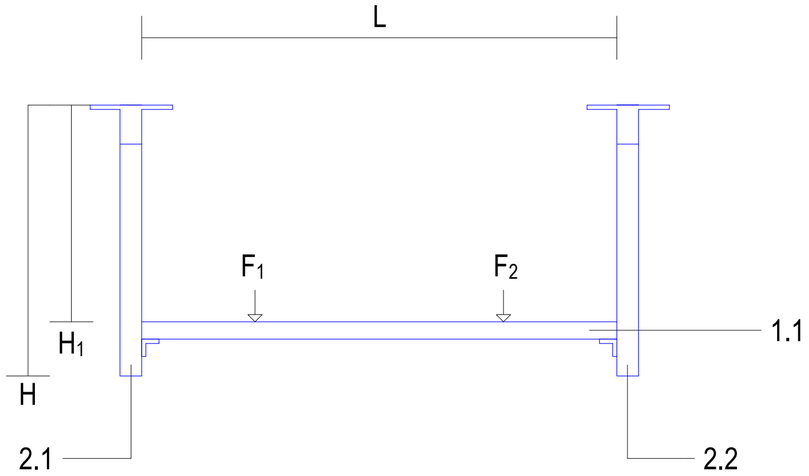
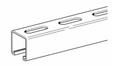
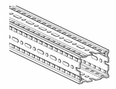
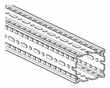
# FORM 1A

DATA INPUT FORM

| DATA INPUT - SIZING | | | |
|---|---|---|---|
| Item | Un | Value | Validated |
| $H_1$ | mm | 1330 | |
| H | mm | 1506 | |
| L | mm | 1600 | |

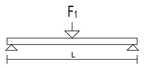
| DATA INPUT - LOADS | | | | | |
|---|---|---|---|---|---|
| Item | Un | Value | Max Span (m) | Value (kN) | Validated |
| $F_1$ | kN/m | 2.2000 | 1.6 | 3.5200 | |
| $F_2$ | kN/m | 2.2000 | 1.6 | 3.5200 | |



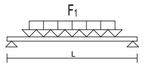

| | | Type: | Rod | Pressix CC 41 | siFramo 80/30 | siFramo 80 | siFramo 100 |
|---|---|---|---|---|---|---|---|
| | | | |  | |  |  |
| Horizontal Profiles | $L_{max}$ (mm) | Cut Lenght (mm) | Max. Loads (kN) | | | | |
| | 750 | 742 | | 4.67 | 30.20 | 53.30 | 161.15 |
| | 1000 | 990 | | 2.62 | 16.99 | 29.98 | 90.64 |
| | 1200 | 1189 | | 1.82 | 11.80 | 20.82 | 62.95 |
| | 1500 | 1487 | | 1.17 | 7.55 | 13.33 | 40.29 |
| | 1600 | 1600 | | 1.03 | 6.64 | 11.71 | 35.40 |
| | Profile ID | Formula | Profile Selection | | | | |
| | 1.1 | $F_1+F_2$ | | | | | |
| Vertical Profiles | $H_{max}$ (mm) | | Max. Loads (kN) | | | | |
| | All Sizes | | | | | | |
| | Profile ID | Formula | Profile Selection | | | | |
| | 2.1 | $F_1+F_2$ | | | | | |
| | 2.2 | | | | | | |

## Horizontal Loads Calculation Method

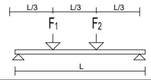
### Point Load



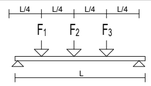

### Distributed Load




### 2 Point Loads




### 3 Point Loads

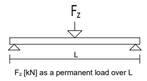



### Example:

For a horizontal beam with a Lenght of 1000mm, the Maximum Loads supported for the different configuration of Loads are the following:

- Single Point Load - 12.06 kN
- Distributed Load - 24.13 kN/m
- 2 Point Load - 18.10 kN
- 3 Point Load - 18.09 kN

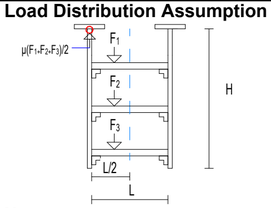
Based on these values, for the purpose of this Catalogue, we will consider that the Load will always be a Point Load in the center of the beam, which is the worst case scenario.




