11. Fitting a Lintel with use of Acrow Props Procedure

Method of works

Preparation Works- - Fitting Acrow Props (with Strong boy)

- The pre –works information including the structural engineers report/ specification are to be read and understood to make sure that the operative has a clear understanding of the temporary propping requirements in order to undertake the works safely. If in doubt, consult the contracts manager or the structural engineer.

Check with contracts manager to make sure that an additional temporary works design is not required for the works.

- Ensure there are no ACM's that may be affected by the works. If any suspect ACM's such as packing are identified as works progress, stop works and contact contracts manager.
- WMS will erect warning signage or barriers to segregate the working area from access by other building users. WMS to ensure the welfare is available as described in CPP.
- PPE to be worn (gloves/eye protection/ hearing protection/ toe caps, High vis vest and hard hat). Wear face fitted FFP3 mask, where dust may arise. Regular breaks, undertake maintenance of tools.
- Ensure tools and equipment are maintained and are not acting as a trip hazard. When working at height materials to be secure and only tools required for the task to be present and tethered to prevent fall from height
- Firstly, set up site and any access equipment required to undertake the works i.e Mobile Tower scaffolding – See WAH V1 (Tower to be set up by PASMA qualified personnel. Scaffolding to be erect by scaffolding contractor in conjunction with TG20:21 if required.
- If working on larger projects welfare facilities will be provided by WMS as per Welfare Set Up.
- Make sure adequate sized acrow props are used for the task:

  Size 0: Closed 1.014m, Fully Open 1.829m
  Size 1: Closed 1.753m, Fully Open 3.124m
  Size 2: Closed 1.981m, Fully Open 3.352m
  Size 3: Closed 2.590m, Fully Open 3.962m
  Size 4: Closed 3.200m, Fully Open 4.876m

  Please note:
  Maximum load bearing capacity of 340 Kgs per unit/prop generally.
  The distance between props should be calculated from the assessment of the loading, but in any case, it should not exceed 900mm.
  Maximum safe working height 3 metres from firm base.
  If the width of the intended opening is greater than 4m we recommend that the props be horizontally laced and diagonal braced together using scaffolding poles and proprietary couplings

- Check the wall masonry affected and any floor/roof timbers to make sure that these are in good condition prior to any work being carried out as remedial work may be needed prior to the opening being altered or created. Report back if additional works are required.

- Mark out the exact area of wall that is to be removed to form the new opening using a long level, tape measure, marker pen or chalk so that the props can be positioned in the correct place or if replacing an existing lintel confirm and mark out where the props will be positioned.

- Drill or grind out the mortar, or remove a brick prior to the insertion of the Strongboy's in the identified position. Always ensure the underside of the brick to be supported is clean and will sit flat on the blade of the Strongboy. If the wall is rendered it may be necessary to hack this off to expose brick joints first.

- The props are to be set upon firm, flat ground, spaced at a max of 900mm c/s sitting the props on an adequately sized sole board.

- Fit the Strongboy attachment to each prop making sure that these are fixed in place correctly. Adjust height of prop and position so that the Strongboy will slot into the mortar space or brick hole created until the blade is at least at the same depth as the rear of the brick on the leaf of the wall which is intended to be supported

- Ensuring the prop remains completely vertical and in plumb, tighten the collar of the prop until the Strongboy and prop are fully engaged with the wall and do not move.

- If both leafs of cavity wall are to be propped. Measure out and mark up the inside leaf and install props with Strongboy attachment to match above.

- As stated above if the opening is wider than 4m, alterative bracing might be required.

- If needles are being used rather than Strongboy's the whole brick will be removed to allow the supporting timbers to be positioned and propped into place. See structural engineers calculations.

- Once props are positioned, works can start. Check props throughout day and at the start of every shift.

<u>Method (Replacing existing lintel)</u>

- The operative is to wear P3 filter half face dust mask which the operative has been face fitted for when cutting out the brickwork due to silica dust release.
- Using dust extraction/ dust suppression cut out joints of brickwork around existing lintel to free up lintel. Take care not to effect the props that are supporting the structure loads above.
- If bricks are to be re-used, take care not to damage bricks. Clean off once removed and set aside for re-use once new lintel is in position.
- Carefully take out old lintel taking care due to manual handling (See Manual Handling MHV1) disposing of removed lintel. Cutting into manageable sections if required used disc cutter.
- Once removed and masonry substrate/ opening has been cleaned of any debris/ old mortar ready for new lintel carefully lift new lintel into place and position.
- Mix up and lay mortar bed onto brickwork ready for new lintel to be positioned, if needed, slate or other packing is to be used to bring new lintel level.
- Make sure DPC or cavity tray is left in correct position and clean of debris. If necessary this is to be replaced as part of the works.
- When lintel is bed in position, the brickwork around, concealing if catnic/steel type lintel and over the lintel is to be rebuilt and re-pointed to match existing.
- If necessary weep holes are to be fitted to perps of brickwork over new lintel to disperse water from cavity.
- Leaving the props in position for up to 24 hours allowing adequate drying time, return the following day to remove the acrow props and point in the gaps.
- Any making good/ tidying up to be completed.
- Once complete, dispose of all debris and leave site in a clean and tidy condition.

