CATALOGUE - USER GUIDE

CERTIFIED STEEL PROPS

SAFE AND WITH HIGH LOAD-BEARING CAPACITY

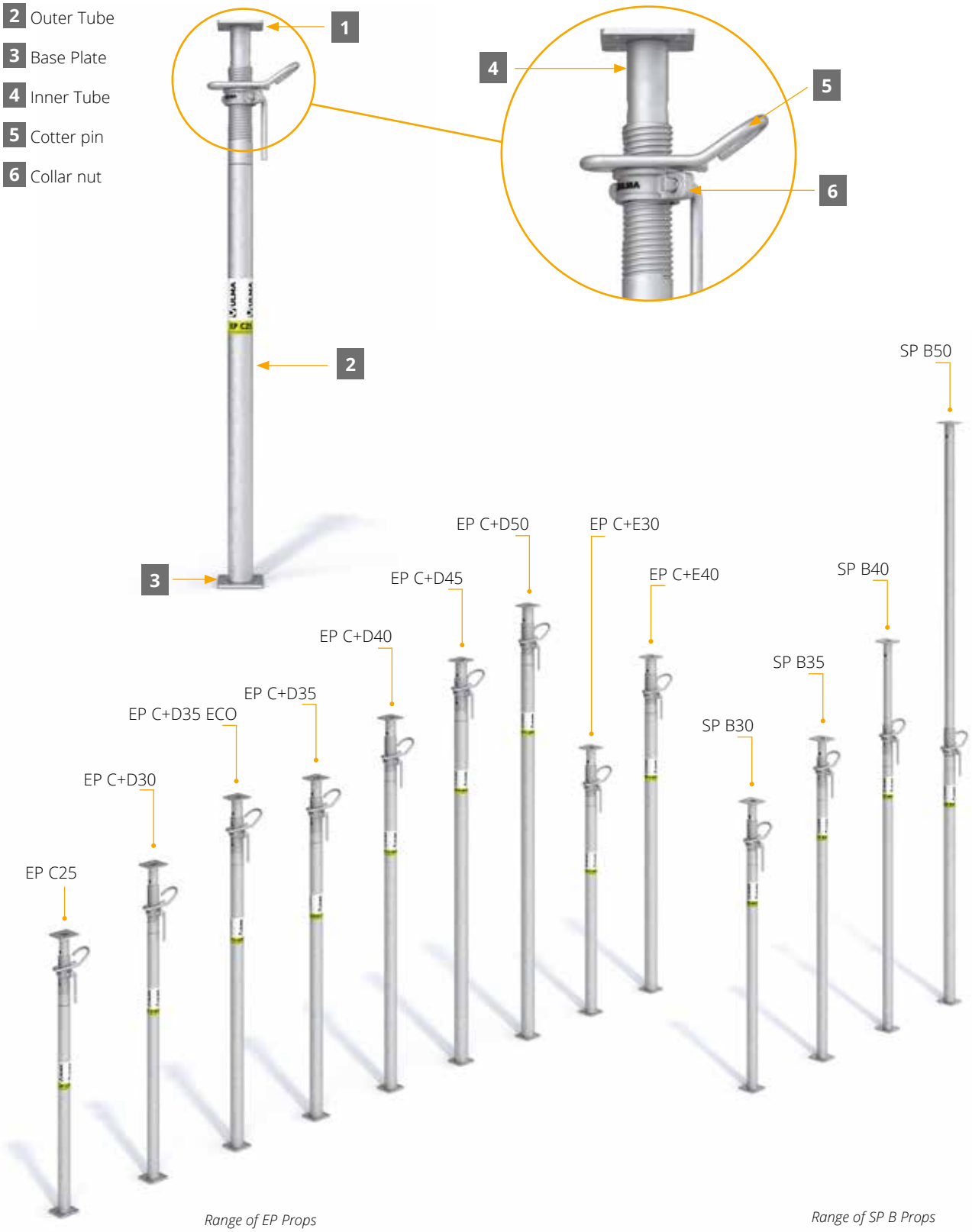
ULMA

Designed for the **shoring of slab formwork** and other several applications on site.

