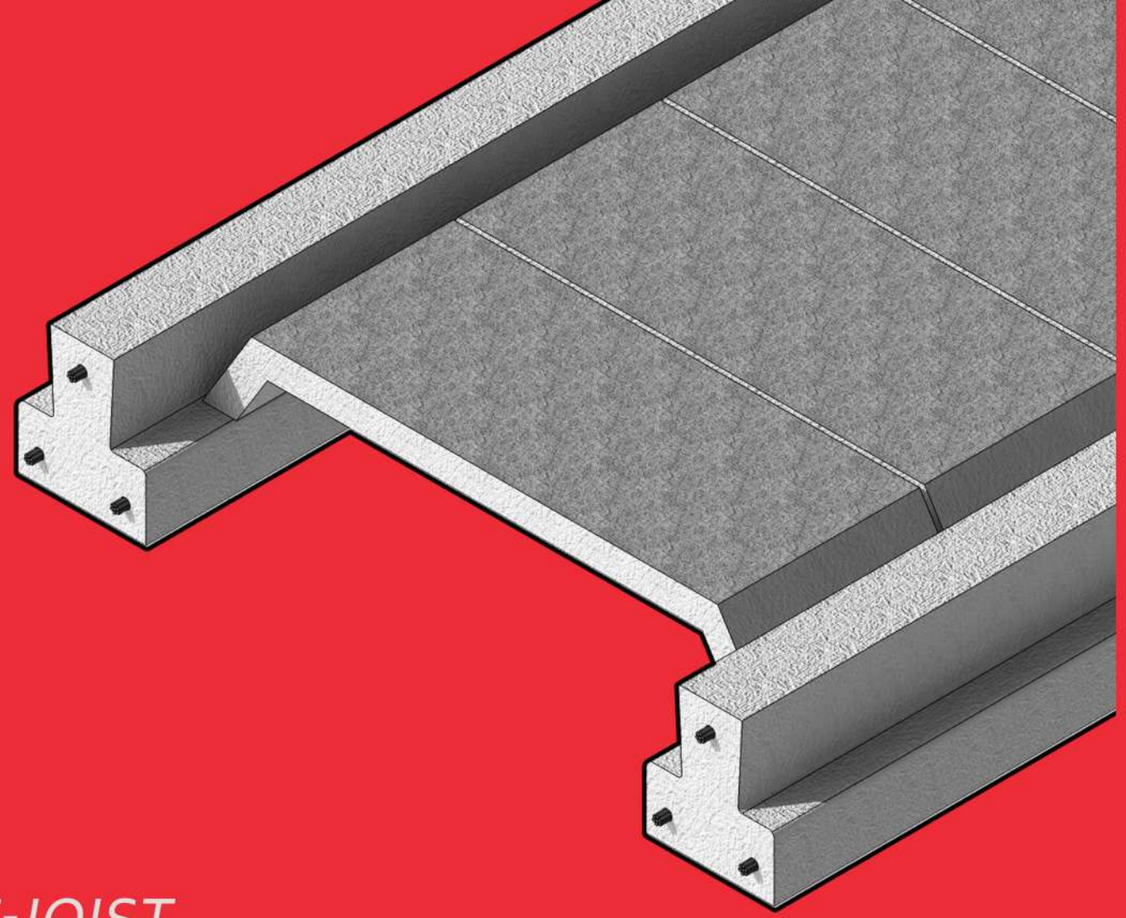
## 50mm Slab




## Safe Superimposed Uniformly Distributed Live Load (psf)

## 75mm Slab

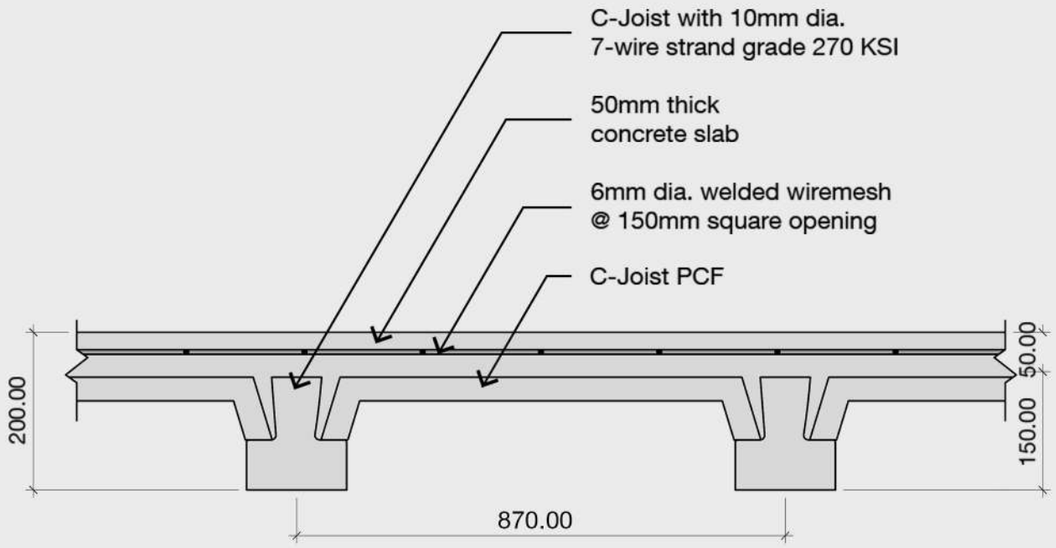




# C-JOIST™ PCF

C-Joist Permanent Concrete Form (PCF) is the most basic of all the products. Its straight and geometric shape makes it ideal for designs or buildings that offer the same character.

