Prop with Cantilever Blade Attachment

The rules and procedures in force where people are at work require the person responsible for this equipment to carry out a specific risk assessment. This leaflet is not a substitute for a properly executed risk assessment. This prop with cantilever blade attachment is for use with 'old type' support props (BS 4074:1982) still widely used in the industry. The prop with cantilever blade attachment will not fit, and should not be used with (BS EN1065:1999) 'new type' support props. (BS 4074:2000 is the current standard for trench props, not support props). If in doubt seek advice from a temporary works structural engineer

A masonry support prop with cantilever blade attachment is designed to give support to overhead structures while the existing support is renovated or replaced. Some alterations require Local Authority planning permission and Building Regulations approval. If in any doubt about the load the props with cantilever blade attachment will need to support seek advice from a temporary works structural engineer.
Masonry support props fitted with cantilever blade attachments should only be used to support openings in sound masonry; away from the end of a wall or corner and where there are no other openings above and close to the area to be supported

1. Plan the use of the prop with cantilever blade attachment so that it can always be used safely.
2. The prop with cantilever blade attachment is used in conjunction with a support of brickwork cannot be positioned directly beneath the structure - for example when creating new opening in brickwork.
3. The use of a prop with cantilever blade attachment and support prop for the temporary support of overhead brickwork structures should only be undertaken by persons who have the necessary knowledge and experience to do the job safely.
4. Consult with a structural engineer regarding the weight of the overhead structure to be supported.
5. The prop with cantilever blade attachment and support prop are designed to give support to overhead structures while the existing support is renovated or replaced.
6. The action of the prop with cantilever blade attachment and support prop can cause injury or damage if not used in a careful or controlled way.
7. You should wear the following items of personal protective equipment: Safety boots (EN345 or BS1870/4972); safety helmet - EN397 or BS5240; gloves; impact resistant goggles: EN166 - B or BS2092 grade 1; dust mask - a minimum of EN149;2001 or FFP3 protection.
8. The prop with cantilever blade attachment and support props must not be used by minors, or anyone under the influence of drugs or alcohol.
9. The prop with cantilever blade attachment and support props are designed for operation by able bodied adults. Anyone with either temporary or permanent disability must seek expert advice before using them.

It is important to read this entire leaflet BEFORE using the prop with cantilever blade attachment

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WORK ENVIRONMENT

1. Only essential people should work in the area when the props with cantilever blade attachment are in use.
2. Make sure that your work area is clear and safe and that no-one is near to you or could distract you.
3. Protect other people from the danger. Warn others to keep away. Put barriers around your work area. Ensure warnings are positioned on both sides of the structure to be supported.
4. Make sure the floor area where you put the baseplate of your prop is sturdy enough to support the weight that will be placed upon it.
5. Check the work area for services (gas, water and heating pipes, electric and telephone wiring etc.). Ensure they will not be damaged, or present any danger whilst any of the work is being carried out.
6. You will need a dust mask – (EN149::2001 FP3 if grinding or chipping a slot in the mortar for the prop with cantilever blade attachment.
7. Anybody who is working near to you will also need to wear appropriate personal protective equipment.

PROP WITH CANTILEVER BLADE ATTACHMENT

1. Check your prop with cantilever blade attachment; check that the inner and outer tubes are straight and that they telescope easily. Check that the locking pin is still secure on its chain. Check that the prop with cantilever blade attachment plate is straight and all welds are intact. Do not use anything found damaged – contact the hire company.
2. Take professional advice to determine the load to be supported. Do not exceed the safe working load (SWL) of 340kg for each prop with cantilever blade attachment. Loads in excess of this will require two or more props with cantilever blade attachment. The maximum spacing between each prop with cantilever blade attachment must not exceed 900mm.
3. The maximum working height of the prop with cantilever blade attachment must not exceed 3m.
4. Your prop must be vertical in order to bear its load safely.
5. Props must never be used more than 1.5 degrees off vertical. This is about 25mm in 1 metre (1 inch in 1 yard).
6. Ensure that the floor, where the baseplate will locate, is strong enough to support the load that will be transferred to it by each prop.
7. Each prop should stand on a timber soleplate unless the baseplate is on suitable structural concrete.
8. The timber soleplate should be at least 225mm (9 inches) wide by 38mm (1.5 inches) thick. It should be long enough to project at least 300mm (12 inches) either side of the support prop's baseplate.
9. Ensure the brickwork above the prop with cantilever blade attachment is capable of carrying the load and is stable.
10. Props are available in six different lengths (size 0 to 5). Do not use props that are too short by making up the gap with timber. Use the correct length prop.
11. The propping design may require lacing and bracing by linking the props together using horizontal and diagonal scaffold tubes. This will require sufficient swivel scaffold clips - standard size clips onto the prop inner tube but larger ones are needed for the outer tube. Order these in good time from your hire company.
12. Before you start work, make sure you understand how to use the prop with cantilever blade attachment safely and how much support your overhead structure needs.

Before Starting Work...

