Coates

ENGINEERING SOLUTIONS

# Propping Equipment


# Contents


# Specialists in temporary works

Temporary works are a vital part of all construction projects but are often overlooked and poorly understood within the industry. Coates Engineering Solutions specialise exclusively in temporary works, so you can rely on us to design, install and certify a safe, practical and cost-effective solution.

| | |
|---|---|
| **Industry-leading equipment** | Coates has one of Australia's largest ranges of structural support and water management equipment, including proprietary systems and wireless monitoring via telemetry. |
| **Power of one provider** | We go beyond dry hire to provide a complete engineered solution and the peace of mind that comes with having one supplier manage your project from start to finish. |
| **Technical know-how** | Temporary works failures can have serious consequences. Our engineers will design, calculate and specify the safest solution, with in-house Chartered engineers to certify design and installation. |
| **Service & support** | We specialise in temporary works so you don't have to. Our team brings in-depth industry experience, engineering expertise and proven project management capabilities to guide and support you. |
| **Safety & compliance** | All products and engineering services are compliant with relevant Australian Standards, Codes and Regulations, with supporting documentation such as SWMS to streamline compliance. |
| **R&D innovation** | We know you want temporary works products that will save you time and money. Our engineers are working with universities to develop world-leading shoring and propping products. |

# End-to-end temporary works solutions

From your initial enquiry to completion of the job, our multidisciplinary team of Civil, Structural, Chemical and Geotechnical engineers, designers, product specialists, project managers and installation experts will work with your consulting engineers and permanent works teams to deliver safely, on time and on budget.

## Project management

Our project managers will plan, coordinate and control your job from kick-off to completion. They'll ensure all stakeholders are aligned on project scope, timings and costs, and work with our designers and installers to mitigate risk and reduce costs at every stage.

## Technical design

In-house engineers will analyse, calculate, design and specify the best solution for your site in close collaboration with consulting engineers and permanent works teams. Need pre-tender support? Engaging our design team early can influence the viability of a project and save valuable time on construction schedules.

## Installation

Our expert installation and rigging teams can manage jobs of any size across the country. Coates' design and installation teams work closely together to minimise costs, such as specifying modular propping and shoring systems to reduce fabrication, on-site assembly and labour costs.

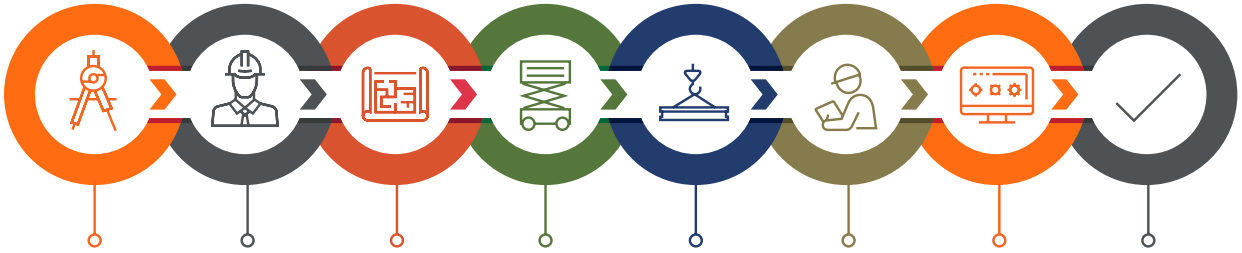
## Certification

Designs are peer-reviewed and checked with other engineers, and a Chartered engineer is always responsible for certifying the final design and installation. We can also organise third-party certification or provide your engineering consultant with documentation for independent verification.

## Monitoring

Depending on your project requirements, we can provide on-site monitoring and maintenance via our installation supervisors, field technicians and qualified engineers. Remote wireless monitoring is also available on selected equipment to provide you with real-time information about load, movement, temperature, noise and more.

Read on to explore our propping range, or contact us today to discuss your project on (02) 8796 5000 or engineeringsolutions@coates.com.au.




# Acrow Props

## Versatile light-duty props

The remarkably versatile Acrow Prop has many uses and it would be hard to find a building site where it is not used. The universal popularity of the Acrow Prop is due to the fact that it provides the simplest and quickest method of temporary support.

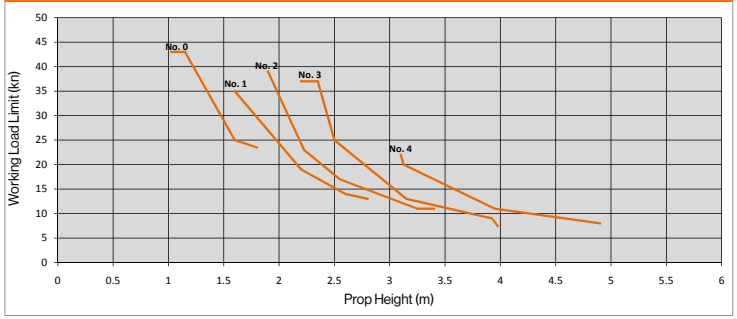
### Multitude of uses

Acrow Props are primarily used in the temporary support of formwork for reinforced concrete floors and beams. They are equally useful as raking shores to support formwork for columns, walls and staircases. Acrow Props are also invaluable in repair work, replacing a permanent support, or supporting canopies, lintels, etc while brick work or concrete is setting.

**Acrow Prop specifications**

| Prop Size | Weight | Closed | Open | Est Weight | Load Cap (Closed) | Load Cap (Open) |
|---|---|---|---|---|---|---|
| No. 0 | 12kg | 1050mm | 1830mm | 13.0kg | 40kN | 25kN |
| No. 1 | 16.2kg | 1600mm | 2800mm | 17.3kg | 34kN | 14kN |
| No. 2 | 18.9kg | 1900mm | 3400mm | 20.0kg | 40kN | 11kN |
| No. 3 | 21.4kg | 2170mm | 3975mm | 22.6kg | 35kN | 8kN |
| No. 4 | 29kg | 3100mm | 4900mm | 30.0kg | 20kN | 7kN |

**Load chart**



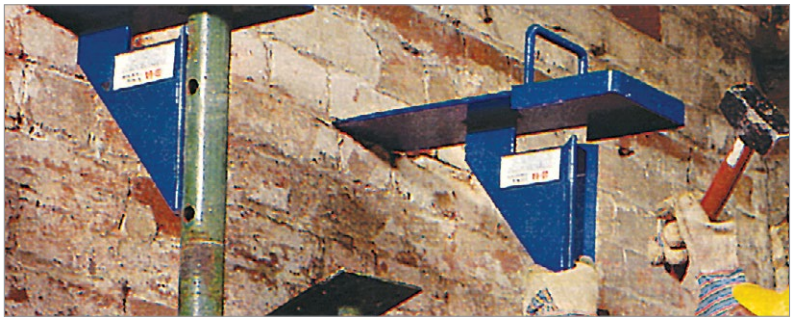

# Strong Boy Wall Supports

## Robust Acrow Prop head attachment

Strong Boys are a simple solution for supporting walls while you fit lintels, RSJs or beams. Simply hammer the blade into a raked mortar joint and support it with a single Acrow Prop while you remove the masonry beneath (refer to an engineer for load capacities).

**Load capacity**

WLL = 350kg (maximum working height = 3.2m)



# Coates Titan Aluminium Props

## Lightweight, medium load props

The Titan is a versatile, well-engineered prop that replaces traditional steel props. Manufactured from extruded aluminium, the prop works in compression to provide a versatile solution for a wide variety of applications.

Capable of supporting eight times the load for the same weight of its steel counterpart, Titan Props are easily handled in awkward locations. They are ideally suited for building remediation and difficult access applications, thanks to their light weight and ease of erection.

- Massive 13t safe load
- Light alloy, easy handling
- Tension Capacity = 13kN
- Available in three lengths

**Titan Prop specifications**

| Prop Size | Weight | Closed (mm) | Open (mm) | Load Cap (Closed) | Load Cap (Open) |
|---|---|---|---|---|---|
| No. 2 | 18kg | 1700 | 2900 | 138kN | 59kN |
| No. 4 | 22.4kg | 2900 | 4100 | 128kN | 41kN |
| No. 6 | 29.4kg | 4300 | 5500 | 81kN | 29kN |

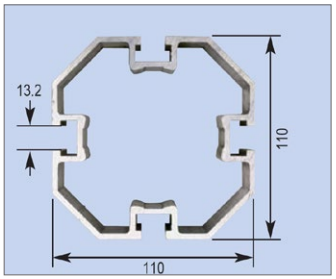
**Titan Prop extensions**

| Extensions | No.2 1.7 - 2.9m 5'7" - 9'6" | No.4 2.9 - 4.1m 9'6" - 13'5" | No.6 4.3 - 5.5m 14'1" - 13'5" |
|---|---|---|---|
| Metres | 18 kg | 22.4 kg | 29.4 kg |
| 1.70 | 138 kN | - | - |
| 1.90 | 133 kN | - | - |
| 2.10 | 128 kN | - | - |
| 2.30 | 121 kN | - | - |
| 2.50 | 104 kN | - | - |
| 2.70 | 84 kN | - | - |
| 2.90 | 59 kN | 128 kN | - |
| 3.10 | - | 126 kN | - |
| 3.30 | - | 120 kN | - |
| 3.50 | - | 95 kN | - |
| 3.70 | - | 69 kN | - |
| 3.90 | - | 53 kN | - |
| 4.10 | - | 41 kN | - |
| 4.30 | - | - | 81 kN |
| 4.50 | - | - | 72 kN |
| 4.70 | - | - | 65 kN |
| 4.90 | - | - | 58 kN |
| 5.10 | - | - | 50 kN |
| 5.30 | - | - | 40 kN |
| 5.50 | - | - | 29 kN |

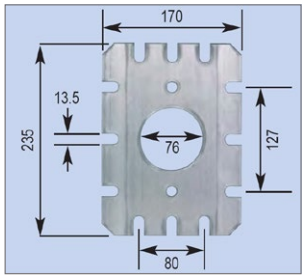
# Coates Titan Aluminium Props

Available in three sizes, Titan Props can be used in combination for longer spans.