## Dimensions (mm)

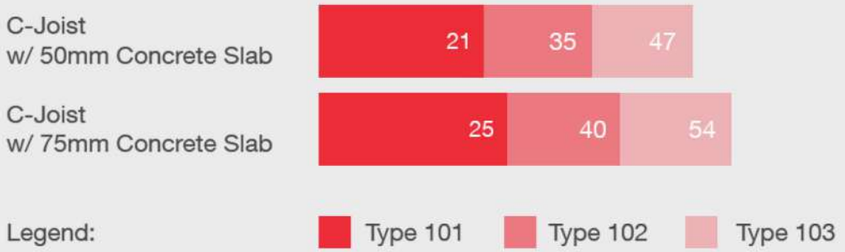

# Technical Information

**Total Dead Load**

2200 Pa (46 psf)

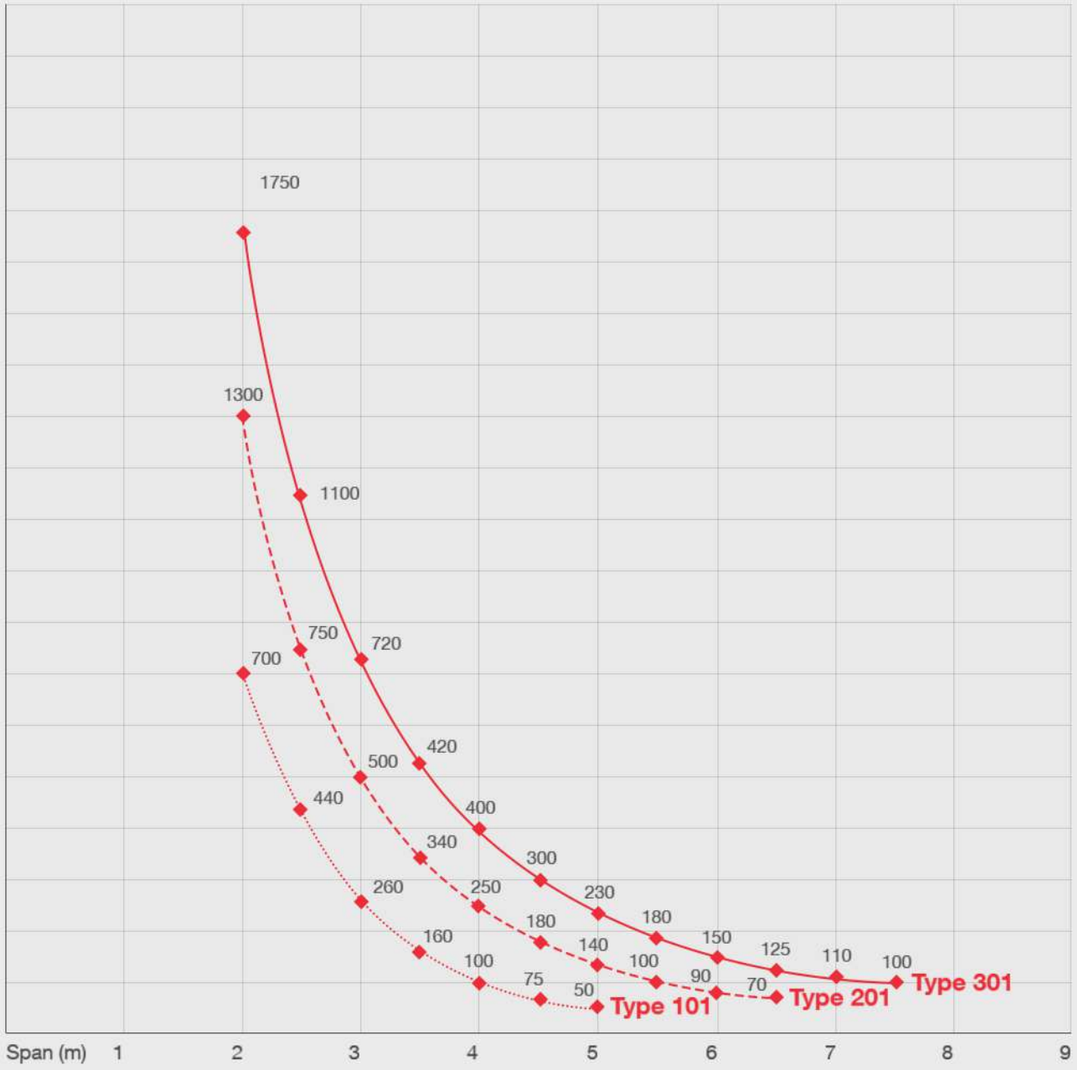
| | |
|---|---|
| Volume of Concrete Slab | 0.085 $m^3$ |
| Weight of Steel Reinforcement | 3.11 kg/sq.m |
| C-Joist per linear meter | 1.62 lm |
| C-Joist PCF per linear meter | 5 pieces |
| Weight of C-Joist PCF | 7.5 kg/piece |

**Ultimate Moment Capacity (Kn-m)**



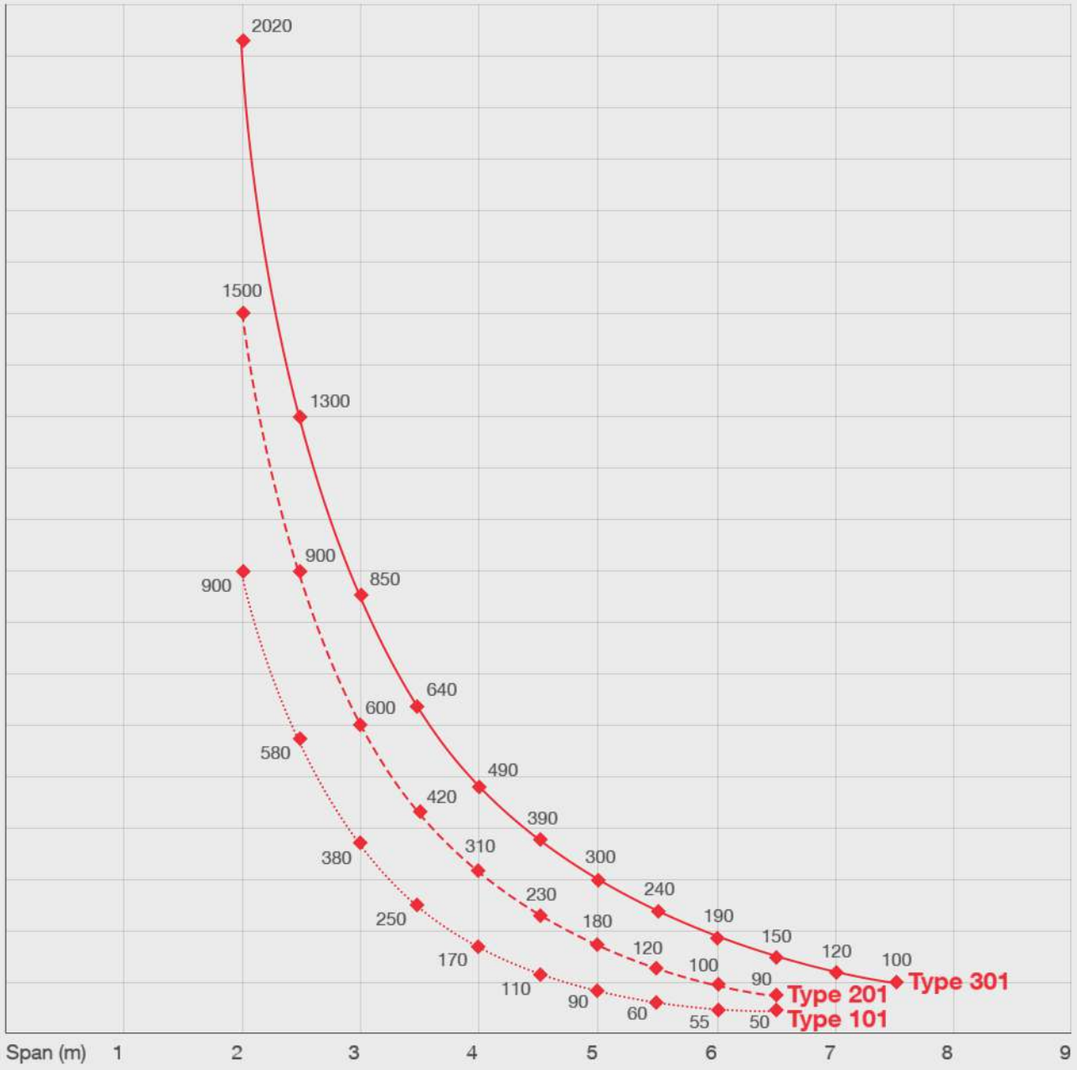
## Safe Superimposed Uniformly Distributed Live Load (psf)