Ideal for those jobs where **safety is the key factor**. EP and SP B props have been designed **based on the European props Standard**.

System components

1 Plate
2 Outer Tube
3 Base Plate
4 Inner Tube
5 Cotter pin
6 Collar nut



Range of EP Props

Range of SP B Props

Features

- Galvanized props.
- Range of props:

Closed Prop Length = Min. Usage Lentgh - 20 mm approx.

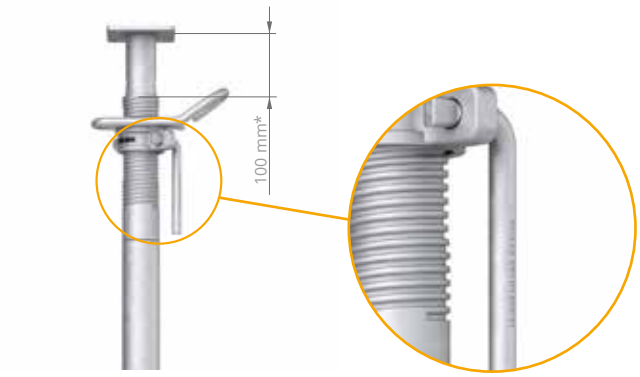
EP PROP	USAGE LENGTH (min. - max.)	WORKING LOADS (max. - min.) *Inner Tube Up	WORKING LOADS (max. - min.) *Inner Tube Down
EP C25	1.5 m - 2.5 m	46.7 kN - 29.4 kN	49.4 kN - 33.6 kN
EP C+D30	1.75 m - 3.0 m	47.8 kN - 21.7 kN	48.6 kN - 26.1 kN
EP C+D35 ECO	2.0 m - 3.5 m	40.3 kN - 24.5 kN	40.3 kN - 25.6 kN
EP C+D35	2.0 m - 3.5 m	41.9 kN - 27.9 kN	41.9 kN - 31.1 kN
EP C+D40	2.3 m - 4.0 m	41.9 kN - 22.0 kN	41.9 kN - 25.0 kN
EP C+D45	2.5 m - 4.5 m	40.7 kN - 27.3 kN	40.7 kN - 29.8 kN
EP C+D50	2.8 m - 5.0 m	40.7 kN - 26.6 kN	40.7 kN - 30.8 kN
EP C+E30	1.75 m - 3.0 m	41.9 kN - 36.4 kN	41.9 kN - 38.9 kN
EP C+E40	2.3 m - 4.0 m	40.7 kN - 33.2 kN	40.7 kN - 35.9 kN

SP B PROP	USAGE LENGTH (min. - max.)	WORKING LOADS (max. - min.) *Inner Tube Up	WORKING LOADS (max. - min.) *INNER TUBE DOWN
SP B30	1.75 m - 3.0 m	33.3 kN - 18.0 kN	34.4 kN - 20.3 kN
SP B35	2.0 m - 3.5 m	33.9 kN - 14.1 kN	33.7 kN - 16.5 kN
SP B40	2.5 m - 4.0 m	28.0 kN - 10.5 kN	33.7 kN - 12.1 kN
SP B50	3.85 m - 5.0 m	22.8 kN - 11.5 kN	25.6 kN - 11.8 kN

- The EP and SP B Props have been designed **according to the load capacities specified in the standard EN 1065 (Z-8.311-989)** and its complience is **verified by SIGMA KARLSRUHE GMBH**.

SIGMA KARLSRUHE

- The handle incorporates a marking as indicated by the standard.
- System for fast prop striking included in the cotter pin.



- Collar nut with projection for simplified adjustment of the prop.
- Safe working thanks to the distance protecting the operator against hand crushing (*).
- Unintentional disengagement system for the inner tube, cotter pin and collar nut.
- Collar nut thread designed to ease the evacuation of dirt and concrete remains.