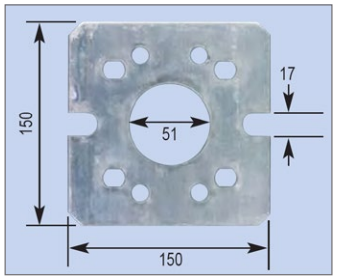
| Titan Prop | | | |
|---|---|---|---|
| Height (mm) | No. 2 | No. 4 | No. 6 |
| 4600-5600 | 1 | 1 | - |
| 5800-6800 | - | 2 | - |
| 6000-7000 | 1 | - | 1 |
| 7200-8200 | - | 1 | 1 |
| 8600-9600 | - | - | 2 |




Section Detail




Headplate Detail

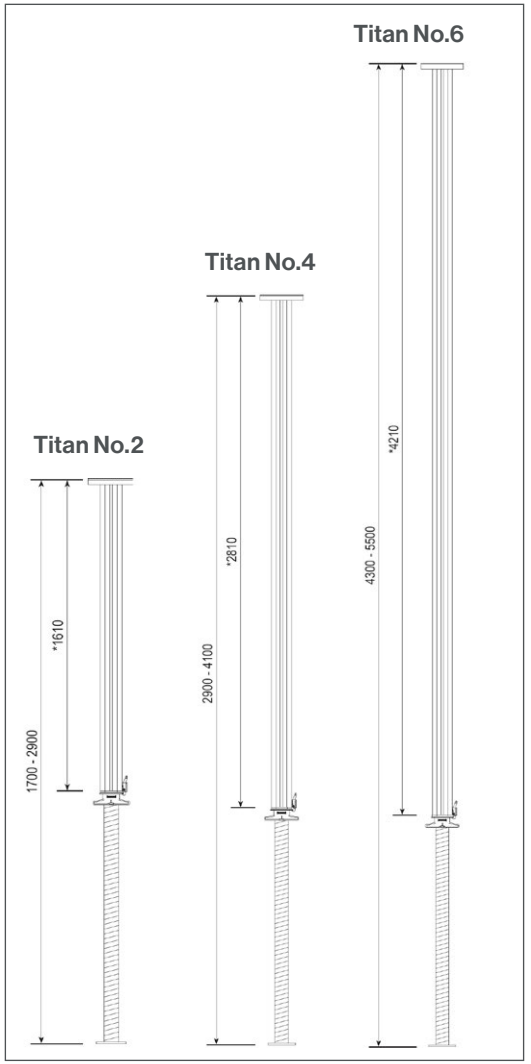



Baseplate Detail

## Combination Joint Information

Minimum 8 x M12 x 35mm 8.8 grade bolts with 16 x 13mm washers.

| Permissable Load (kN) for Titan Props in combination | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Prop Height (mm) | 5600 | 5800 | 6000 | 6200 | 6400 | 6600 | 6800 | 7000 | 7200 | 7400 | 7600 | 7800 | 8000 | 8200 | 8400 | 8600 | 8800 | 9000 |
| kN | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15.2 | 14.5 | 13.8 | 13 | 12.5 | 11.9 | 11.4 | 10.8 | 10.4 | 9.9 | 9.5 |

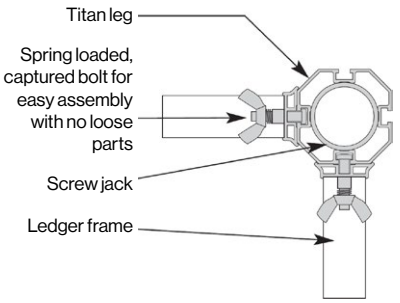


# Titan Accessories

## Titan Raking Bracket

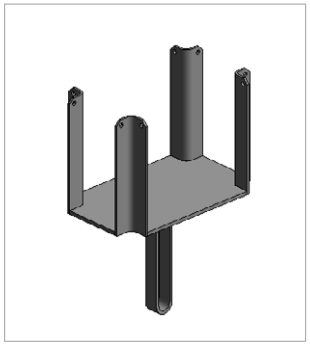
Coates Titan Aluminium Props can be used in raked situations by attaching the Titan Raking Bracket at both ends, using a minimum 4 x M12 x 35mm 8.8 grade bolts with 16 x 13mm washers.

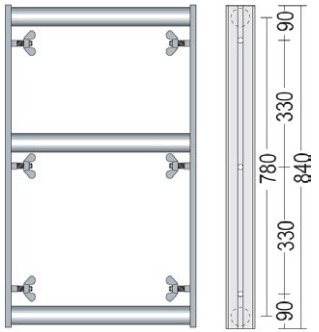
- Range: 12 - 90 Degrees
- Compression capacity: 82 kN WLL
- Tension capacity: 15 kN WLL
- Holes available for fastening to supports: 26mm Dia x 1 & 17.5mm Dia x 2
- Middle hole provides limited head clearance. Suitable for screw anchors used for prop angles of 12-14 degrees only. Can attach to both sides of Titan Props




## Titan 4-Way Fork Head Plate

The Titan 4-Way Fork Head Plate or U Head can be used on either side of the Coates Titan Aluminium Props to allow spreader beams up to 170 mm wide to be used for supporting formwork or suspended slabs without losing any capacity in the Titan Props. The beams could be timber, LVL or Coates System 15 (140 mm side) or similar. The 4-Way Fork Head has a clear opening of 170 mm on one side and 85 mm on the other side. The forks have 5.5 mm diameter holes to allow nails or screws to be used for fixing the beams into position. The stem is 32 mm wide so it can also be used with Acrow Props. Please check with your engineer before using it on Acrow Props to confirm its use doesn't adversely affect the capacity of the Acrow Props.






600 (5.6kg)

**Note:** Frame dimensions shown are in millimetres and centre-to-centre of Titan legs.

Ledger Frames are only designed for loads between two vertical Titan legs.

## Titan Rocking Head (2.8kg)

- For sloping soffits, ramps and other inclined surfaces
- Maximum slope angle = 33 degrees to Top Plate
- Can attach to screw jack side of Titan Prop

1800 (10.2kg)

# Safe Prop

## Safety attachment for back props

This certified product can be used with the Coates Titan Aluminium Props and Acrow Props to provide support against accidental dislodgement.

- **Prevents serious injuries:** The patented spring loaded attachment prevents the props from falling over during the curing and post stressing period.
- **Increases efficiency:** With no need to drill support screws onto prop heads, installation is quick and easy, saving time and cost. However, this is not an alternate to any kind of fixings that may have been advised by your engineer.
- **Maintains structural integrity:** Not drilling support screws reduces the risk of concrete cancer occurring and prevents contact with the post stressing cables.

**Safe Prop provides additional capacity to prevent accidental dislodgement of the Titan or Acrow Props. The loads that can cause dislodgement of the props at different levels of spring compression are tabulated below.**

| | | **Load to cause dislodgement (N)** | |
|---|---|---|---|
| | | Spring compressed length (mm) | |
| Load application of 3.0m prop | μ | 30 | 45 |
| Mid point of prop | 0.51 (test) | 962 | 1504 |
| 100mm from end of prop | 0.46 (test) | 451 | 705 |
| Mid point of prop | 0.3 (conc-steel) | 564 | 882 |
| 100mm from end of prop | 0.3 (conc-steel) | 292 | 456 |
| Mid point of prop | 0.2 (steel-steel) | 376 | 588 |

**Coates has the following recommendations in relation to the use of Safe Prop:**

Safe Prop must be installed so that the plates are fully engaged and bearing against the founding surface. If this does not occur, then the prop is not subjected to any back propping loads.

Back props using Safe Prop should be checked regularly to ensure that the plates are always engaged. If the plates have moved apart, then the prop shall be wound out to re-engage the plates.

If props are intended to be used in conjunction with Safe Prop that do not allow the use of Safe Prop in compliance with the detail described in this report and manufacturer's specifications, then it should not be used.

Bearing surfaces should be horizontal, relatively flat (class 3 off form finish or better) and free from small debris and other compounds or fluids that may decrease the frictional restraint (such as aggregate, screws, nails, sawdust, water, oils, etc.).

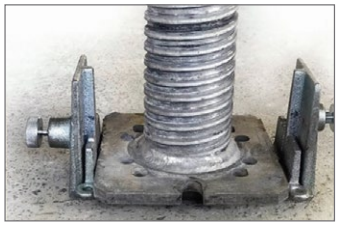
Packers, timbers, shims or wedges to increase height, level slopes, etc. should not be used.

When used with a Bondek slab construction, the back prop with Safe Prop should be installed after the slab is poured and there is a rigid soffit for the back prop to bear against.

A Structural Engineer should assess that any differential settlement of the slabs is not greater than 15mm.

Back props should always be installed and maintained plumb.

Safe Prop should be in a good condition with no signs of damage.




# Mini Tri Props

Mini Tri Props are lightweight, high capacity intermediate props with a load capacity of 12t at 3m. Screw jacks allow for fine adjustment.