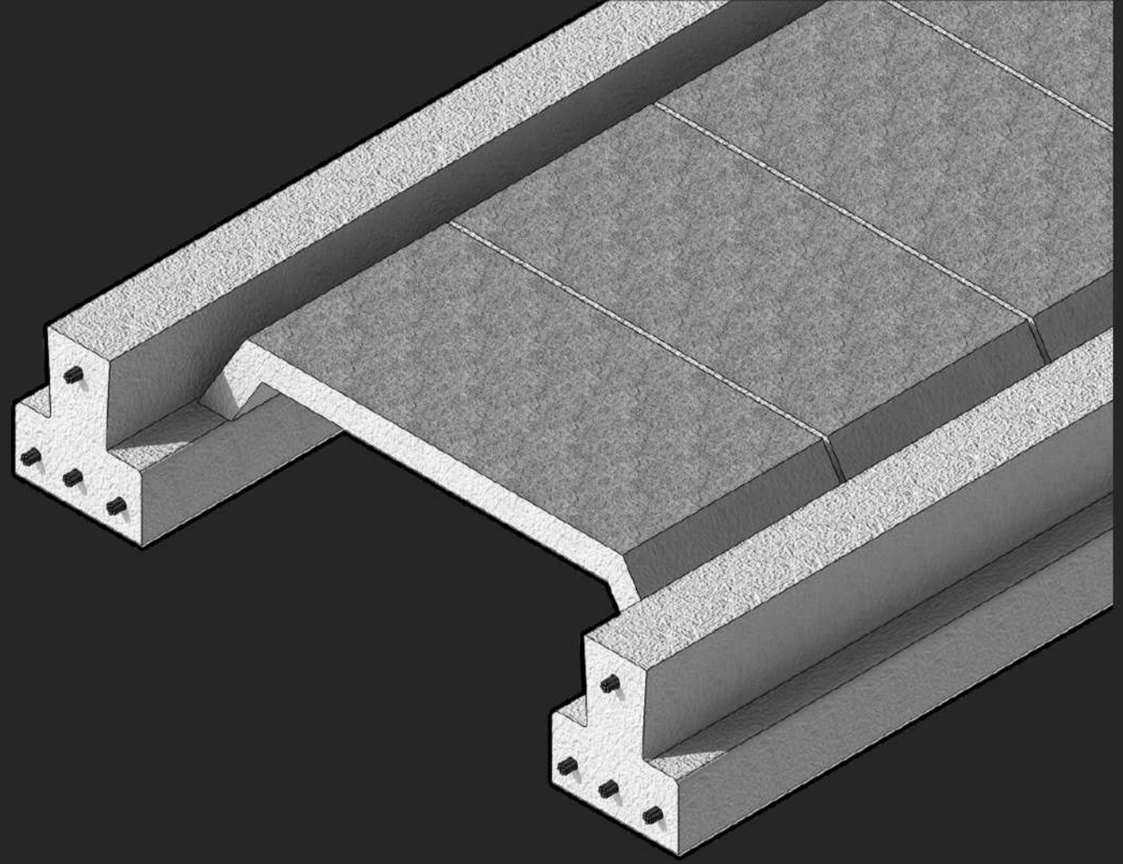
## 50mm Slab




## Safe Superimposed Uniformly Distributed Live Load (psf)

## 75mm Slab

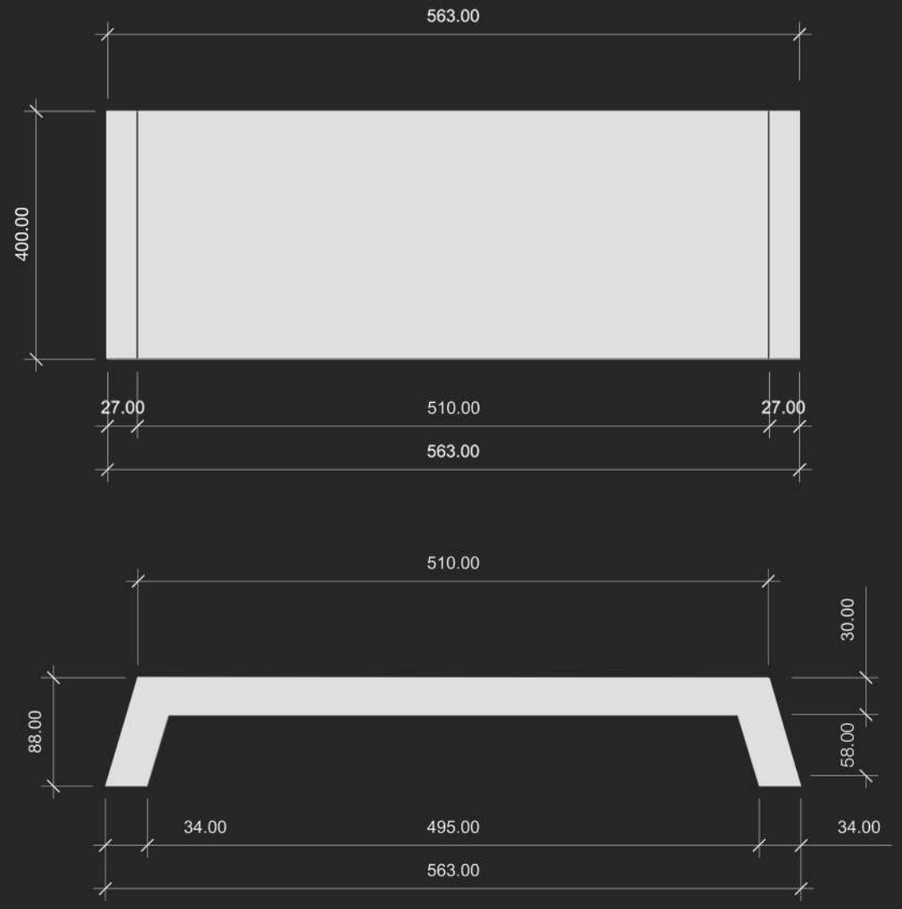


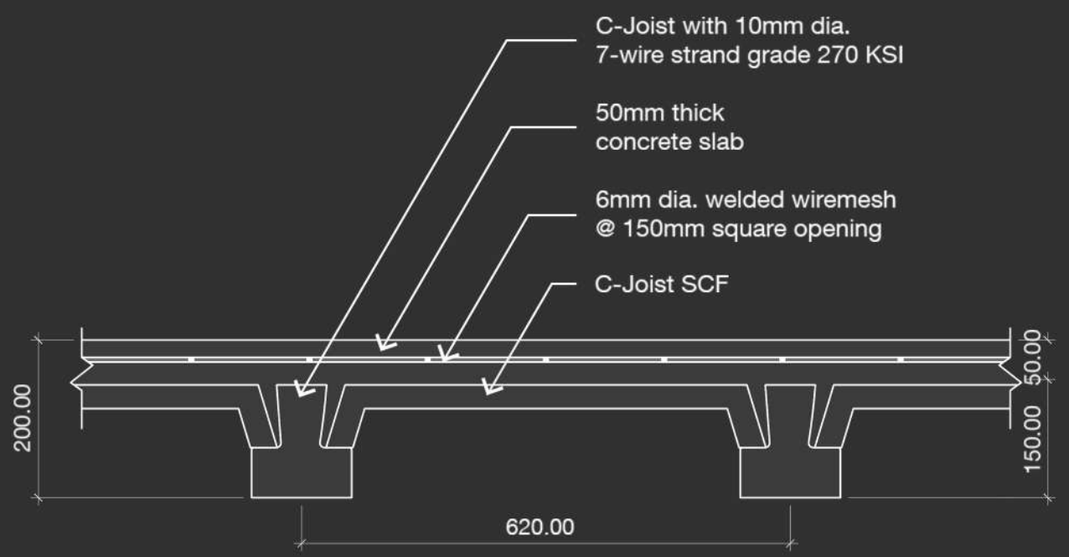


# C-JOIST™ SCF

C-Joist Structural Concrete Form (SCF) is made to enhance the C-Joist PCF. SY^2+Associates Inc., a structural engineering firm, designed the C-Joist SCF to act not only as a fixed