



BTM

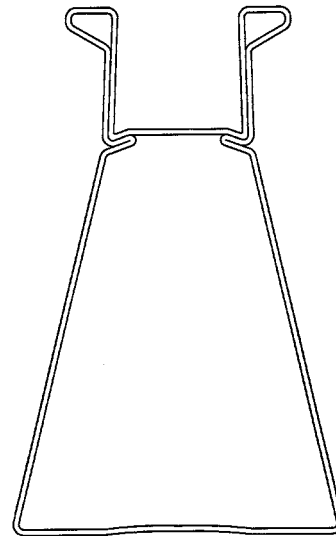
METAL BEAM FORMWORK

System with few elements
that facilitate quick assembly





- The metal beam formwork **BTM** is a simple and practical system. Its few components and its ease of application on site make it a fast and effective formwork system.
- BTM provides slab formwork solutions, and it can be adapted to any layout encountered, whether working in small or large spaces.
- The BTM Beams 160 are easy to handle. Light weight and perfectly designed, they can be used to solve any construction site problems. The beams are protected on their extremes by covers, and they resist being damaged by hits and rough treatment common at the construction site. Galvanic protection provides rust-proof coating, resulting in highly durable beams.
- The tripod can be used to plumb the prop quickly in any position, thus offering (given the organized use of materials) significantly improved performance and rational solutions at the construction site.



BTM Beam 160: Mechanical characteristics

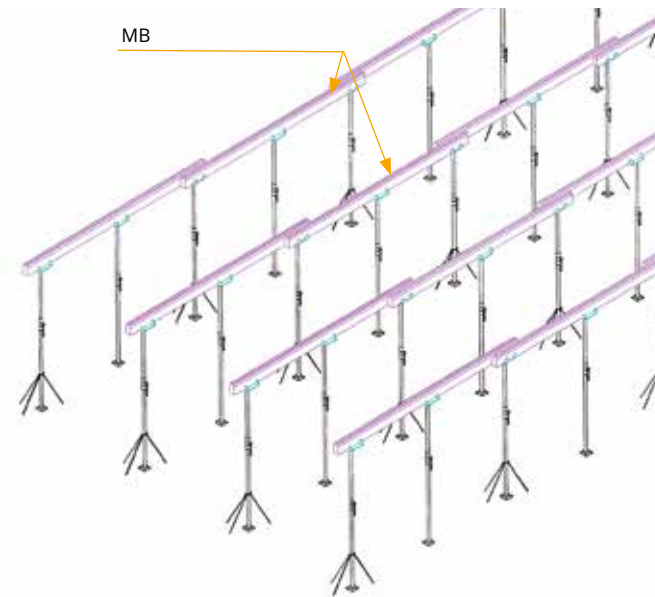
| | |
|----------------------|---------------------------|
| Weight | 7.7 kg/ml |
| I_x | 3,140,000 mm ⁴ |
| W_x | 50,620 mm ³ |
| Madm. | 8.65 kN.m |
| Ex I | 659 kN.m ² |

(*) The weight does not include the wooden strip.