The permissible loading given is for a freestanding strut without intermediate bracing. Prop load rating can be increased by providing adequate bracing at intermediate points (to be calculated by an engineer). To be effective the bracing must be in two directions, preferably at right angles. In every case some cross bracing is essential for erection and stabilising against any lateral force. Bracing to be correctly fitted to Australian Standards requirements.

## Mini Tri Prop advantages:

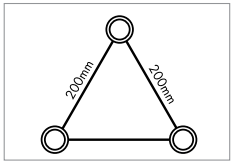
- Left and right-hand threaded jacks – turn prop for adjustment
- Lightweight, high capacity (12t at 3m)
- No spanners required
- Economical – savings in erection and transportation
- Braced with standard scaffold tube and clips
- Coates Mini Tri Props have a Tension capacity of 10.5t

| Left-hand Head Jack specifications | |
|---|---|
| Description | Head Jack |
| Weight | 19.6kg |
| Adjustable | From 195-475mm |
| Base | 200 x 200mm |

| Right-hand Head Jack specifications | |
|---|---|
| Description | Base Jack |
| Weight | 19.6kg |
| Adjustable | From 195-475mm |
| Base | 200 x 200mm |

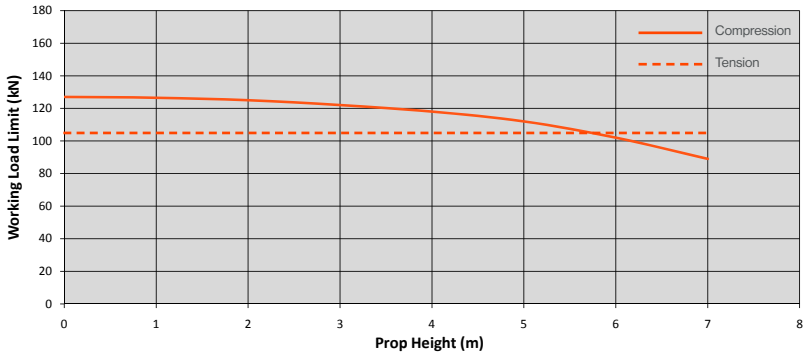
Left-hand Thread

Right-hand Thread

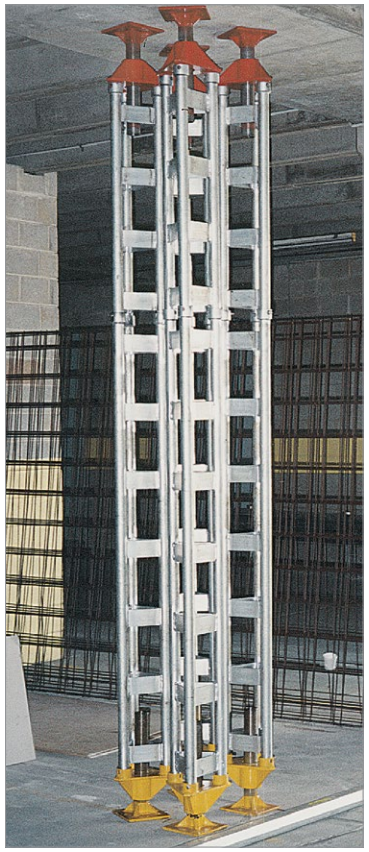



Mini Tri outside dimensions

### Load chart



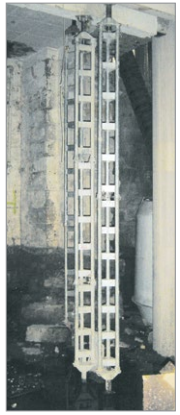

| Mini Tri Prop specifications | | | |
|---|---|---|---|
| Description | 1 Metre Section | 1.5 Metre Section | 2 Metre Section |
| Weight | 15.8kg | 22.3kg | 29.3kg |



# Mini Tri Props

**WARNING:** Mini Tri Props are not designed for eccentric or lateral loads. Loading must be positioned directly over centre of prop, bracing must be in two directions preferably at right angles.

| Mini Tri Prop component specifications | | | | |
|---|---|---|---|---|
| Mass | Overall Height of Mini Tri Prop with Base and Head Jack | Number of Intermediate Sections Required | | |
| kg | Metres | 1m | 1.5m | 2m |
| 55 | 1.390 - 1.950 | 1 | - | - |
| 61.5 | 1.890 - 2.450 | - | 1 | - |
| 68.5 | 2.390 - 2.950 | - | - | 1 |
| 77.3 | 2.890 - 3.450 | 1 | 1 | - |
| 88.3 | 3.390 - 3.950 | - | 2 | - |
| 90.8 | 3.890 - 4.450 | - | 1 | 1 |
| 97.8 | 4.390 - 4.950 | - | - | 2 |
| 106.6 | 4.890 - 5.450 | 1 | 1 | 1 |
| 113.6 | 5.390 - 5.950 | 1 | - | 2 |
| 120.1 | 5.890 - 6.450 | - | 1 | 2 |
| 127.1 | 6.390 - 6.950 | - | - | 3 |



# Trishore Props

### Trishore advantages:

- Able to support heavy loads at considerable height
- Fine adjustment by screw jacks
- Economical, savings in labour and transport
- Braced in groups can support exceptionally heavy loads
- Interchangeable sections

### Features:

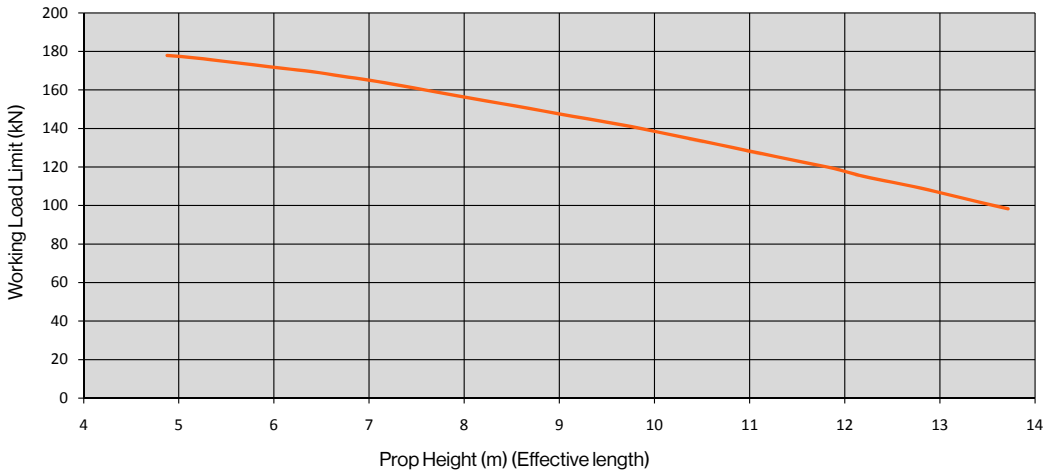
- Intermediate sections available in three different lengths
- Domed bearing plate to ensure concentric loading
- Head Jack adjustments fits flanged beams
- Quick action connector

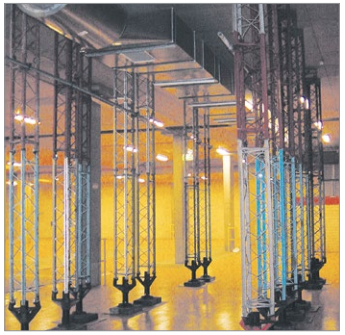
The permissible loading given is for a freestanding strut without intermediate bracing. Prop load rating can be increased by providing adequate bracing at intermediate points (to be calculated by a qualified engineer).

To be effective the bracing must be in two directions, preferably at right angles. In every case some cross bracing is essential for erection and stabilising against any lateral force.

Bracing to be correctly fitted to Australian Standards requirements.

**Load chart**



# Trishore Prop Components

All Trishores are made up with a Base Jack (height between 406mm and 667mm), a Flat Head Piece (height 165mm), or a Head Jack (height between 387mm and 680mm). The Intermediate Sections required for various overall heights are shown below.

## Head Jack specifications

| Description | Head Jack |
|---|---|
| Weight | 33kg |
| Adjustment | from 370 - 650mm |

## Base Jack specifications

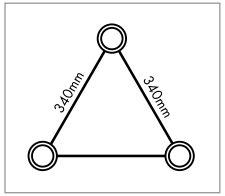
| Description | Base Jack |
|---|---|
| Weight | 34kg |
| Adjustment | from 370 - 650mm |

## Flat Head Piece specifications

| Description | Flat Head Piece |
|---|---|
| Weight | 12kg |
| Height | 165mm |

## Intermediate Sections specifications

| Description | Intermediate Section | Intermediate Section | Intermediate Section |
|---|---|---|---|
| Length | 1250mm | 1500mm | 2000mm |
| Weight | 26 kg | 29 kg | 36 kg |