form but also as a structural component. Making it a well-integrated part of the whole system.

## Dimensions (mm)





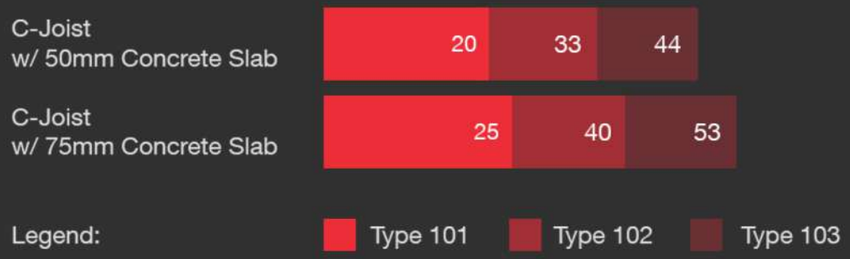

# Technical Information

**Total Dead Load**

3112 Pa (65 psf)

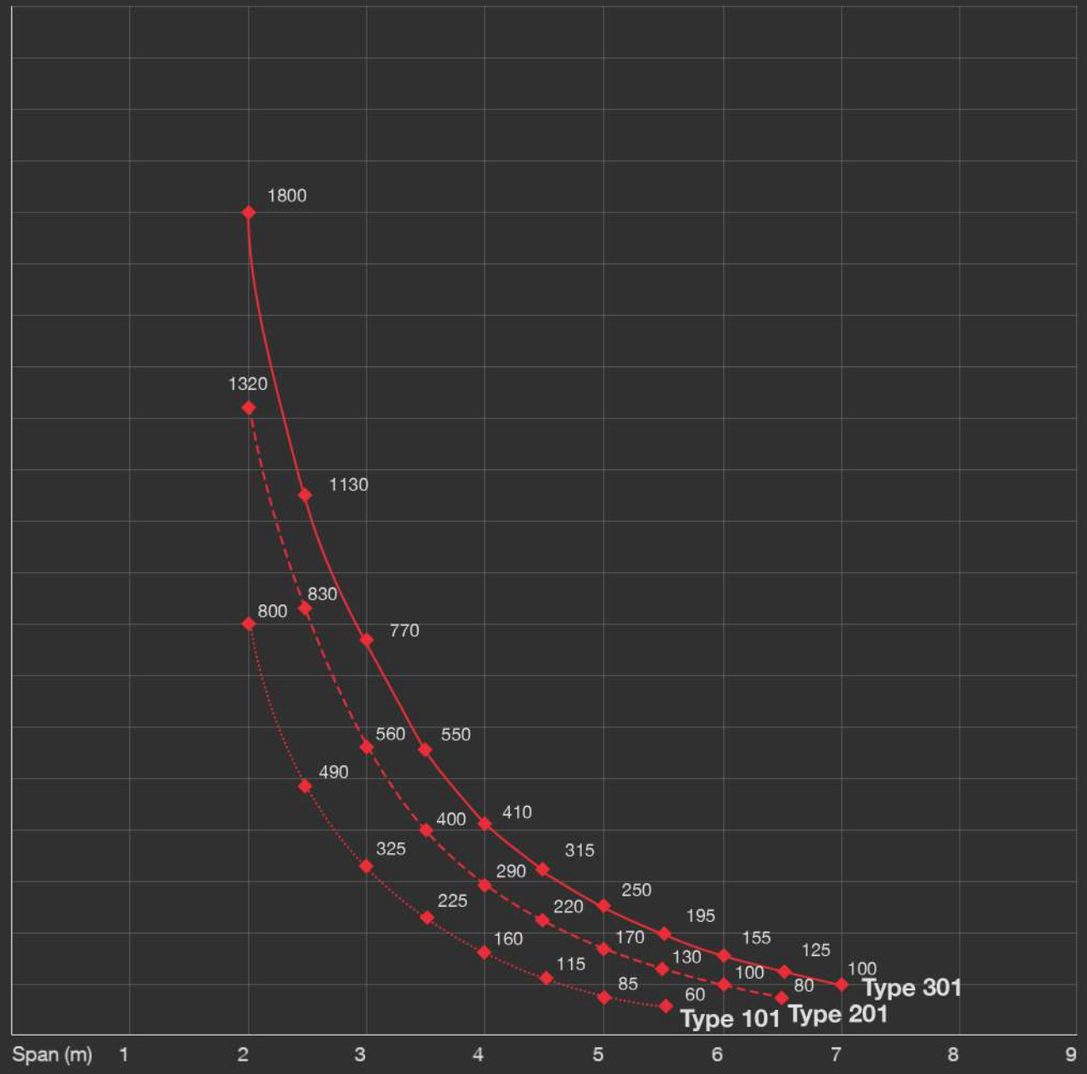
| | |
|---|---|
| Slab | 41.00 psf |
| Partition | 6.28 psf |
| Ceiling | 5.00 psf |
| Floor Finish | 13.00 psf |
| Miscellaneous | 1.00 psf |