	EP PROP Working Loads (kN)							
	EP C25		EP C+D30		EP C+D35 ECO		EP C+D35	
Height (m)	Inner Tube Up	Inner Tube Down	Inner Tube Up	Inner Tube Down	Inner Tube Up	Inner Tube Down	Inner Tube Up	Inner Tube Down
1.5	46.7	49.4						
1.6	46.4	49.3						
1.75	44.5	49.1	47.8	48.6				
1.8	42.3	48.5	45.0	48.6				
1.9	40.0	47.9	44.8	48.5				
2.0	38.4	46.7	42.4	47.8	40.3	40.3	41.9	41.9
2.1	36.8	45.6	39.8	47.1	40.3	40.3	41.9	41.9
2.2	35.8	44.2	37.3	47.2	40.3	40.3	41.9	41.9
2.3	34.7	41.7	35.5	46.7	40.3	40.3	41.9	41.9
2.4	32.1	37.7	33.6	45.8	40.3	40.3	41.9	41.9
2.5	29.4	33.6	31.5	44.1	40.3	40.3	41.9	41.9
2.6			29.5	40.2	40.3	40.3	41.9	41.9
2.7			27.4	36.3	40.3	40.3	41.9	41.9
2.8			25.3	32.4	40.2	40.2	41.9	41.9
2.9			23.5	29.2	39.6	39.6	41.9	41.9
3.0			21.7	26.1	37.1	38.4	40.2	41.9
3.1					34.2	37.2	37.1	41.9
3.2					32.0	34.6	34.7	41.9
3.3					29.7	32.1	32.3	38.,9
3.4					27.1	28.8	30.1	35.3
3.5					24.5	25.6	27.9	31.1
3.6								
3.7								
3.8								
3.9								
4.0								
4.1								
4.2								
4.3								
4.4								
4.5								
4.6								
4.7								
4.8								
4.9								
5.0								

* EP C25 prop meet the load-bearing capacity requirements of Prop Class C according to EN 1065 and EP C+D30, EP C+D35 ECO and EP C+D35 props meet the load-bearing capacity requirements of Prop Class D according to EN 1065. Approval Z-8.311-989.

	EP PROP Working Loads (kN)									
	EP C+D40		EP C+D45		EP C+D50		EP C+E30		EP C+E40	
Height (m)	Inner Tube Up	Inner Tube Down	Inner Tube Up	Inner Tube Down	Inner Tube Up	Inner Tube Down	Inner Tube Up	Inner Tube Down	Inner Tube Up	Inner Tube Down
1.5										
1.6										
1.75							41.9	41.9		
1.8							41.9	41.9		
1.9							41.9	41.9		
2.0							41.9	41.9		
2.1							41.9	41.9		
2.2							41.9	41.9		
2.3	41.9	41.9					41.9	41.9	40.7	40.7
2.4	41.9	41.9					41.9	41.9	40.7	40.7
2.5	41.9	41.9	40.7	40.7			41.9	41.9	40.7	40.7
2.6	41.9	41.9	40.7	40.7			41.9	41.9	40.7	40.7
2.7	41.9	41.9	40.7	40.7			41.9	41.9	40.7	40.7
2.8	41.9	41.9	40.7	40.7	40.7	40.7	41.9	41.9	40.7	40.7
2.9	41.9	41.9	40.7	40.7	40.7	40.7	39.7	41.9	40.7	40.7
3.0	41.9	41.9	40.7	40.7	40.7	40.7	36.4	38.9	40.7	40.7
3.1	41.1	41.9	40.7	40.7	40.7	40.7			40.7	40.7
3.2	38.5	41.9	40.7	40.7	40.7	40.7			40.7	40.7
3.3	35.6	41.9	40.7	40.7	40.7	40.7			40.7	40.7
3.4	32.7	41.1	40.7	40.7	40.7	40.7			40.7	40.7
3.5	30.5	37.8	40.7	40.7	40.7	40.7			40.7	40.7
3.6	28.3	35.0	40.7	40.7	40.7	40.7			40.7	40.7
3.7	26.7	32.5	40.7	40.7	40.7	40.7			40.7	40.7
3.8	25.0	30.0	40.7	40.7	40.7	40.7			38.6	40.7
3.9	23.5	27.5	39.4	40.7	40.7	40.7			36.1	40.5
4.0	22.0	25.0	37.0	40.7	40.7	40.7			33.2	35.9
4.1			34.7	40.7	38.4	40.7				
4.2			32.8	38.1	35.6	40.7				
4.3			30.9	35.5	33.5	39.6				
4.4			29.1	32.7	31.4	37.0				
4.5			27.3	29.8	29.7	34.8				
4.6					28.0	32.5				
4.7					26.6	30.8				
4.8					25.3	29.0				
4.9					23.9	27.0				
5.0					22.6	25.0				