Trishore outside dimensions

## Trishore Prop Component Schedule

| Mass | Base Jack & Flat Head | | Sections Required (m) | | | Base Jack & Head Jack | | Mass |
|---|---|---|---|---|---|---|---|---|
| kg | Min | Max | 1.25 | 1.5 | 2 | Min | Max | kg |
| 45 | 0.56 | 0.82 | | | | 1.13 | 1.3 | 67 |
| 71 | 1.8 | 2.07 | 1 | | | 1.99 | 2.55 | 93 |
| 74 | 2.05 | 2.32 | | 1 | | 2.24 | 2.8 | 96 |
| 81 | 2.55 | 2.82 | | | 1 | 2.74 | 3.3 | 103 |
| 97 | 3.05 | 3.32 | 2 | | | 3.24 | 3.8 | 119 |
| 100 | 3.3 | 3.57 | 1 | 1 | | 3.49 | 4.05 | 122 |
| 103 | 3.55 | 3.82 | | 2 | | 3.74 | 4.3 | 125 |
| 107 | 3.8 | 4.07 | 1 | | 1 | 3.99 | 4.55 | 129 |
| 110 | 4.05 | 4.32 | | 1 | 1 | 4.24 | 4.8 | 132 |
| 123 | 4.3 | 4.57 | 3 | | | 4.49 | 5.05 | 145 |
| 117 | 4.55 | 4.82 | | | 2 | 4.74 | 5.3 | 139 |
| 129 | 4.8 | 5.07 | 1 | 2 | | 4.99 | 5.55 | 151 |
| 133 | 5.05 | 5.32 | 2 | | 1 | 5.24 | 5.8 | 155 |
| 136 | 5.3 | 5.57 | 1 | 1 | 1 | 5.49 | 6.05 | 158 |
| 139 | 5.55 | 5.82 | | 2 | 1 | 5.74 | 6.3 | 161 |
| 143 | 5.8 | 6.07 | 1 | | 2 | 5.99 | 6.55 | 165 |
| 159 | 6.3 | 6.57 | 3 | | 1 | 6.49 | 7.05 | 181 |
| 153 | 6.55 | 6.82 | | | 3 | 6.74 | 7.3 | 175 |
| 165 | 6.8 | 7.07 | 1 | 2 | 1 | 6.99 | 7.55 | 187 |
| 169 | 7.05 | 7.32 | 2 | | 2 | 7.24 | 7.8 | 191 |
| 172 | 7.3 | 7.57 | 1 | 1 | 2 | 7.49 | 8.05 | 194 |
| 175 | 7.55 | 7.82 | | 2 | 2 | 7.74 | 8.3 | 197 |
| 179 | 7.8 | 8.07 | 1 | | 3 | 7.99 | 8.55 | 201 |
| 182 | 8.05 | 8.32 | | 1 | 3 | 8.24 | 8.8 | 204 |
| 195 | 8.3 | 8.57 | 3 | | 2 | 8.49 | 9.05 | 217 |
| 189 | 8.55 | 8.82 | | | 4 | 8.74 | 9.3 | 211 |
| 201 | 8.8 | 9.07 | 1 | 2 | 2 | 8.99 | 9.55 | 223 |
| 205 | 9.05 | 9.32 | 2 | | 3 | 9.24 | 9.8 | 227 |
| 208 | 9.3 | 9.57 | 1 | 1 | 3 | 9.49 | 10.05 | 230 |
| 211 | 9.55 | 9.82 | | 2 | 3 | 9.74 | 10.3 | 233 |
| 205 | 9.05 | 9.32 | | 2 | 3 | 9.24 | 9.8 | 227 |
| 208 | 9.3 | 9.57 | 1 | 1 | 3 | 9.49 | 10.05 | 230 |
| 211 | 9.55 | 9.82 | | 2 | 3 | 9.74 | 10.3 | 233 |
| 215 | 9.8 | 10.07 | 1 | | 4 | 9.99 | 10.55 | 237 |
| 218 | 10.05 | 10.32 | | 1 | 4 | 10.24 | 10.8 | 240 |
| 231 | 10.3 | 10.57 | 3 | | 3 | 10.49 | 11.05 | 253 |
| 237 | 10.8 | 11.07 | 1 | 2 | 3 | 10.99 | 11.55 | 259 |
| 241 | 11.05 | 11.32 | 2 | | 4 | 11.24 | 11.8 | 263 |
| 244 | 11.3 | 11.57 | 1 | 1 | 4 | 11.49 | 12.05 | 266 |
| 247 | 11.55 | 11.82 | | 2 | 4 | 11.74 | 12.3 | 269 |
| 251 | 11.8 | 12.07 | 1 | | 5 | 11.99 | 12.55 | 273 |
| 254 | 12.05 | 12.32 | | 1 | 5 | 12.24 | 12.8 | 276 |
| 267 | 12.3 | 12.57 | 3 | | 4 | 12.49 | 13.05 | 289 |
| 273 | 12.8 | 13.07 | 1 | 2 | 4 | 12.99 | 13.5 | 295 |

Note: Flat Head Pieces are not designed for point loads. Should be used under a slab or a flat surface only.

# Tilt Props

Advances in precast concrete construction techniques have brought new challenges, as panel sizes and resulting loads have escalated. Available in 7 sizes, our Tilt Props suit high load applications. The high strength-to-weight ratio means they can be easily manoeuvred and installed on-site, reducing labour and transport costs. Props are individually tagged with service certificates.

**Tilt Props specifications**

| Prop Name | Length | Closed SWL | Middle SWL | Full SWL | Weight | Availability |
|---|---|---|---|---|---|---|
| Shisham Mini | 2.4m–4.1m | 2.4m-35kN | 3.5m-32kN | 4.1m-30kN | 36kg | Not available in all states* |
| RJB Mini | 2.6m–4.4m | 2.6m-44kN | 3.5m-35kN | 4.4m-30kN | 37kg | NSW, SA, VIC, QLD, ACT |
| RJB Standard | 4.4m–6.8m | 4.4m-40kN | 5.5m-23kN | 6.8m-14kN | 53kg | NSW, SA, VIC, QLD, ACT |
| Shisham Standard 1 | 4.35m–7.0m | 4.35m-40kN | 5.8m-22kN | 7.0m-18kN | 55kg | Not available in all states* |
| RJB Jumbo | 6.2m–10.0m | 6.2m–25kN | 8.0m-13kN | 10m-6kN | 78kg | NSW, SA, VIC, QLD, ACT |
| Shisham Jumbo | 6.4m-11.5m | 6.4m–30kN | 9.0m-15kN | 11.5m-8kN | 106kg | Not available in all states* |
| Shisham Supa Jumbo | 8.5m-14.5m | 8.5m–26kN | 11.5m-8kN | 14.5m-4kN | 137 kg | Not avilable in all states* |

*Call 13 15 52 to enquire if this product is available in your state.

## Safe working load recommendations

- Minimum two props/braces per panel for stability and load transfer
- Whenever possible the props/braces should be fixed to the panel prior to lifting
- For additional or more in-depth information contact the Coates Engineering Solutions team

**Coates Lock accessories**

|  |  |
|---|---|
| Coates Pins | Padlock |

# Needle & Grillage Beams

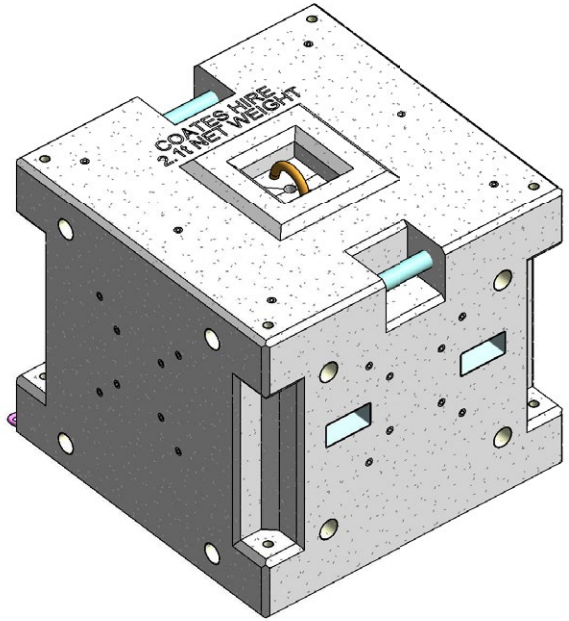
Needle Beams are used in propping and needling applications. They are available in various lengths and sizes.

**NB.** Spigot joints are not designed to support beam loads. Grillage Beams can be used for dispersing heavy loads on poor quality footings.

| Needle & Grillage Beam specifications | | | | |
|---|---|---|---|---|
| Description | Length | Width | Height | Weight |
| Needle Beams | 2m | 75mm | 150mm | 40kg |
| Needle Beams | 3m | 75mm | 150mm | 60kg |
| Needle Beams | 2m | 130mm | 200mm | 60kg |
| Needle Beams | 3m | 130mm | 200mm | 90kg |
| Needle Beams | 2m | 165mm | 310mm | 100kg |
| Needle Beams | 3m | 165mm | 310mm | 150kg |
| Grillage Beams | 2m | 254mm | 254mm | 190kg |
| Grillage Beams | 2.5m | 254mm | 254mm | 236kg |

# Coates Bracing Blocks

These 2.1-tonne concrete blocks can be used as a counterweight, as well as stable bracing supports. Fully certified and compliant, they provide ferrules that are compatible with the Coates Universal Propping System.

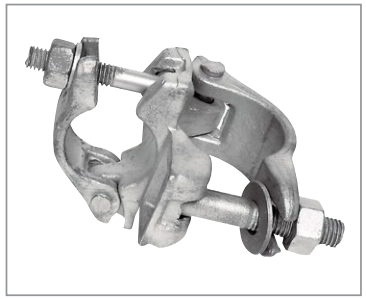


# Propping Accessories

Coates has a range of bracing accessories which are used to tie together various structures. If you have a special requirement, contact a Coates Engineer.

| Scaffold Tube specifications | |
|---|---|
| Length | Outside Dimensions |
| 1m | 50mm |
| 2m | 50mm |
| 3m | 50mm |
| 4m | 50mm |
| 5m | 50mm |
| 6m | 50mm |

Titan Coupler



Tube Coupler

Scaffold Tubing

# Sleepers

Sleepers can be used in different formations, such as grid patterns, to form base pads or sole plates to support and spread the load on various surfaces.

| Sleeper specifications | | |
|---|---|---|
| Description | Dimensions mm | Approx. Weight |
| Full Sleepers | 2400 x 200 x 100 | 40kg |
| Half Sleepers | 1200 x 200 x 100 | 20kg |
| Quarter Sleeper | 600 x 200 x 100 | 10kg |

# Universal Prop System

## Pre-certified modular system for challenging applications

Designed by Coates engineers, Universal Prop System is one of the most versatile modular shoring and propping systems available. Able to prop up to 15, 30, 60 and 100 tonne respectively. the props are easily connected together on site, ensuring rapid assembly and dismantling.