**Ultimate Moment Capacity (Kn-m)**



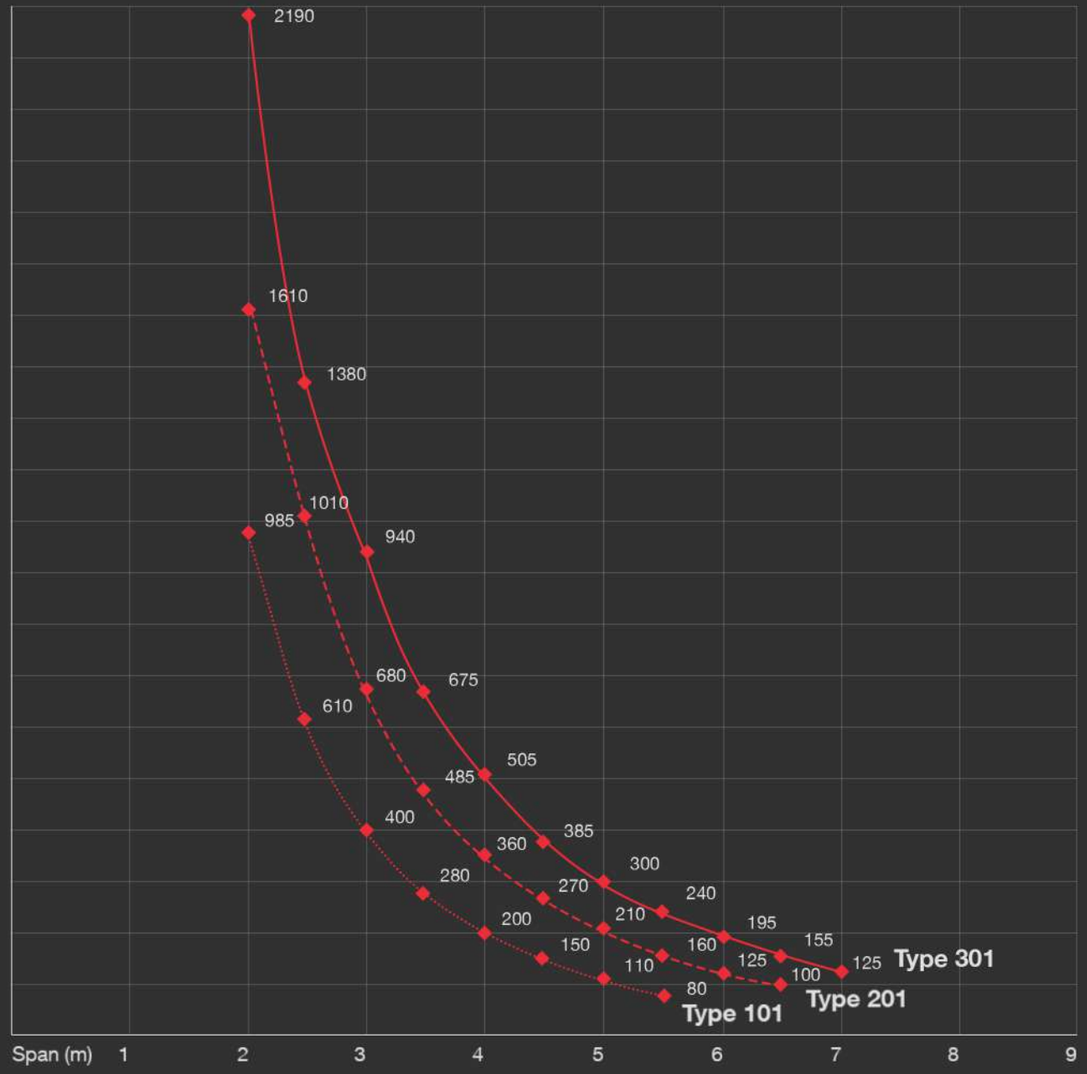
## Safe Superimposed Uniformly Distributed Live Load (psf)