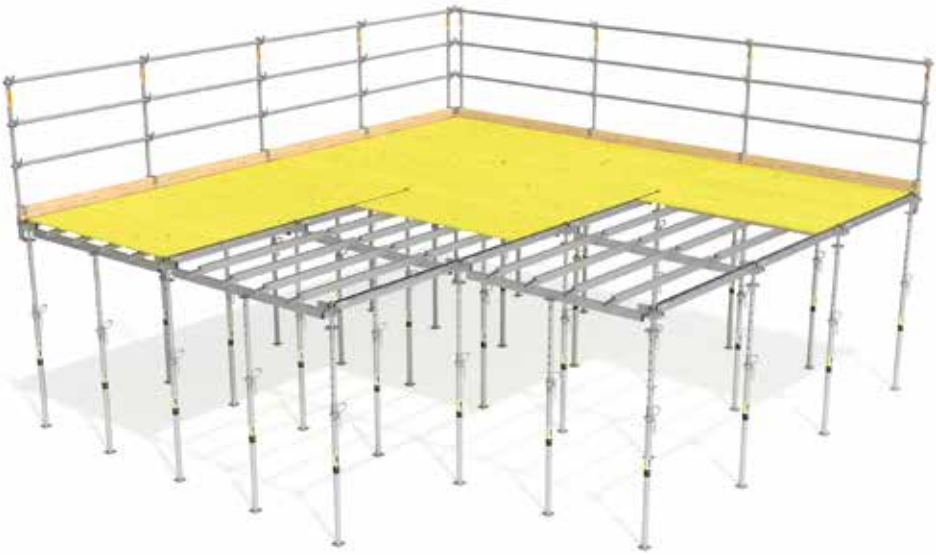
* EP C+D40, EP C+D45 and EP C+D50 props meet the load-bearing capacity requirements of Prop Class D according to EN 1065 and EP C+E30 and EP C+E40 props meet the load-bearing capacity requirements of Prop Class E according to EN 1065. Approval Z-8.311-989.