## Universal Prop System 15

Universal Prop System 15 (SYS15) can connect to the System 30 and 60 to provide a versatile propping system Used as a compression member, System 15 is also used as a no gap formwork soldier, a raking prop and as a bracing prop where it provides an efficient load carrying capacity for loads up to 160kN.

The section of the System 15 prop is 140 x 190 mm. M14 N, B & W are required to connect members and accessories of System 15 together.

| Universal Prop System 15 specifications | |
|---|---|
| Section Length | Weight |
| SYS15 125mm | 5.5kg |
| SYS15 250mm | 8kg |
| SYS15 500mm | 12kg |
| SYS15 1000mm | 21kg |
| SYS15 2000mm | 38kg |

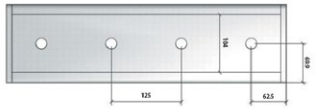
| System 15 Screw Jack specifications | |
|---|---|
| Description | Screw Jack |
| Weight | 16kg |
| Adjustment | 400 - 610mm |
| Base | 190 x 140mm |

Needle Beam Fixing Clamp

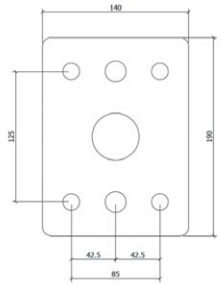
Screw Jack (System 15)

Raking Bracket
(limited load capacity)

Packing Plate

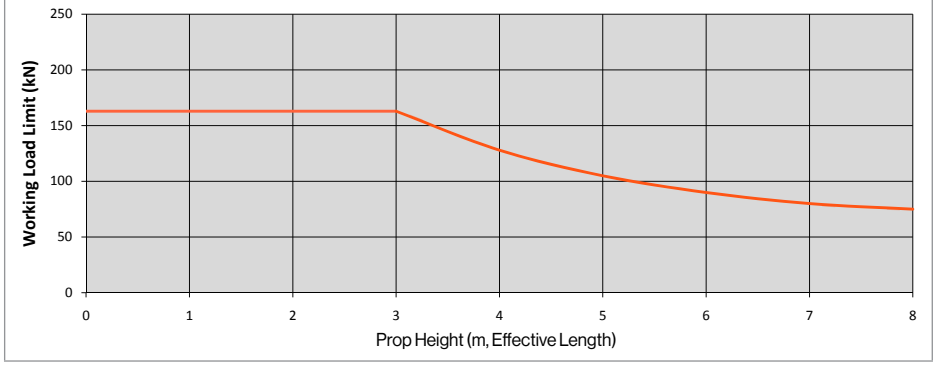


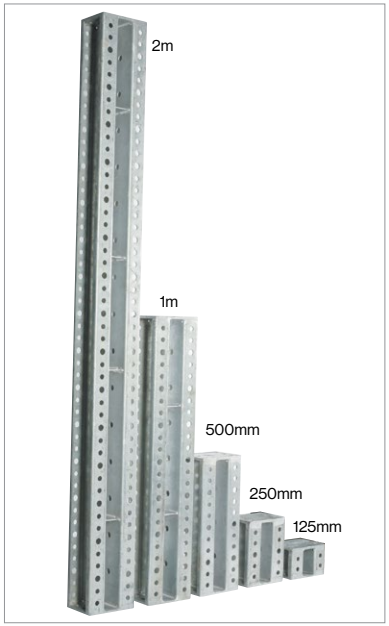
Typical Hole Centres (mm)



End Plate Detail (mm) System 15

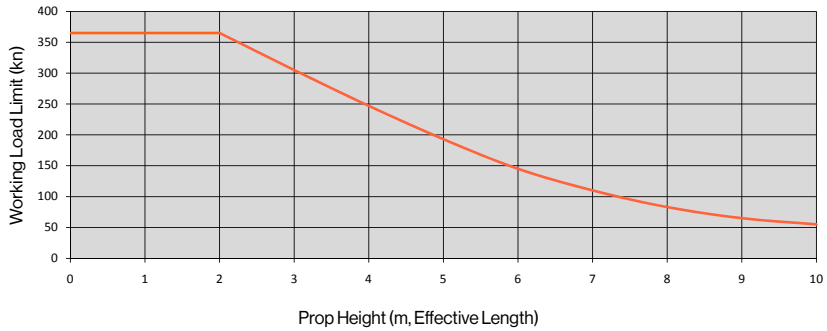
**Load chart**




# Universal Prop System 30

## Load chart



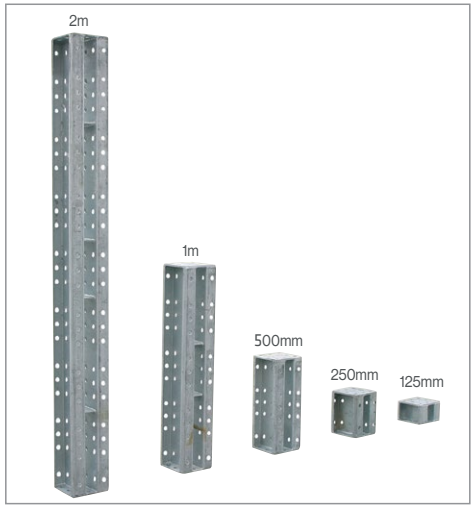

Universal Prop System 30 (SYS30) is a lighter version of System 60 and is more efficient than a formwork soldier. The System 30 prop unit has a safe axial capacity of 30 tonnes and is a similar fabrication to System 60 prop unit but with a 190mm square section. Holes in both flanges of the prop unit enable the positive and direct bolting of bracing members and other props. Highly efficient frames, trusses and three dimensional structures can be designed and built entirely from off the shelf components thereby reducing lead time. The modular concept and simple connection details also ensure rapid assembly and dismantling.

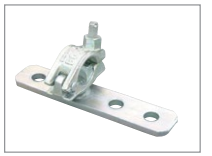
The System 30 beams can attach directly to the web of System 60 enabling substitution for cross members in System 60 designs. M18 N, B and W are required to connect members of System 30 and 60. The permissible loading given is for a freestanding strut, incorporating one screw jack and multiples of beam section connected by standard 4 bolt pattern, without intermediate bracing, placed between firm and level bearing surfaces. Refer to AS 3610 for acceptable criteria for installation, bracing and eccentricity of loading. Screw jack to be placed at a strut end only.

| Universal Prop System 30 specifications | |
|---|---|
| Section Length | Weight |
| SYS30 125mm | 8kg |
| SYS30 250mm | 11kg |
| SYS30 500mm | 17kg |
| SYS30 1000mm | 30kg |
| SYS30 2000mm | 55kg |

| System 30 Screw Jack specifications | |
|---|---|
| Description | Screw Jack |
| Weight | 25kg |
| Adjustment | 400 - 610mm |
| Base | 190 x 190mm |

| System 30 Accessories |
|---|
| Description |
| Raking Bracket |
| End Connector |
| Packing Plates |
| Swivel Scaffold Coupler |
| Flange Scaffold Coupler |
| Transfer Fixing Plate |
| Truss Fixing Plate |
| Needle Beam Fixing Clamp |
| System 30 Bracing |

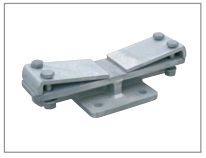




Flange Scaffold Coupler


Truss Fixing Bracket

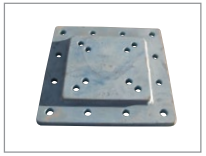

End Connector

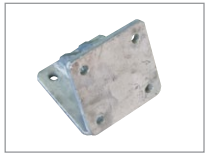

Swivel Scaffold Coupler

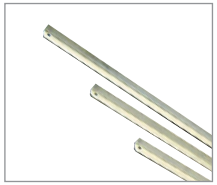

Needle Beam Fixing Clamp

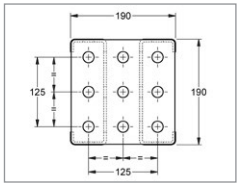

Screw Jack


Packing Plates

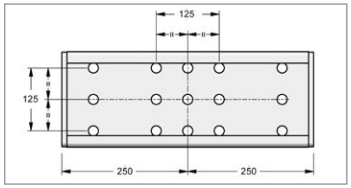

Transfer Fixing plate (allows system to be fixed to concrete)


Raking Bracket (limited load capacity)


SYS30 Bracing



End Plate Detail (mm)



Typical Hole Centres (mm)