## 50mm Slab




## Safe Superimposed Uniformly Distributed Live Load (psf)

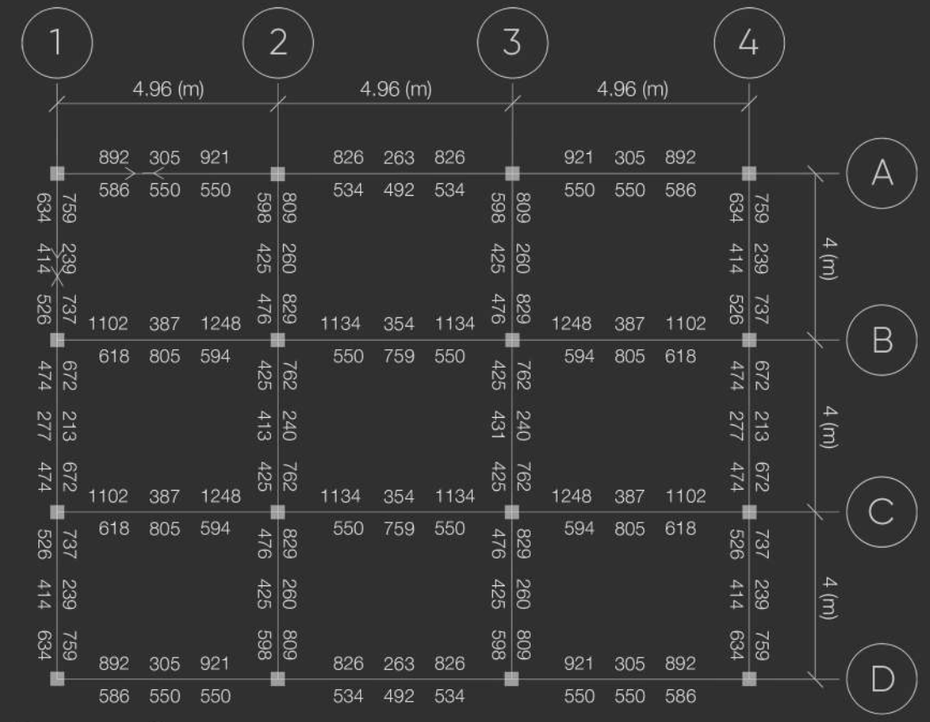
## 75mm Slab



**Sample Comparative Analysis using ETABS - Beam Reinforcement**

# C-JOIST®

2nd Floor Beam Reinforcements using C-Joist




## Parameters:

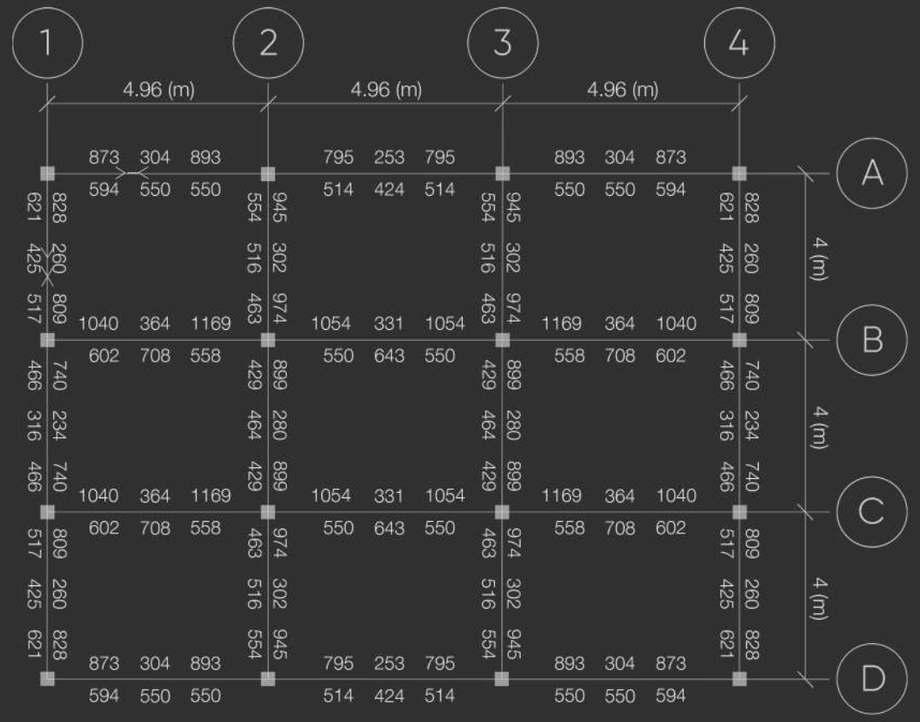
Distance from Faultline = 2km
Soil Type = A
Importance Factor = 1
LL = 4.8 kPa

DL = 2.4 kPa
5 storeys at 3m per floor
14.88m x 12m

*Parameters apply to all images that are under the Sample Comparative Analysis*

## Conventional Method

2nd Floor Beam Reinforcements using Conventional Method

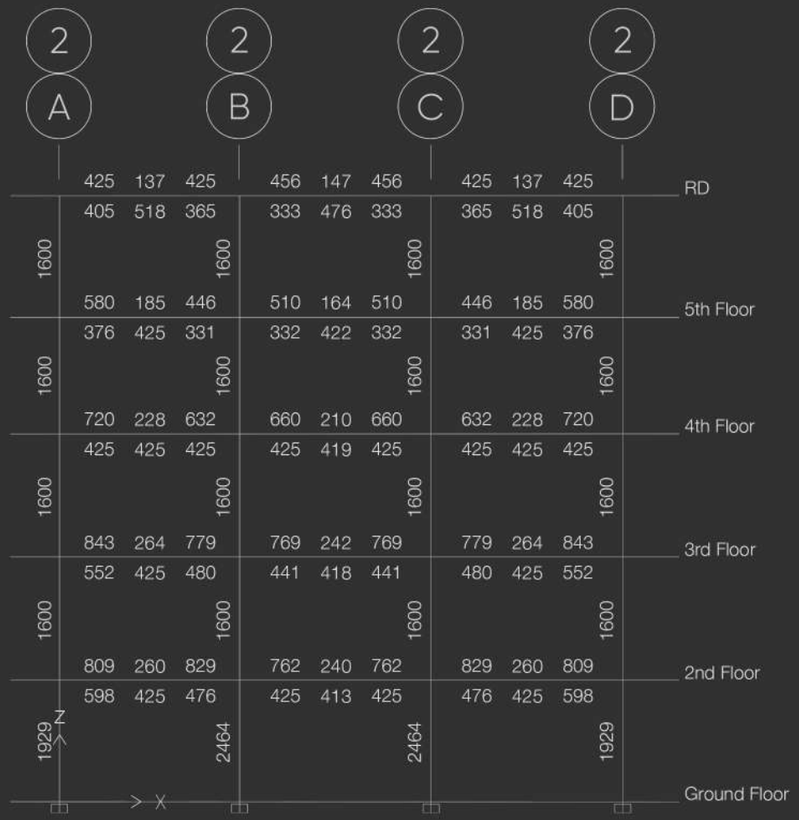



As shown in the drawings, the required beam reinforcements using C-Joist (on the left) is lesser as compared to the required beam reinforcements for conventional construction.