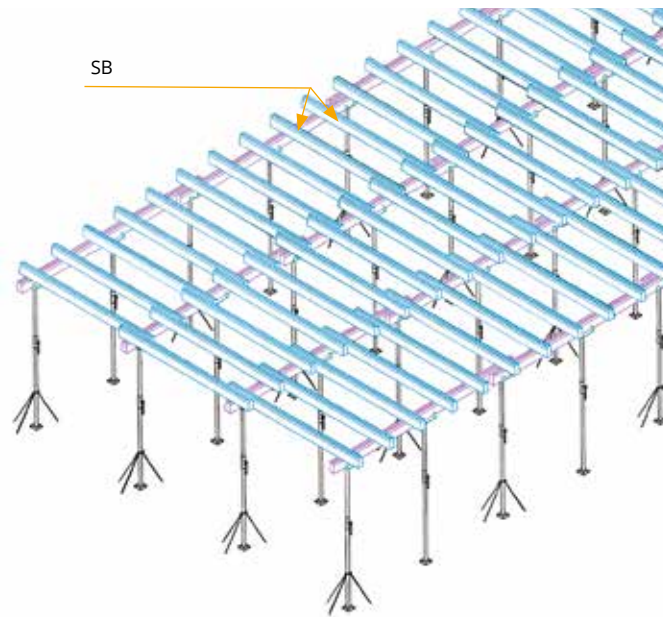


Assembly



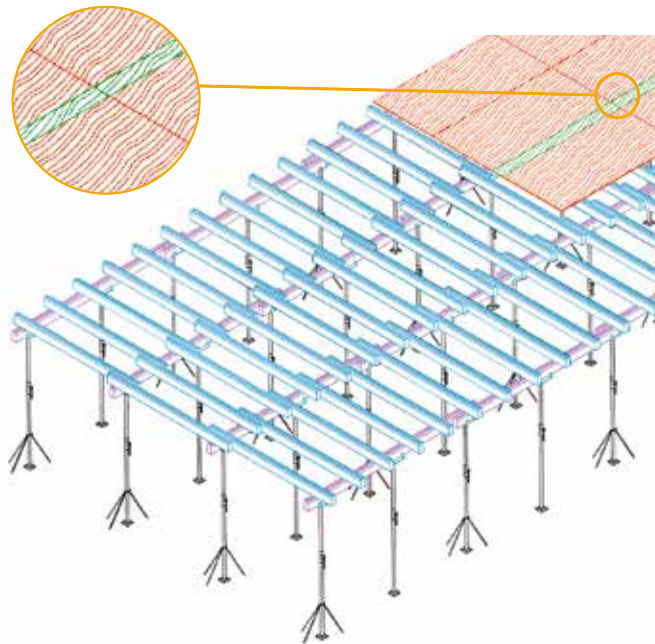
Phase 1

Install the props with their corresponding heads (single and bidirectional), supported by the tripods. On the heads, install the main beams (MB). Level the assembly.



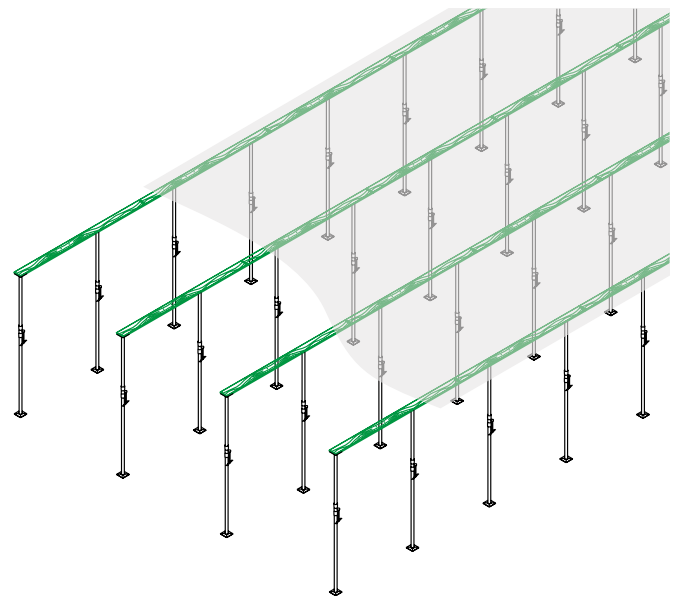
Phase 2

Install the secondary beams (SB) on the MB at the proper distances (610 or 488 mm).



Phase 3

Install the plywood 1.22 x 2.44m. Position planks parallel to each other between the plywood in order to shore the slab thereafter.

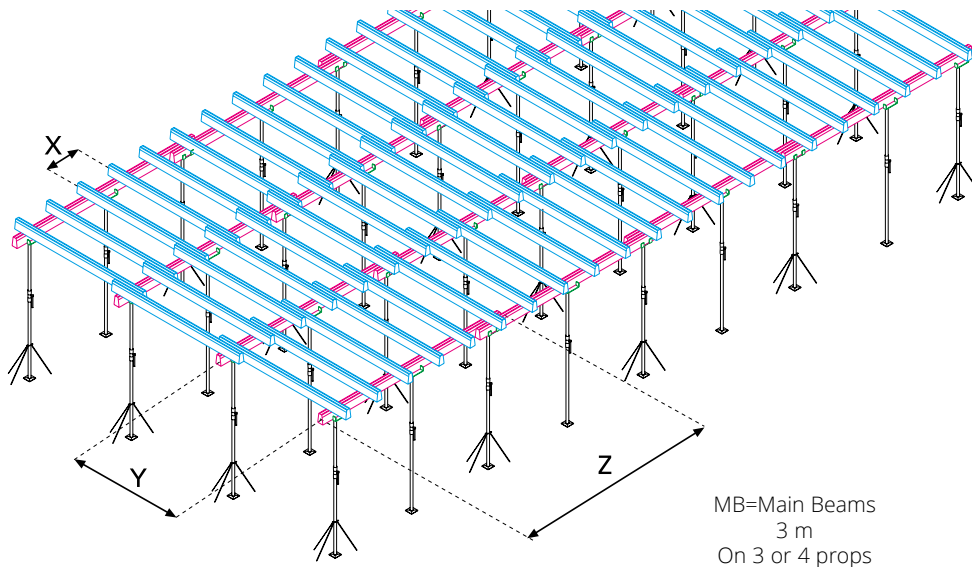


Phase 4

This is how the slab will be shored after having removed all the materials (plywood, beams and some of the props).