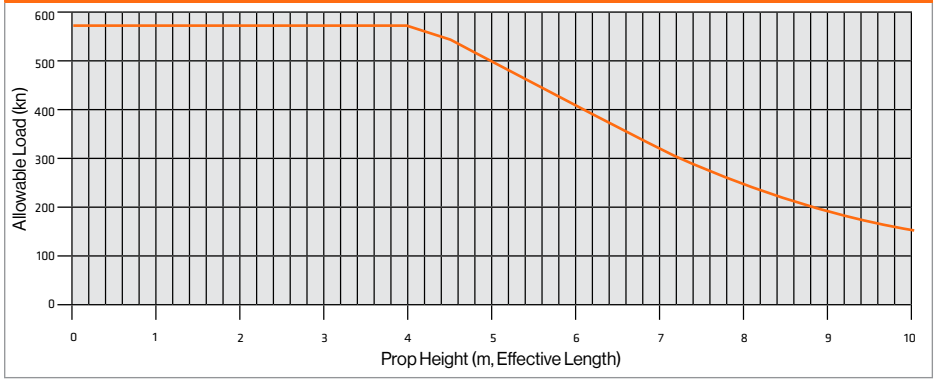
# Universal Prop System 60

| Universal Prop System 60 specifications | |
|---|---|
| Section Length | Weight |
| SYS60 125mm | 19kg |
| SYS60 250mm | 23kg |
| SYS60 500mm | 33kg |
| SYS60 1000mm | 54kg |
| SYS60 2000mm | 96kg |

| System 60 Accessories |
|---|
| Description |
| Raking Bracket |
| End Connector |
| Packing Plates |
| Swivel Scaffold Coupler |
| Needle Beam Fixing Clamp |

| System 60 Screw Jack specifications | |
|---|---|
| Description | Screw Jack |
| Weight | 36kg |
| Adjustment | 400 - 610mm |
| Base | 250 x 250mm |

## Load chart




Universal Prop System 60 (SYS60) is a high capacity prop that is fully compatible with System 30 and System 15 props.This extremely versatile modular system, comprising bracing members, grillage beams, needle beams and an extensive range of ancillary components, is more than capable of providing a safe and economical solution for medium to heavy duty propping applications.

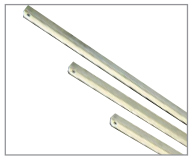
System 60 can be integrated with System 30 to achieve varying structures. The versatility of the system and its components ensures that solutions can be found for a very wide range of support problems. The permissible loading given is for a freestanding strut, incorporating one screw jack and multiples of beam section connected by standard 4 bolt pattern, without intermediate bracing, placed between firm and level bearing surfaces. Refer to AS 3610 for acceptable criteria for installation, bracing and eccentricity of loading. Screw jack to be placed at a strut end only.

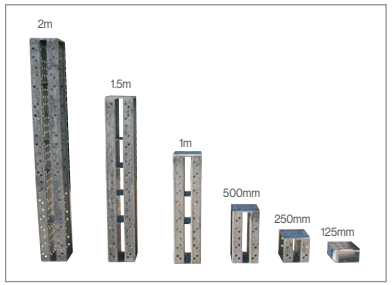

Needle Beam Fixing Clamp


Screw Jack


End Connector

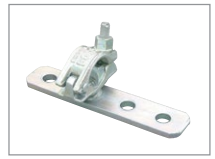

Truss Fixing Bracket


SYS60 Bracing

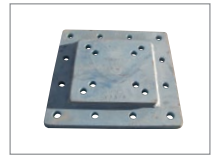




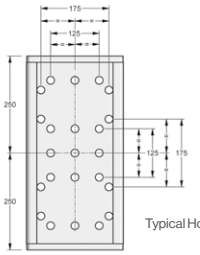
Packing Plates

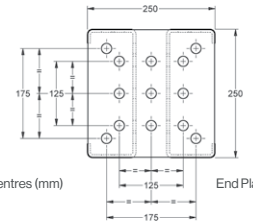

Flange Scaffold Coupler


Multi Angle Bracket


Transfer plate (allows system to be fixed to concrete


Raking Bracket (limited load capacity)


Typical Hole Centres (mm)


End Plate Detail (mm)


Swivel Scaffold Coupler

# Universal Prop System 100

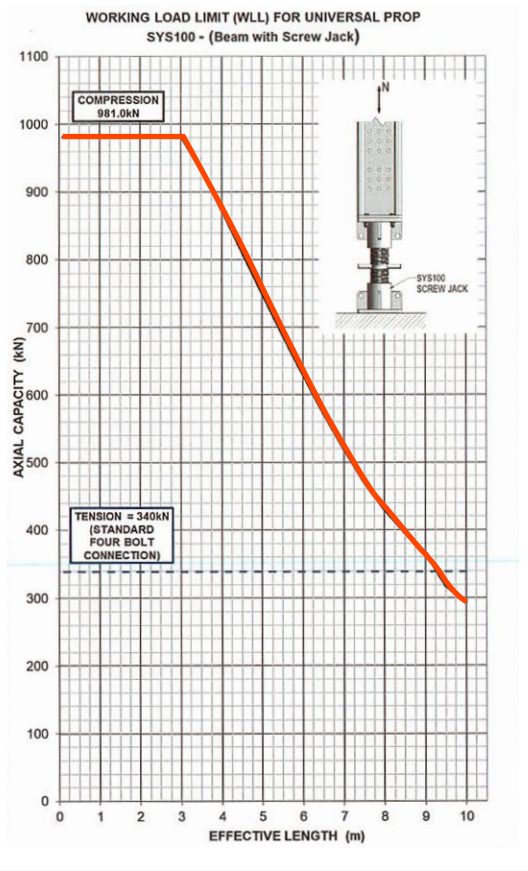
| Universal Prop System 100 specifications | |
|---|---|
| Section Length | Weight |
| SYS100 125mm | 28kg |
| SYS100 250mm | 35kg |
| SYS100 500mm | 46kg |
| SYS100 1000mm | 71kg |
| SYS100 2000mm | 120kg |

| System 100 Screw Jack specifications | |
|---|---|
| Description | Screw Jack |
| Weight | 80kg |
| Adjustment | 420 - 620mm |
| Base | 290 x 290mm |

| System 100 Accessories | |
|---|---|
| Description | |
| Raking Bracket | 65kg |
| End Connector | 21kg |
| Packing Plates | Var |
| Transfer Fixing Plate | 32kg |
| Needle Beam Fixing Clamp | 19kg |
| System100 Multi Angle Bracket | 70kg |

**NOTE** All accessories are not available at all locations.

## Load chart




Universal Prop System (SYS100) is a fully certified, true 100-tonne prop system with a compression capacity of 100 tonnes at 3-metre spans. It is compatible with other props in the Universal Prop System range (ie, SYS15, SYS30 and SYS60). This enables engineers to design cost-effective solutions where members are used on the basis of their capacity and sectional properties alone.

This extremely versatile modular system, comprising the robust Screw Jack, Raking Bracket and an extensive range of ancillary components, is more than capable of providing a safe and economical solution for heavy duty propping applications. System 100 can be integrated with System 30 and 60 components, (subject to the advice of a qualified Engineer) to achieve varying structures. The versatility of the system and its components ensures that solutions can be found for a very wide range of support problems. The permissible loading given is for a freestanding strut, incorporating one screw jack and multiples of beam section connected by standard 4 bolt pattern, without intermediate bracing, placed between firm and level bearing surfaces. Refer to AS 3610 for acceptable criteria for installation, bracing and eccentricity of loading. Screw jacks can be used at a strut end only.

Screw Jack

Raking Bracket (limited load capacity)

# Quadshore™

## The world's lightest, heavy-duty propping system

Developed as part of Coates' multi-year R&D collaboration with Monash University, Quadshore is the world-leading lightweight heavy-duty propping solution for temporary construction works.

The award-winning propping system is tested and certified to relevant Australian standards and consists of the heavy-duty Quadshore 150 and the medium-duty Quadshore 50. Both Q150 and Q50 are compatible with other propping systems, such as Coates' Universal Prop System.

GOOD DESIGN AWARD® GOLD WINNER

ENGINEERS AUSTRALIA Excellence Awards

constructsteel Awards2023 ★★★★★

Innovation of the Year 2023

## Quadshore 50

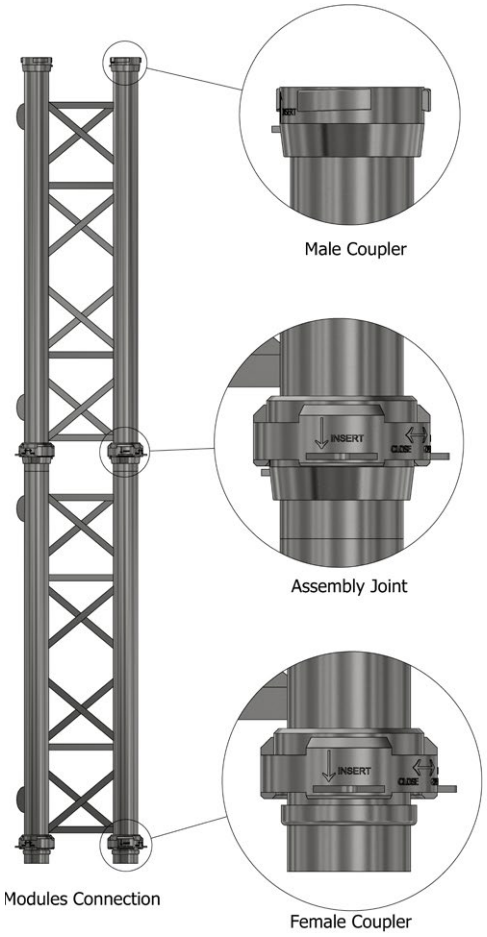
The modular Quadshore 50 provides medium load-bearing support in a variety of configurations, including single leg propping assemblies, raking struts and high-rise tower systems.

The working load limit (WLL) of a 3m assembly is 608kN (62t) – 1.4 x higher than conventional systems.