**Sample Comparative Analysis using ETABS - Column Reinforcement**

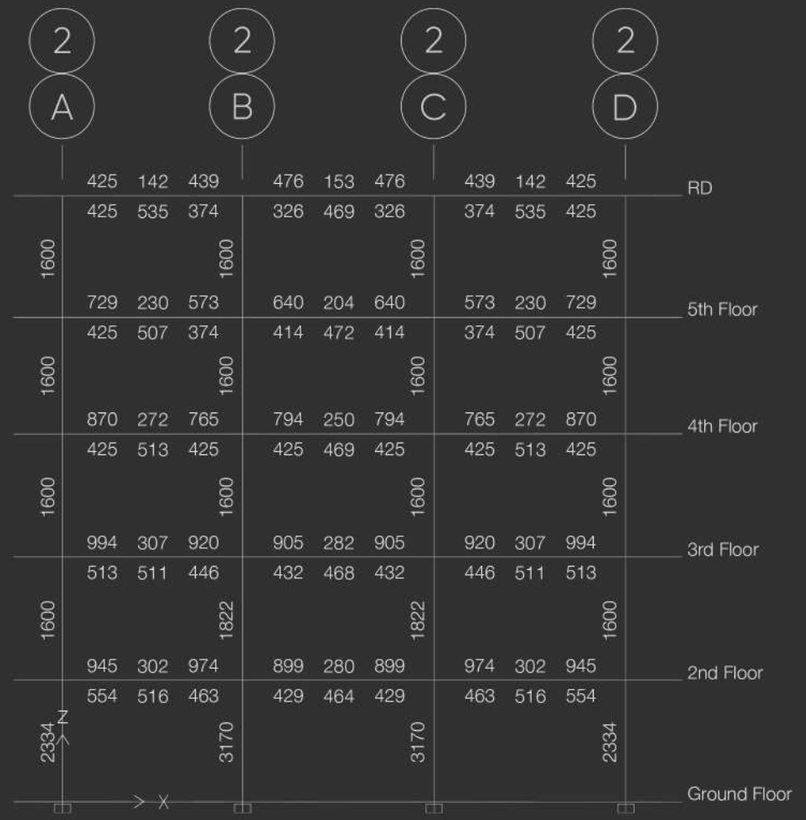
## C-JOIST®

Column Reinforcements using C-Joist




## Conventional Method

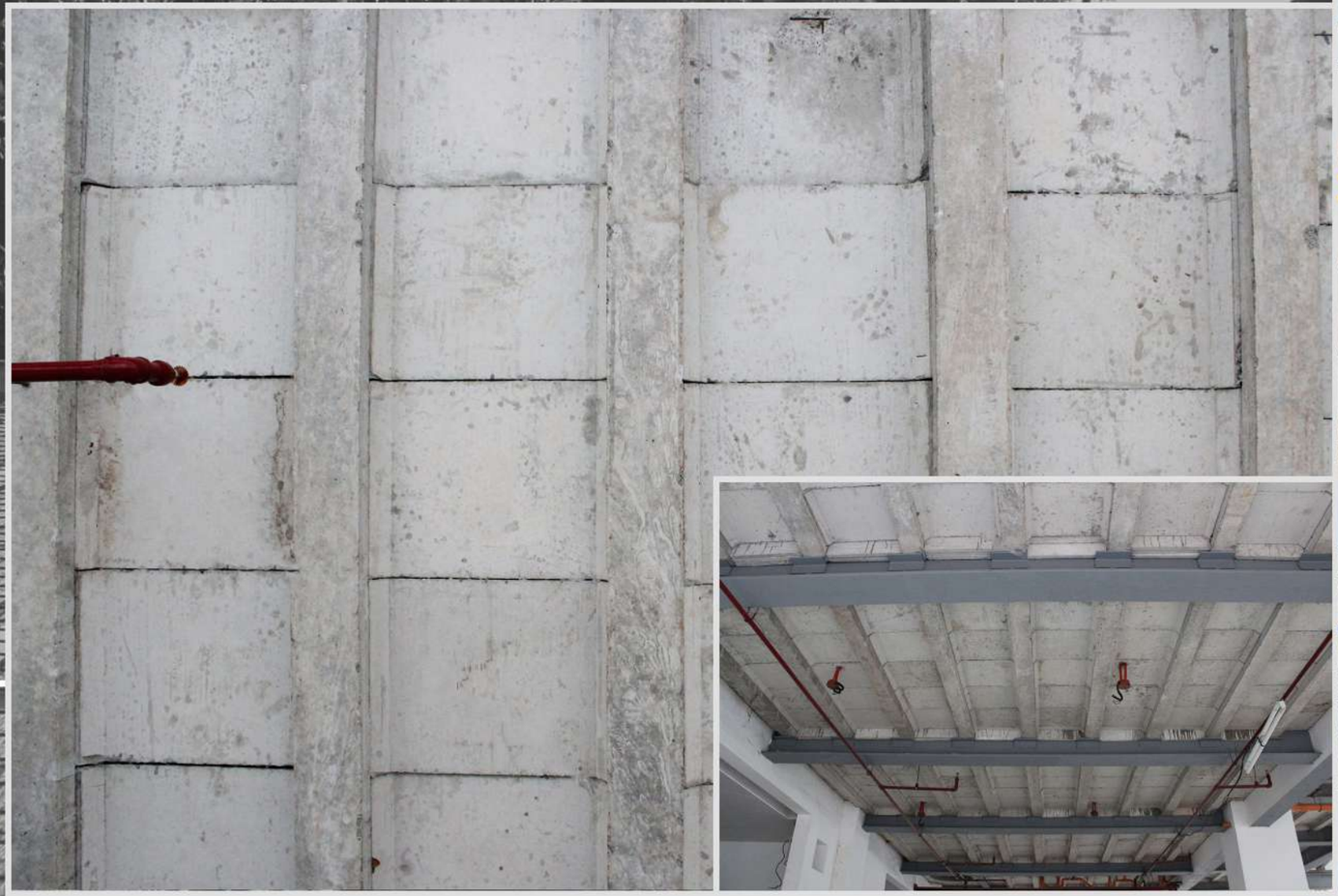
Column Reinforcements using Conventional Method




As shown in the drawings, the required column reinforcements using C-Joist (on the left) is lesser as compared to the required column reinforcements for conventional construction.

# Standard Appearance

Top





Bottom

# Speeds up construction.

# Eliminates formworks and scaffoldings.

# Cost Effective.

C-JOIST®

The modular nature of the C-JOIST system reduces the amount of time spent on installation, concrete slab pouring, and the dismantling of materials.

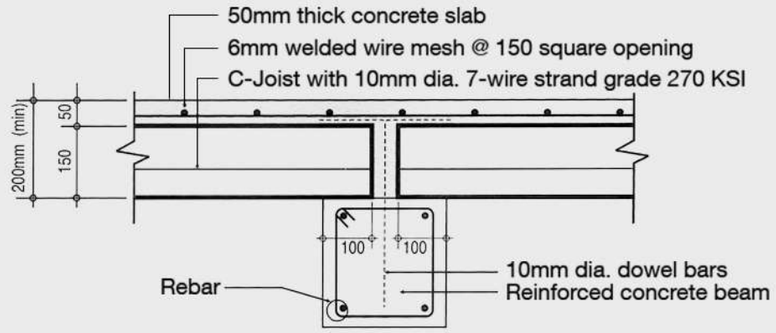
Greatly reduce or totally eliminate the need for formworks and scaffoldings giving workers a spacious and orderly workspace for efficient mobilization.

Save up to 20-25% on slab cost. In addition, the integration of the C-JOIST system during the design stage will result to lesser columns and beams due to longer spans.