Working Loads Table



1 Plywood

- It is recommended to use the 2.44 x 1.22 m, 18 mm thick plywood in order to support the loads.

| MAXIMUM CONCRETE SLAB THICKNESS 2440 x 1220 x 18 mm (L= 2440 mm) Plywood | | |
|---|--------------------------|--------------------------|
| Number of secondary beams (SB) per piece of plywood | 6 BEAMS (SB) X=488 mm | 5 BEAMS (SB) X=610 mm |
| Slab thickness | 52 cm | 33 cm |

2 Secondary beams (SB)

| MAXIMUM CONCRETE SLAB THICKNESS Distance between MB = Y | | | |
|--|-----------|-----------|-----------|
| Number of secondary beams (SB) per piece of plywood | Y=2100 mm | Y=2700 mm | Y=3000 mm |
| 6 Beams (SB) | 93 cm | 32 cm | 21 cm |
| 5 Beams (SB) | 72 cm | 24 cm | 15 cm |

3 Main beams (MB)

| MAXIMUM CONCRETE SLAB THICKNESS Z = 3 Props (every 1.5 m) | | | |
|--|-----------|-----------|-----------|
| Number of secondary beams (SB) per piece of plywood | Y=2100 mm | Y=2700 mm | Y=3000 mm |
| 6 Beams (SB) | 62 cm | 47 cm | 42 cm |
| 5 Beams (SB) | 59 cm | 44 cm | 39 cm |

| MAXIMUM CONCRETE SLAB THICKNESS Z = 4 Props (every 1 m) | | | |
|--|-----------|-----------|-----------|
| Number of secondary beams (SB) per piece of plywood | Y=2100 mm | Y=2700 mm | Y=3000 mm |
| 6 Beams (SB) | 112 cm | 86 cm | 76 cm |
| 5 Beams (SB) | 87 cm | 66 cm | 59 cm |

4 Props

- Load distribution on each prop should be analyzed, and the appropriate prop should be selected based on the HEIGHT and LOAD to be shored. (Use the ULMA PROPS catalog for this purpose).



Solutions offered by the system

Assembling the Bidirectional Head

The bidirectional head socket is installed on the prop and one or two beams can be overlapped on the head.



Assembling the Single Head

Only one beam can be installed per prop.



Assembling the Tripod

This permits setting the prop up vertically. Its placement facilitates the beginning of assembly.



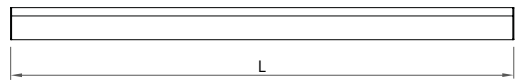


Basic components



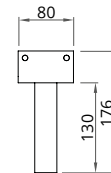
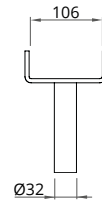
BTM BEAMS

| | | | |
|--------------|---------|------|------|
| BTM BEAM 1 | 1940130 | 8.5 | 1010 |
| BTM BEAM 1.5 | 1940131 | 12.8 | 1510 |
| BTM BEAM 2 | 1940132 | 17 | 2010 |
| BTM BEAM 2.5 | 1940133 | 21.3 | 2510 |
| BTM BEAM 3 | 1940134 | 25.5 | 3010 |
| BTM BEAM 3.5 | 1940135 | 29.8 | 3610 |
| BTM BEAM 4 | 1940142 | 34 | 4010 |
| | | | L |

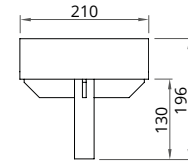
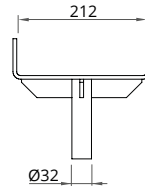


HEADS

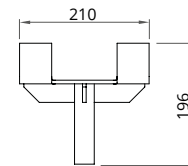
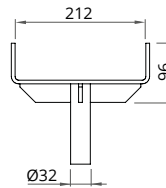
| | | | |
|-------------|---------|-----|--|
| SINGLE HEAD | 1940079 | 0.9 | |
|-------------|---------|-----|--|



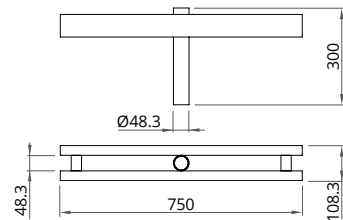
| | | | |
|-----------------|---------|-----|--|
| BTM DOUBLE HEAD | 1940136 | 4.1 | |
|-----------------|---------|-----|--|



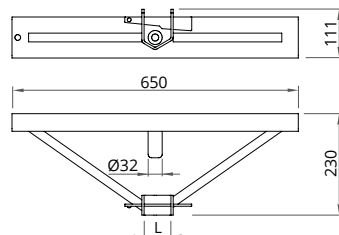
| | | | |
|------------------------|---------|-----|--|
| BIDIRECTIONAL BTM HEAD | 1940075 | 3.2 | |
|------------------------|---------|-----|--|



| | | | |
|-------------------------|---------|-----|--|
| CROSS HEAD W/SCREW JACK | 1940071 | 5.8 | |
|-------------------------|---------|-----|--|



| | | | |
|-----------------|---------|-----|---------|
| PROP CROSS HEAD | 1940067 | 3.7 | Ø40-Ø48 |
| | | | L |







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IMPORTANT:

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