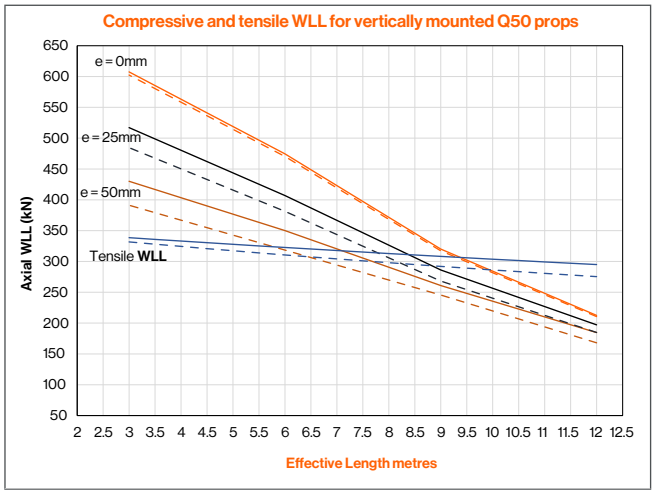
Patented Twistlock Boltless Connections means the assembly and disassembly time of Quadshore 50 is 40% quicker than conventional systems.

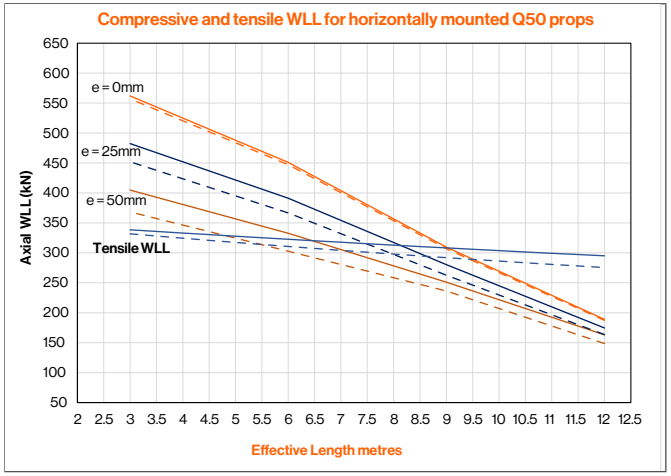
**Quadshore 50 standard module weights**

| Length | Weight (kg) |
|---|---|
| 250mm | 8.9 |
| 1250mm | 23.0 |
| 1500mm | 27.0 |
| 2000mm | 35.0 |




### Quadshore 50 Load charts



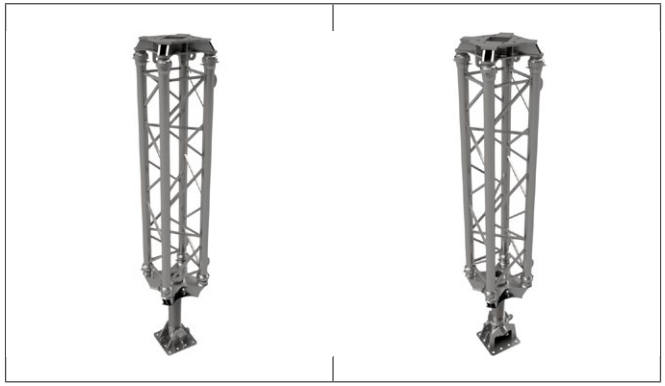




For more information, see *Quadshore 50 Technical Data*

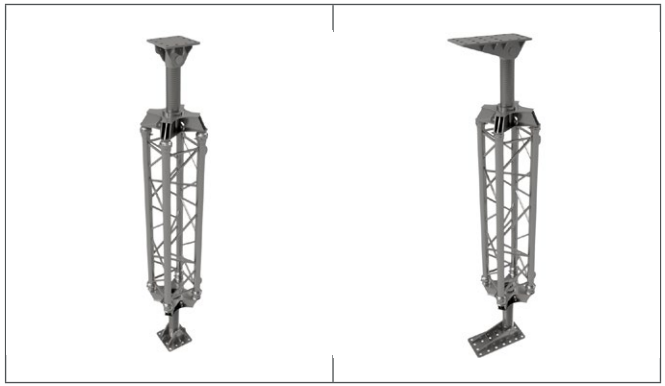
# Quadshore 50 Components

Using Quadshore 50's range of components and accessories, 4 single leg assemblies (Class 1 – 4) can be formed for temporary works such as bridge propping, slab propping, back propping, facade retention, falsework, formwork or raking and needling applications.

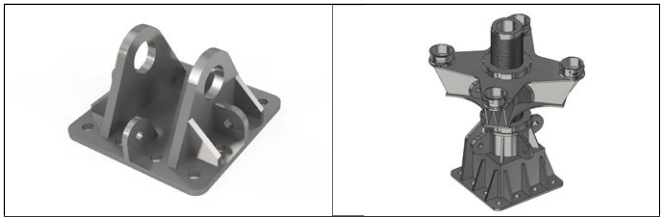
## Single leg assemblies



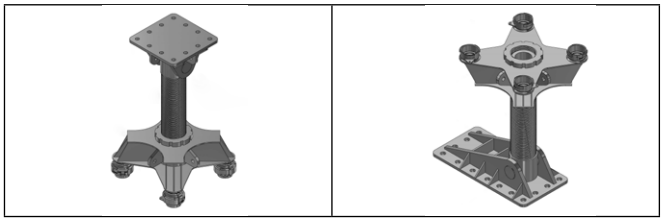
Class 1 Class 2



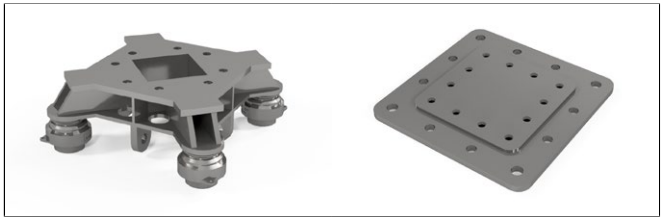
Class 3 Class 4



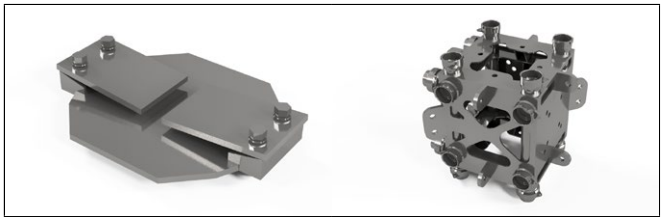
Raking Base Jack Base Jack with Mini-Stool



Top Jack Multi-Angle jack



Flat Head Transfer Fixing Plate



Needle Beam Fixing Clamp Universal Connector

| Quadshore 50 components | | Weight (kg) |
|---|---|---|
| **Raking Base Jack** | Cross Head | 16.8 |
| | Thrust Nut | 3.0 |
| | Raking Screw | 17.0 |
| | Raking Base | 11.9 |
| | Raking Pin | 2.9 |
| **Base Jack with Mini-Stool** | Cross Head | 16.8 |
| | Thrust Nut | 3.0 |
| | Simple Screw | 16.7 |
| | Mini-Stool | 14.8 |
| **Top Jack** | Top Cross Head | 19.0 |
| | Thrust Nut | 3.0 |
| | Raking Screw | 17.0 |
| | Raking Base | 11.9 |
| | Raking Pin | 2.9 |
| **Multi-Angle Jack** | Top Cross Head* | 19.0 |
| | Thrust Nut | 3.0 |
| | Raking Screw | 17.0 |
| | Multi-Angle Plate | 20.0 |
| | Raking Pin | 2.9 |
| **Flat Head** | | 21.0 |
| **Transfer Fixing Plate** | | 19.0 |
| **Needle Beam Fixing Clamp** | | 20.0 |
| **Universal Connector** | | 59.0 |

* Replace Top Cross Head with Cross Head when the Multi-Angle Jack is used at the base.