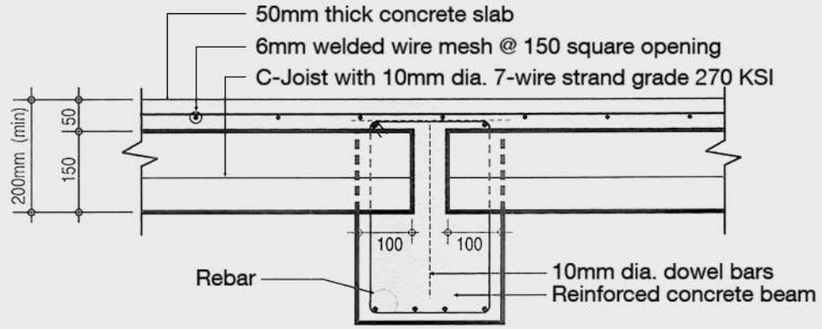
FREE STRUCTURAL DESIGN

# Connection Details

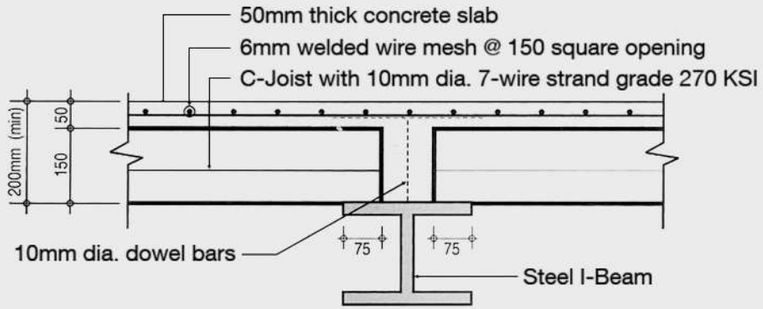
### C-Joist on Top of Beam



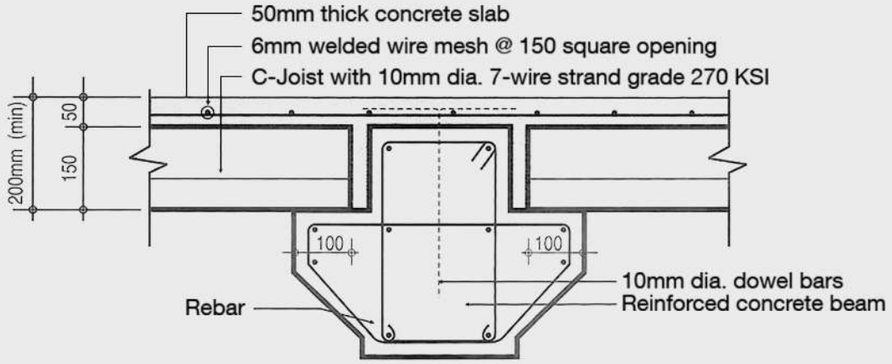

### C-Joist Integrated with Beam




### C-Joist on Steel I-Beam




### C-Joist on Corbel Type Beam



# Key Guidelines

**Handling**

1. C-Joist can be hand-carried or hoisted
2. Pick-up points are 1/5 from both ends
3. If hand-carried, always lift C-Joist in an upright position

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**Bearing**

1. All bearing surfaces must be true to line and grade
2. C-Joist must be installed with 100mm minimum bearing on concrete and 75mm minimum bearing on steel

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**Safety**

Removable steel forms are only used to support the concrete during pouring. For safety, it is recommended to walk on C-Joist

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**Shoring**

1. C-Joist must rest firmly before pouring concrete slab
2. Shoring members must be capable of supporting the dead weight of C-Joist and concrete slab:

- **Quarter Spacing**
  For C-Joist more than 5.00m in span
- **Mid-span Shoring**
  For C-Joist above 3.00m to 5.00m in span
- **No Shoring**
  For C-Joist below 3.00m in span

# Installation Process

**Step 1** Arrange C-Joists onto their designated area/s and space them as specified.

**Step 2** Mount either PCF, RSF, or SCF components on top of C-Joist's shoulder and lay them per piece--starting from the interior face of the beam. If RSF is used, steel stiffeners are placed underneath to temporarily lock and support the steel forms.

**Step 3** Provide shoring as needed. Read 'Key Guidelines' for spacing information.

**Step 4** Anchor components with dowel bars parallel to the C-Joist layout to serve as shear connectors. Spacing depends on the span of the joist with bars bent at either L/3 or L/4.

**Step 5** Reinforce the slab with a 6mm diameter welded wire mesh at 150mm square opening. Use appropriate lapping methods to ensure the mesh is secured properly.

**Step 6** Pour concrete with at least 3,000psi compressive strength after 28-days. Slab thickness can range from 50mm to 75mm.

# CLIENTS.


WAREHOUSES


BJMP


Photo by Xiquinho Silva
AMUSEMENT PARK


SCHOOLS
BATANGAS
STATE
UNIVERSITY
COLLEGE
OF
ENGINEERING


HOUSING


COMMERCIAL


GOVERNMENT


BLEACHERS


HIGH - RISE

# CLIENTS.

GOVERNMENT


GOVERNMENT

GOVERNMENT


SCHOOLS


HOUSING


GOVERNMENT


HIGH - RISE


COMMERCIAL

# For inquiries:
# Contact any of our branch offices.

## Corporate Information

The C-Joist Floor and Roof Slab System is produced by Concrete Ventures Group, Inc. For three decades, we have been providing pre-cast concrete joists to various architects, engineers, builders, and developers. Our manufacturing plant is located in Malvar, Batangas and it is where we produce our joists of unmatched quality in the Philippines. For inquiries, contact any of our branch offices.

| | |
|---|---|
| Sales Office | CVG Centre, 36 First Avenue, Cubao,<br>Quezon City, 1111 Philippines<br><br>t: (02) 8723 4922 / (02) 8725 3953<br>m: 0968 850 2055 / 0928 517 3987<br>0920 928 6426 / 0920 928 6426<br>f: (02) 8723 4920<br>e: contact@c-joist.com |
| Manufacturing Office | Sitio Kap. Maria, Brgy San Pioquinto,<br>Malvar, Batangas City<br><br>t: (043) 740 6432<br>f: (043) 778 4536 |
| Bacolod Branch | **Ar. Glen Paul B. Celo**<br>51 Rodriguez Ave., Brgy. 36,<br>Bacolod City, Negros Occidental<br><br>t: (034) 446 7695<br>m: 0939 917 7569 / 0917 527 0234<br>e: celo_glenpaul@yahoo.com<br>feds_construction@yahoo.com |
| Cebu Branch | **Ar. Rolando G. Abarquez**<br>Hacienda Mandaue Road Highway<br>Maguikay, Mandaue City, Cebu<br><br>t: (032) 344 6207<br>f: (032) 346 2615<br>m: 0905 399 4548 / 0917 779 2455 /<br>0922 871 1339<br>e: a_bar_keys@yahoo.com |
| Iloilo Branch | **Engr. Nielson P. Allam**<br>17 Democracia Street, Jaro, Iloilo City<br><br>t: (033) 329 7477<br>m: 0922 826 0125 / 0908 889 1245<br>e: jcmnconstruction@yahoo.com<br>nielsonallam@yahoo.com |

CONCRETE VENTURES GROUP, INC.
Quality Concrete

# C-JOIST®

PRECAST • PRESTRESSED
Floor and Roof Slab System