	SP B PROP Working Loads (kN)							
	SP B30		SP B35		SP B40		SP B50	
Height (m)	Inner Tube Up	Inner Tube Down	Inner Tube Up	Inner Tube Down	Inner Tube Up	Inner Tube Down	Inner Tube Up	Inner Tube Down
1.75	33.3	34.4						
1.8	33.1	34.4						
1.9	32.5	34.2						
2.0	31.9	34.1	33.9	33.7				
2.1	30.3	33.8	32.8	33.6				
2.2	28.4	33.5	31.7	33.5				
2.3	27.1	33.0	30.4	33.4				
2.4	25.8	32.5	28.5	33.2				
2.5	24.9	31.5	26.5	33.0	28.0	33.7		
2.6	23.9	30.4	25.2	32.5	26.7	33.6		
2.7	22.4	28.1	23.8	31.9	24.8	33.4		
2.8	20.9	25.8	22.4	30.8	23.3	33.0		
2.9	19.5	23.3	20.9	28.3	22.2	31.1		
3.0	18.0	20.3	19.5	25.8	21.0	28.5		
3.1			18.3	23.8	19.5	26.1		
3.2			17.1	21.8	18.1	23.7		
3.3			16.0	19.9	16.8	21.7		
3.4			15.1	18.2	15.7	20.1		
3.5			14.1	16.5	14.7	18.4		
3.6					13.8	16.9		
3.7					13.0	15.5		
3.8					12.1	14.2		
3.85					11.7	13.7	22.8	25.6
3.9					11.3	13.2	21.9	24.5
4.0					10.5	12.1	20.1	22.4
4.1							19.2	21.0
4.2							18.2	19.6
4.3							17.1	18.3
4.4							15.9	16.9
4.5							15.0	15.8
4.6							14.1	14.8
4.7							13.4	14.0
4.8							12.7	13.2
4.9							12.1	12.5
5.0							11.5	11.8

*SP B30, SP B35, SP B40 and SP B50 props meet the load-bearing capacity requirements of Prop Class B according to EN 1065. Approval Z-8.311-989.

Benefits

- **Guaranteed high safety levels:**
  - Props designed according to European standards.
  - Hands anti-crush protection integrated.
  - Simple and quick adjustment of the collar nut.
  - Inner tube, cotter pin and collar nut with unintentional
  - disengagement system.
- **Cost-effective** thanks to an optimized design.
- **High durability for multiple reuse,** thanks to the galvanization that provides excellent protection against corrosion.
- Simple and quick maintenance. The collar nut has a thread designed to remove dirt and concrete remains.



EP prop with ONADEK

Solutions

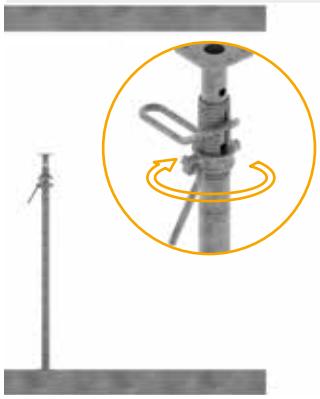
- Compatible with various ULMA slab formwork systems: ONADEK, ENKOFLEX, CC-4, VR TABLES,...

EP prop with VR TABLES and ENKOFLEX

EP prop with CC-4

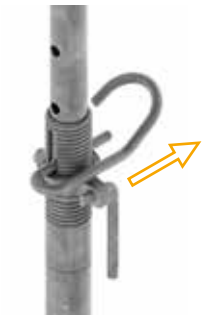
Assembly process

1. Lower the collar nut until releasing the slot of the prop thread by using the handle.

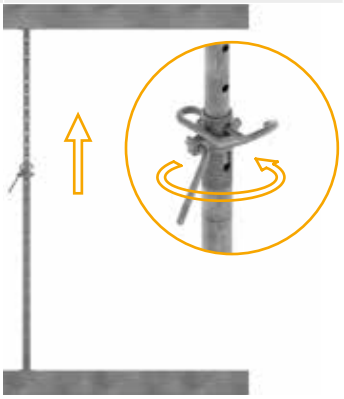


2. Extend the inner tube of the prop until reaching the desired height.

3. Insert the cotter pin into the hole closest to the collar nut.

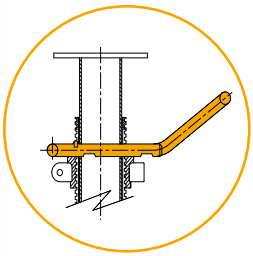


4. Make a final adjustment by turning the collar nut until the prop is fixed firmly in its position.

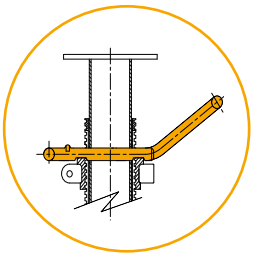


Disassembly process

1. Hit the end of the cotter pin in working position until it rests down on the collar nut. The cotter pin and the inner tube will lower 2.5 mm.