13. If in doubt seek advice from a temporary works structural engineer.

INSTALLING THE PROPS

1. Mark out the exact position of the lintel and the brickwork that will be removed. Calculate and plan the positioning of each prop with cantilever blade attachment – mark the position for each one.
2. Each 900mm or part of 900mm span will require a prop with cantilever blade attachment.
3. Two persons are usually required to put a prop with cantilever blade attachment.
4. All operators must wear their safety equipment.
5. At each blade position chain drill or use a cylindrical mortar rake to remove mortar at the course the prop with cantilever blade attachment blades will be inserted. Then hammer the prop with cantilever blade attachment into the mortar course with the handle on the top, at the upper level of the proposed opening in the wall. Ensure the safety of anyone on the opposite side of the wall is protected from any brickwork or debris that may be dislodged. Ensure barriers and warning signs are in place.
6. The prop with cantilever blade attachment should be hammered into the mortar joint until the triangular support web of the prop with cantilever blade attachment meets the brickwork.
7. Feed the prop onto the headplate of the prop with cantilever blade attachment at a slight angle, rotate into the correct engagement then insert blade into wall.
8. If you are using a soleplate, your prop should be resting on it.
9. Carefully slide the inner tube up to the prop with cantilever blade attachment locating the top plate into the square recess of the prop with cantilever blade attachment.
10. Locate the pin, above the screw collar, and through the slot in the outer tube, into the most suitable hole in the innertube. You may need to screw the collar down to accommodate this.
11. Screw the collar up against the pin to secure the prop. Check the prop is vertical. You must hold the prop until it is bearing its share of the load. If it becomes loose, while installing other props, it will fall over causing injury or damage.
12. Use a spirit level to make sure each prop is plumbed vertical and adjust if removed to allow the new lintel to be fitted. Particular care is needed to maintain the condition of the bearing surfaces and support piers or masonry at either side of the lintel opening. If these become damaged full rebuild will be needed - sometimes from the foundation upwards. Chain drill (holes side by side) to full depth and pry. Try to avoid using a sledgehammer – rapid progress will soon turn into hours of making good. In some cases the new lintel will need to rest on pedestones. These may need to be built in and allowed to cure prior to the main lintel opening being created. If the full height opening is to be made prior to fitting the new lintel this should be done using chain drilling along the marked out lines, followed by prising the masonry loose at the top and working down to cill level. Careful work should allow the lintel to be kept in usable condition. In many cases this can be achieved without significant overbreak and with only minor need for rebuilding. Always ensure you have sufficient bearing surface between the lintel and its support on each side. 150mm minimum at each end is normal. The lintel may sit on a mortar bed or, if the bearing surface has sufficient strength, slate or similar dry material can be driven/packed in to allow almost immediate load carrying. Brickwork and/or mortar above the lintel can then be reinstated, working around the prop with cantilever blade attachment plates. If rapid curing (high alumina) cement is used to make the mortar, the manufacturer's instructions should be followed regarding mixes and curing time. If the full height opening was created in one go, early load carrying by the lintel can also be assisted using directly bearing props (no prop with cantilever blade attachment) under each end of the lintel. These can only share load – the lintel must not be jacked off its bearing. Once sufficiently cured the props and props with cantilever blade attachment can be removed and visible masonry pointed up to make good. Most lintels are only designed to carry a distributed load. Do not use too few slate etc packers between the lintel and the masonry above.
16. Be careful when removing props with cantilever blade attachment. Ensure the brickwork is supported by other means (lintel, pillars, brickwork etc.). When you remove the load and pull the pin out, the inner tube will slide down into the outer tube. Keep your hands well away from the top of the outer tube.
17. If in doubt seek advice from a temporary works structural engineer.

SAFE WORKING LOAD

1. Support props are usually available in six different lengths (size 0 to 5).
2. A prop with cantilever blade attachment is an attachment fitted to the top of screw adjustable telescopic prop (acrow). Props with cantilever blade attachments are suitable for some propping jobs - eg to replace a window or door lintel - especially where it is safe to provide propping from one side only. Most props with cantilever blade attachments can be used on a 225mm thick solid wall, a 112mm half brick thickness wall, or a 250mm twin leaf cavity wall. Some longer products are available that will prop up to 300mm solid wall or 300mm twin skin large cavity wall. In all cases the SWL is 340kg. The following is the safe working load of props when used with props with cantilever blade attachments.

   The maximum span supported by each prop with cantilever blade attachment must not exceed 900mm. Consult an architect and a structural engineer as needed on planning and permanent work design issues, and on the design of temporary works.

Prop Size	Closed Length Length (meters)	Extended Length (metres)	SWL in kilograms
0	1.04	1.83	340
1	1.75	3.12 (to a max. height of 3m)	340
2	1.98	3.35 (to a max. height of 3m)	340
3	2.59	3.96 (to a max. height of 3m)	340
4	3.20	4.88 Unsuitable for use with prop with cantilever blade attachment	
5	3.65	6.10 Unsuitable for use with prop with cantilever blade attachment	

3. The above guide assumes that the props are within 1.5 degrees of vertical (This is about 25mm in 1 metre or 1 inch in 1 yard): and that they are not braced.

It is important to read this entire leaflet BEFORE using the prop with cantilever blade attachment

For guidance on managing construction health risks go to **www.hse.gov.uk/construction**

Using the prop with cantilever blade attachment

1. Wear your protective equipment including safety boots and helmet.
2. Check the props with cantilever blade attachment each time before you start work.
3. Do not remove or adjust any prop with cantilever blade attachment until you are certain that it is safe to do so.
4. Do not string or tie any electrical or lighting cables to the prop with cantilever blade attachment.
5. If prop with cantilever blade attachment are left in position unattended, make the area safe against children and other unauthorised persons.
6. Props with cantilever blade attachment in use need to be checked regularly. Ie - continuously during structural work that could dislodge them - including work on the opening being supported and any other nearby work involving impact or vibration; and daily when carrying load but without work underway in the vicinity.
7. Always return the equipment to the hire company in a clean condition.
8. Check for damage and do not use any equipment that has become bowed, bent, heavily corroded, cracked or has failed welds. Props should only be used with the manufacturer supplied high tensile steel retaining pin.
9. If your equipment is faulty, do not attempt to repair it. Contact the hire company.
10. If in doubt seek advice from a temporary works structural engineer.

Please store this leaflet safely. It may be required for further information

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