$F_z$ [kN] as a permanent load over L

## Vertical Loads Calculation Method

### Load Distribution Assumption



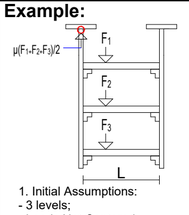

**Notes:**

1. Maximum working forces to be calculated as Pointed Load

2. The worst scenario should consider that the forces are off-center of the horizontal profiles and that will cause a bigger effort in the critical point of the vertical profile

3. $\mu(F_1+F_2+F_n)/2 \leq F_{max}$
   $\mu$ is the coefficient that assumes that the forces are not centered, concentrating more efforts on one side of the structure

### Example:




1. Initial Assumptions:
- 3 levels;
- Loads Not Centered;
- Coefficient $\mu$ = 1,2;
- Maximum axial resistence of the vertical profile: 20kN

2. For this case:
- $\mu(F_1+F_2+F_3)/2 \leq F_{max}$
- $F_1+F_2+F_3 \leq (20*2)/1,2$
- $F_1+F_2+F_3 \leq (20*2)/1,2$
- $F_1+F_2+F_3 \leq 33,33kN$

3. The user only needs to compare the sum of the Fn Load values with the supported values in the table and select the appropriate beam type.

**NOTE:**

**FORM2A Production:**
Defines primary and secundary support component sizes, types and part numbers.

**Scope Exclusion:**
Frame interface with the building structure is not included in this document.

For comprehensive guidelines and additional information, contact the project management team.

| Support ID | DC.FWA.LDB.1.1.1 |
|---|---|
| Order Amount | 9 |

**OVERVIEW**

MC Prefab is a collaborative joint venture between CTS, MECWIDE, and BIMMS. The primary objective of this partnership is to streamline the production of Mechanical, Electrical, and Plumbing (MEP) support structures.
To achieve standardization and optimization in support production, installation, and to minimize material waste, a comprehensive catalog of solutions has been developed. This catalog defines all support solutions along with their respective variables.

**Process Stages:**
The overall process of MEP support structure production and installation is divided into three distinct stages:
**1-Preparation**
**2-Production**
**3-Installation**
Each stage requires specific documentation, outlined as follows:
**Form1A**: Base Specification for Support Solution Definition
**Form2A**: Fabrication Drawing
**Form3A**: Installation Drawing
These documents ensure the standardization and efficiency of the entire process, from initial preparation through to final installation.

For any further details or clarifications, please refer to the MC Prefab documentation guidelines or contact the project management team.

**Naming Convention**

DC.FWA.COR.1.1-1A
- Document Type
- Support Type
- Building Area Type
- Project Standard Type
- Project Type

| Rev. | Date | Description | Sign. | Veri. |
|---|---|---|---|---|
| P02 | 03/12/2024 | Issued For Information | GJ | JT |
| P01 | 08/11/2024 | Issued For Information | GJ | JT |

JOINT VENTURE:

MC Prefab Nordics

DESIGN & BUILD PARTNERS:

CTS Nordics
BIMMS integrated engineering
MECWIDE ENGINEERING CHALLENGES

DRAWING NAME:
DC.FWA.LDB.1.1.1-1A

| DRAWING STATUS: | | SCALE: | STATUS: |
|---|---|---|---|
| Issued For Information | | | S2 |
| DATE CREATED: | LAST REV. DATE: | SIGNED: | CONTROL: |
| 08/11/2024 | 03/12/2024 | GJ | JT |
| DRAWING NUMBER: | | FORMAT: | REVISION: |
| FIN3005-BMS-XX-XX-DR-J-41111 | | A2 | P02 |

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