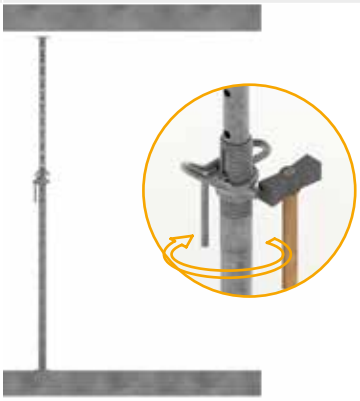


Cotter pin in working position

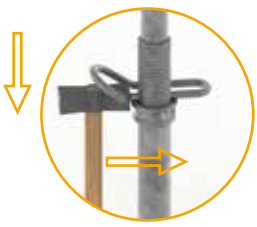


Cotter pin in stripping position

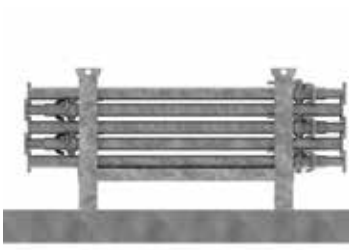
2. Loosen the collar nut manually with the handle or if necessary by hitting the protrusion of the collar nut at one side with a hammer until the prop is released.



3. Remove the cotter pin from the hole with a hammer blow. This is conveniently done by holding the inner tube tight.



4. Place the prop into the pallet.



Handling and maintenance conditions

Receiving materials on site

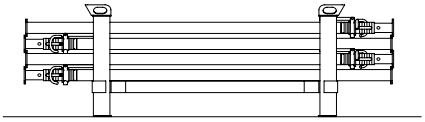
- Fence, close or demarcate the working area, where applicable.
- The storage area should be identified and duly marked before material arrives to the building site.

Material unloading

- Unloading with forklift
  - The material will arrive bundled and strapped to the building site.
  - The person-in-charge of the material reception will check the state of the pallets or packages.
  - The forklift route will be highlighted to prevent accidents with pedestrians.
  - The forklift operator will place the material following the instructions of the warehouse keeper.
  - Neither the warehouse keeper, nor the receptionist should ever get in the way of the forklift.
- Unloading with crane
  - The unloading assistant will not be placed under the suspended loads.
  - To guide the load to its place, the unloading assistant will wait until the load is almost completely lowered to the ground.
- Manual unloading
  - The props will be moved by hand with cotter pins and collar nuts in fixed position to disable inner tube movement.
  - One person alone shall never handle loads of more than 25 kg.

Storage

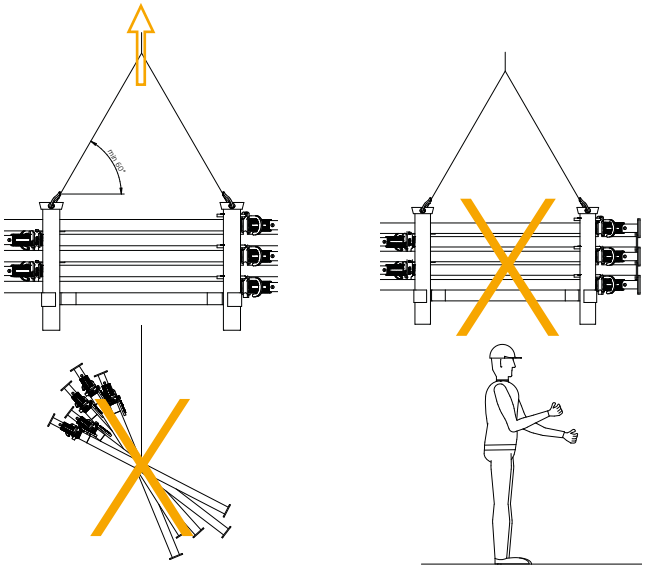
- The prop is delivered in pallets. After use on site, the props are stacked in the pallet by placing them in both directions seeking to balance the load, and finally are strapped.