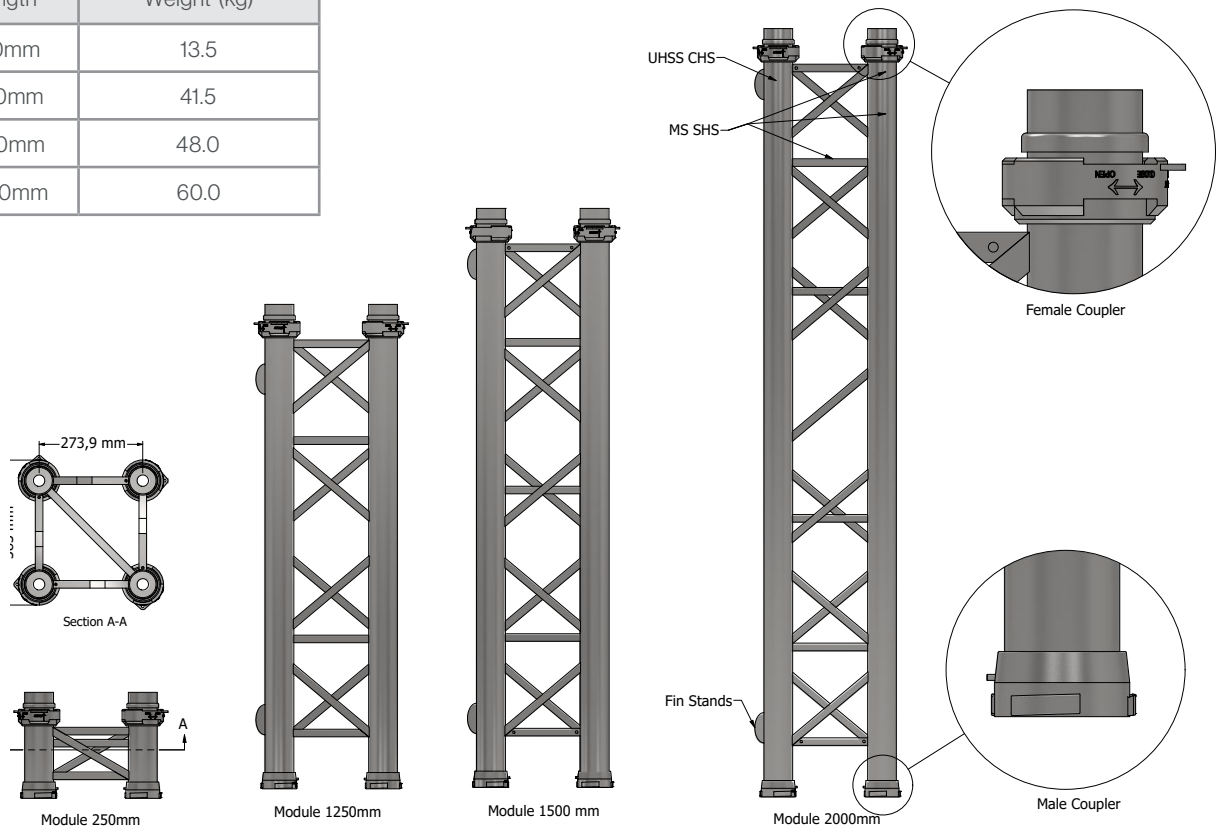
# Quadshore 150

Quadshore 150 is the lightest, heavy-duty propping solution available in the market. The The modular system provides extra high load-bearing support in a variety of configurations, including single leg propping assemblies, raking struts and high-rise tower systems.

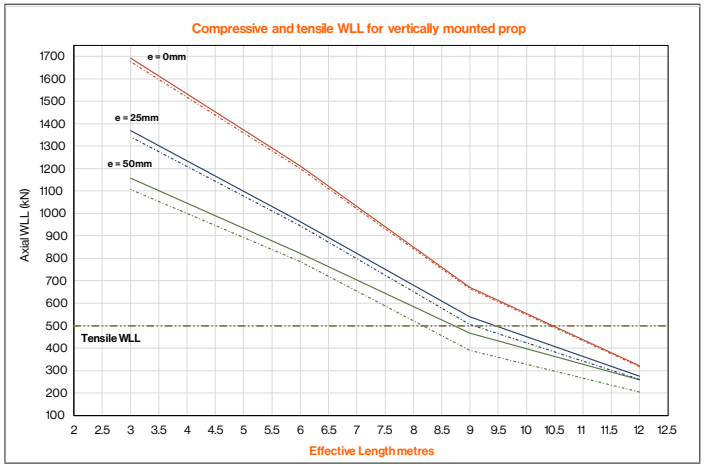
The working load limit (WLL) of a 3m assembly is 1692kN (172t) – 1.7 x higher than conventional systems.

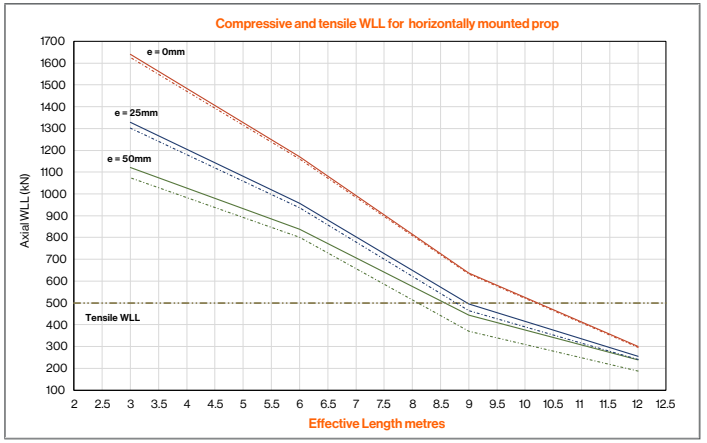
Patented Twistlock Boltless Connections means the assembly and disassembly time of Quadshore 150 is 60% quicker than conventional systems.

| Standard module weights | |
|---|---|
| Length | Weight (kg) |
| 250mm | 13.5 |
| 1250mm | 41.5 |
| 1500mm | 48.0 |
| 2000mm | 60.0 |




## Quadshore 150 Load charts



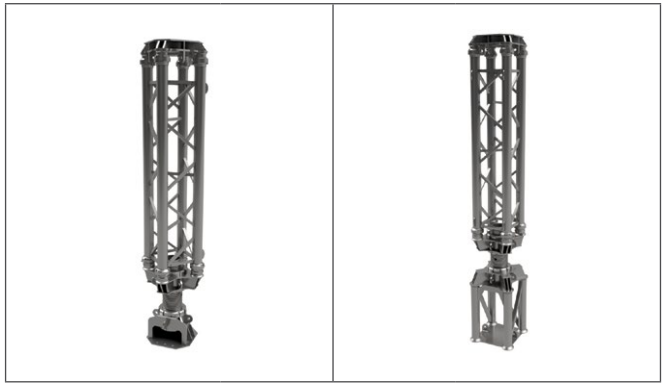




For more information, see *Quadshore 150 Technical Data*

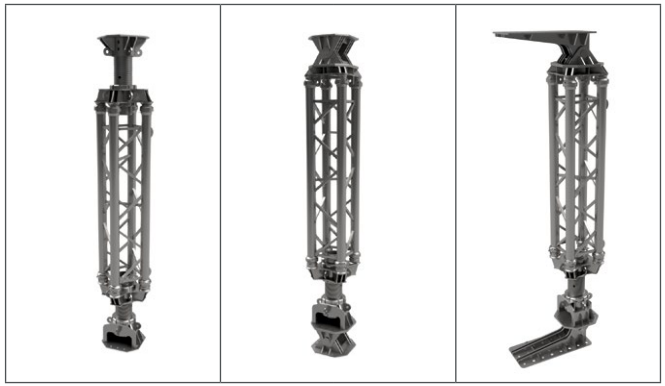
# Quadshore 150 Components

Using Quadshore 150's range of components and accessories, 5 single leg assemblies (Class A - E) can be formed for temporary works such as bridge propping, slab propping, back propping, facade retention, falsework, formwork or raking and needling applications.

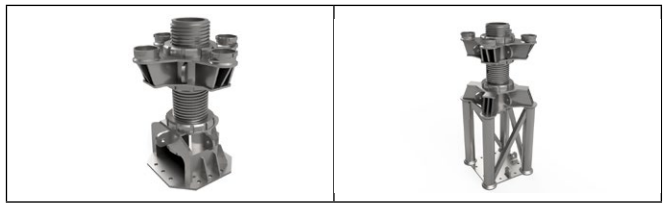
## Single leg assemblies



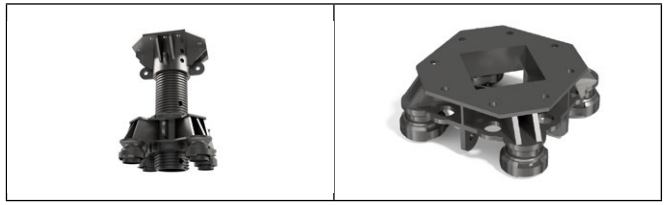
Class A | Class B



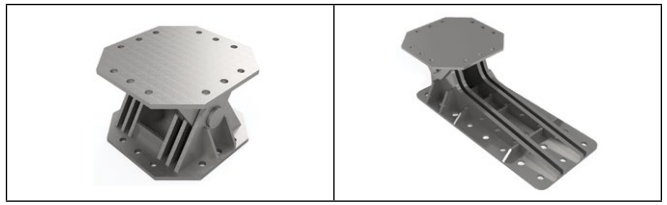
Class C | Class D | Class E



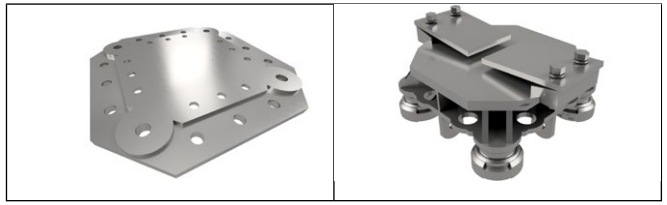
Base Jack | Lifting jack



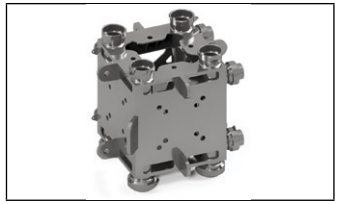
Top Jack | Flat head



Raking Bracket | Multi-Angle Bracket



Transfer Fixing Plate | Needle Beam Fixing Clamp



Universal Connector

| Quadshore 150 components | | Weight (kg) |
|---|---|---|
| **Base Jack** | Cross Head | 24.5 |
| | Thrust Nut | 7.3 |
| | Screw | 32.7 |
| | Mini-Stool | 26.0 |
| **Lifting Jack** | Cross Head | 24.5 |
| | Nut | 7.3 |
| | Screw | 32.7 |
| | Lifting Stool | 60.0 |
| **Top Jack** | Top Cross Head | 28.0 |
| | Nut | 7.3 |
| | Screw | 32.7 |
| | Jack Base | 17.0 |
| **Flat Head** | | 28.0 |
| **Raking Bracket** | | 53.0 |
| **Multi-Angle Bracket** | | 71.5 |
| **Transfer Fixing Plate** | | 30.0 |
| **Needle Beam Fixing Clamp** | | 19.0 |
| **Universal Connector** | | 68.0 |

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