Method (Forming New Opening)

- When props with Strongboy or Needle system are in place, check proposed opening is marked up clearly and plumb. Whether this is a new doorway or window opening the opening is to be cut 10-20mm wider and taller than frame to allow for tolerances and making good.
- The operative is to wear P3 filter half face dust mask which the operative has been face fitted for when cutting out the brickwork due to silica dust release.
- Using dust extraction/ dust suppression cut out opening for new lintel to be positioned, going a minimum of 150mm wider each side of the door/ window opening for adequate bearing of the lintel. Take care not to effect the props that are supporting the structure loads above.
- Fit cavity try or Damp proof course into opening above new lintel position and seal up ready for lintel to be positioned.
- Mix up and lay mortar bed onto brickwork ready for new lintel to be positioned, If needed, slate or other packing is to be used to bring new lintel level.
- Carefully lift new lintel (steel or concrete) into position and bed into place. If large lintel lifting equipment and plan may be required.
- Once adequate drying time has been allowed for lintel, the opening can be cut out.
- The opening will then be stitch drilled with a masonry sds drill and cut out using disc cutter, continuing with a masons/ sledge hammer and bolster or heavy duty breaker if required to break out all brickwork/blockwork. All works to be undertaken in conjunction with dust extraction/ dust suppression techniques.
- Carefully lift out removed brick/ Blockwork and dispose of as spoil.
- Once opening is formed, this will be built up & made good ready for new door/ window fitting. See on site specification for this.
- As per the lintel replacement works above, re-build brickwork around, facing if concealed lintel and over lintel and point up.
- Once opening & reveals have been built up and making good completed, allow adequate drying times before removing the Acrow props and make good any remaining brickwork.
- Any making good/ tidying up to be completed.
- Once complete, dispose of all debris and leave site in a clean and tidy condition.

If works are to be carried out at height:

- Please ensure any debris cannot fall onto those beneath by cordoning off the area
- If scaffolding is required the scaffold is to be erected by an approved competent subcontractor scaffolding company in accordance with TG20:21.
- Please follow Working At Height
- If a scaffold tower is used it must be erected by a PASMA trained operative (including alterations to the tower).

See additional docs

COSSH
Gas Ventilation Reg 8
Manual Handling
Working At Height
Repointing Brickwork Procedure

Building partnerships

Risk Assessment – Propping and Lintel

Hazard	Control Measures
COSHH	When using any chemicals, the COSHH safety data sheet will be followed to ensure that the safe working practice is followed. This includes storage and use, including the correct use of PPE. Common material sheets are within this document. Additional MSDS may be required for extra chemicals/substances
Hygiene	Good personal hygiene is a necessity washing of hands prior to any breaks (food – ingestion).
Asbestos	All operatives are to be Asbestos awareness trained. HSG264 R+D Asbestos survey is to be referred to before any works commence. Ensure asbestos are not disturbed during works. Tradesmen are to remain vigilant at all times when onsite and if any additional suspect materials are identified, site manager is to be informed immediately.
Slips Trips and Falls	The site will remain tidy at all practicable times. All designated access/egress routes shall be kept free of slip and trip hazards, and obstructions. All equipment is switched off and/or isolated when unattended. All material that could potentially cause injury is either secured behind barriers or removed from site.
Falls from height	See Working at Height Procedure- WAH V1
REG 8	Care is to be taken when working near any flues. WMS and subcontractors are to ensure that no flues/ventilation points are blocked (i.e. taped off/netted etc), and that Reg 8 Gas Safety is adhered to at all times. Any damage at the time of working to any flue/air duct –terminal or debris entering the flue/air duct, condensate pipework, gas installation pipework, gas meter & housings or any part of the heating installation must be reported: Turn off the effected appliance / installation /energy supplies and make safe. After all work is completed re-inspect all flue terminals / installations for damage.
Manual Handling	Correct lifting techniques are to be used at all times when moving equipment, materials or any heavy loads. Paying particular attention when lifting (stable stance, good grip, keep load close to your waist and do not flex your back). Pallets are to be lifted suing mechanical lifting equipment and positioned close to working area where they can be separated and handled easily.
Vibration	If there are any tasks with expected high levels of vibration. WMS shall use vibration calculator to work out if operatives are likely to exceed action levels. WMS have assessed these site and there are no excessive vibrating works that are likely have trigger times that will exceed the HSE 100 points. Subcontractors will also assess in their RAMS. Regular breaks between works involving high levels of vibration shall be taken.
Respirable Dust	Control measures are to be implemented when any operations are being undertaken that could give rise to respirable dust. Particular attention is to be made to silica dust. When cutting blocks, dust extraction/ suppression techniques are to be used to ensure operatives are not working above the 8hr control limit (0.1mg/m3) and FFP3 masks that have been face fitted to the individual are to be worn.
Vulnerable persons	Appropriate signage must be used to segregate area form unwanted visitor's vulnerable persons. WMS shall temporarily cordon off the area of work using cones and barrier tape.
Electrical	Only battery operated or 110v tools to be used All electrical equipment is to be PAT tested. The equipment is to be inspected prior to use to check for defaults or any other issues that could cause harm when the item is used.

Inclement Weather	Regular checks of the weather forecast are to be carried out by the contracts supervisor. No works to be undertaken in wet conditions as this will weaken cement mix and also possible risk of environmental waste issues. No works are to be undertaken from scaffolding, towers or ladders in high winds. In times of high UV radiation workers are obliged to use sun screen protection. Workers are not permitted to 'strip off'. Minimum dress code is to wear a T-shirt. Anything less and the person/s must be ordered to cover up, or, on refusal to do so, removed from site. WMS are to check wind protection to ensure resident's possessions are not damaged.
Noise	If high levels of noise are expected, ear defenders and control measures are to be introduced if lower noise action value is expected to be exceeded (80dB weekly average or 135dB peak). If there are concerns that noise levels are above this, further investigation will be carried out. Site manager to monitor noise levels and make building users aware if ay high levels are planned.

PPE