Material lifting

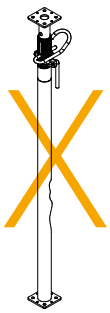
- Props are lifted to (or lowered from) the slab (or any other location) in packages strapped at both ends; the whole package is lifted with rigging slings from the hook of the tower crane.

- Previously to the lifting or lowering of props, safety hooks and slings must be checked.
- Never attach lifting slings to the packaging straps.
- The handling of packages or pallets with a single sling could cause the displacement of the package with respect to its centre of gravity, and might result in the falling down of material.
- No crossing below suspended loads; no passing of working areas of construction machinery.



Criteria to remove damaged items from service

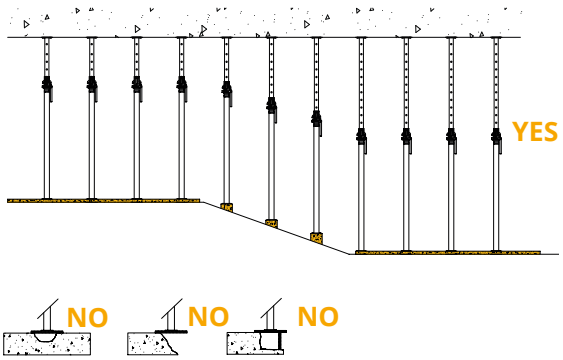
- Criteria for the identification of innappropriate props for use because they might pose an accident risk to workers handling the material or a failure risk of the loaded prop:
- **Deformations:** outer tube heavily dented or bent.
- **Poor condition:** internal or external corrosion.
- **Check that the parts making up the prop are in place:** no missing cotter pin, collar nut, etc.



General safety tips

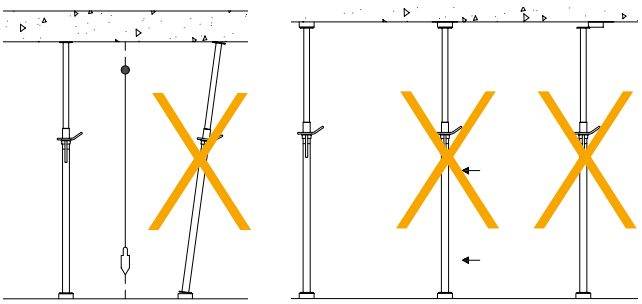
For the use of ULMA products, the current regulations on safety of state or professional organizations of each country must be respected.

· Prop support must be horizontal, on a level surface and with stable base. In case of an inclined plane, a wedgeshaped shoe will be placed.

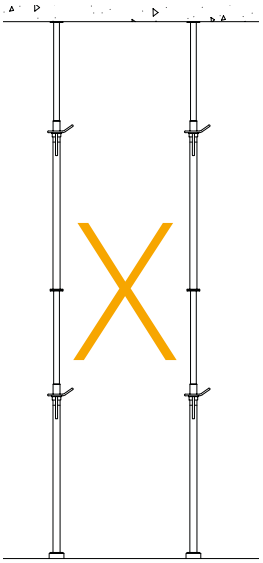


· The prop must be plumbed.

· The load acting on the prop must be vertical and centred. No horizontal loads must act on the prop.



· Props must be used as single units and never be overlayed on top of each other.



· Do not dismantle the prop nor replace prop parts by others, strange to the product.

· Only use the handle to tighten or loosen the props by hand. Do not hit the handle with the hammer.

· Do not hit the prop base for striking.

· Do not use any bent props with torn holes or welding nor with signs of deep corrosion.

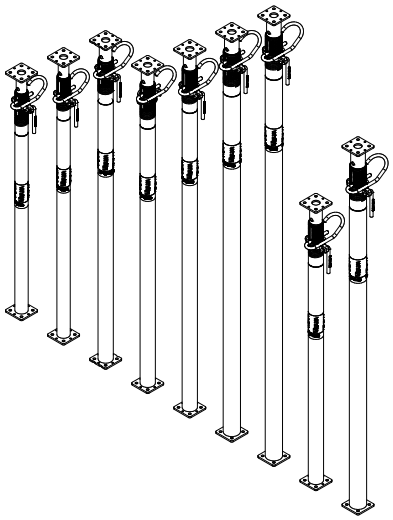
· Do not overlap nor add or weld strange parts to the prop to extend it, or to other ends, without the agreement of the Technical Department of ULMA.

Preventive and corrective measures

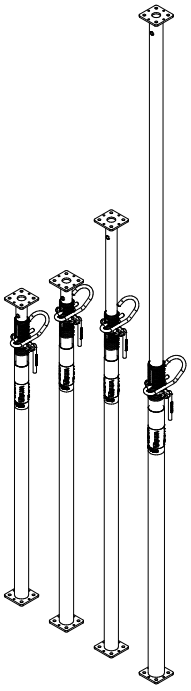
- If there are special erection instructions available, these must be strickly followed. Otherwise, the erection process described in the user guide of the product is taken as reference.
- The general instructions of the manufacturer must be followed.
- Internal safety standards must be fulfilled.
- The use of personal protective equipment is required at all times. Workers must be provided with personal protective equipment and know how to use it.
- Personal protective equipment must include at least: Safety helmet, safety footwear, gloves and tool holder belt.
- If necessary, also use anti-fall harness, lifelines, goggles or protective masks, hearing protection, breathing masks, reflective jackets and any other required items to fulfil the health and safety guidelines on the building site.
- Check formwork and prop erection before concrete pouring.
- Pouring has to be done from heights which do not cause strong shaking of the formwork or the props.
- Formwork stripping and prop removal is only carried out when the concrete strength is sufficiently high.
- After removal, props should not be irregularly piled up.

Basic components

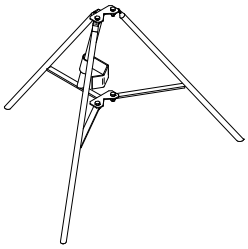
		kg
EP C25 Prop	2200048	14.9
EP C+D30 Prop	2200000	16.7
EP C+D35 ECO Prop	2200350	18.5
EP C+D35 Prop	2200068	21.5
EP C+D40 Prop	2200012	23.8
EP C+D45 Prop	2200084	29.5
EP C+D50 Prop	2200057	32.2
EP C+E30 Prop	2200023	19.1
EP C+E40 Prop	2200033	26.8



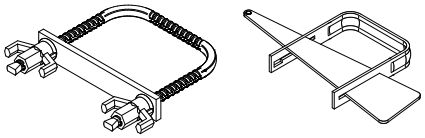
SP B30 Prop	2200230	14.3
SP B35 Prop	2200235	15.8
SP B40 Prop	2200240	17.5
SP B50 Prop	2200250	24.4



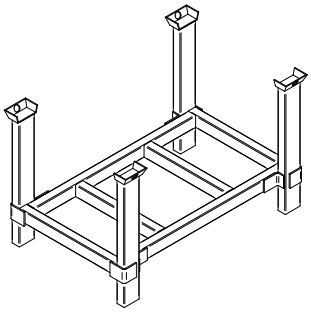
		kg
Tripod 42-87 mm	2170355	7.0
Universal tripod	2220090	11.2



Prop bracing clamp	2170526	2.3
Clamp SP-EP	2170356	1.6



Pallet P1	2200067	45.5
Pallet E1	1800000	53



Legal references

- Council Directive 89/391/ EEC (Safety and health at work).
- Council Directive 89/656/EEC (Personal protective equipment).
- Council Directive 95/63/EEC (Work equipment).
- Council Directive 92/57/EEC (Construction sites).

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