



FLOORSPAN
CONTRACTS

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RISK ASSESSMENT AND METHOD STATEMENT

BEAM AND BLOCK INSTALLATION – WITH CRANE



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SEQUENCE OF OPERATIONS (METHOD STATEMENT) FOR THE INSTALLATION OF PRESTRESSED CONCRETE BEAMS USING A MOBILE CRANE.

- The Appointed Person (AP)/Site Foreman (SF) will arrive on site and report to the site office with the lifting team for the site induction and ensure that the conditions of the method statement have been met, ensuring that nothing has changed and that all arrangements have been undertaken.
- The operatives will then clean the surface of the brickwork with a trowel or similar tool in preparation for the damp proof course. This will be rolled out by the operatives and secured to prevent movement during the positioning of the beams.
- The operatives will now assemble the necessary equipment in readiness for the arrival of the crane.
- When the crane arrives a banksman will be needed to aid the driver in accessing the site due to the restricted entrance. It may be necessary to briefly delay passing traffic to allow the crane a clear access onto the site.
- Upon arrival of the crane the AP/SF will check all documentation and certificates relating to the crane and lifting accessories to check compliance as the method statement and risk assessment.



- The AP/SF will then direct the crane into its predetermined rigging position. The crane operator to then rig the crane in accordance with manufacturer's instructions with the help of the Floorspan Contracts operatives if required.
- Once the crane is set up and all operational safety checks have been undertaken, the AP/SF will brief the rest of the lifting team on the lifting plan in the form of a toolbox talk, in accordance with the method statement and Risk assessment. This will ensure that all members of the team are aware of the sequence of works and the hazards present.
- The Slinger/Signaller (SS) under the supervision of the lift supervisor will then check the condition of the lifting accessories for any defects. If they are deemed to be acceptable the SS will assemble the lifting equipment and attach it to the hook block.
- The SS will then signal to the crane operator to position the hook block above the centre of the load to be lifted.
- The SS will then sling the load in accordance with the attached tackle sketch.
- Once the load has been secured the SS will signal to the crane operator to raise the load to approximately 500mm to check the stability and integrity of the load.
- If the load is deemed to be safe and secure the SS will direct the first lift to the position indicated by the lift supervisor.



- This operation will be repeated until all components are in position.
- Infill blocks for the floor will be delivered on a 'short artic' in advance of the works and placed in a position by the driver that is suitable for all parties.
- At the end of this process the SS will direct the crane so that the hook block is situated above the non-hydraulic block grab. Using the same chains as used for the lifting of the beams, the SS will attach the non-hydraulic block grab to the hook block. Blocks will be delivered on an articulated vehicle on the morning of the works. Floorspan operatives to assist the driver in accessing the site if required.
- The SS will then instruct the crane operator to pick up the infill blocks and will direct him to the position as indicated by the lift supervisor.
- This process will be repeated until all of the blocks have been placed in the floor.
- **This completes the use of the crane.**
- The lift supervisor will then remove the lifting accessories, check serviceability and place them back onto the crane.



- The crane driver is to then de rig the crane and under the supervision of the lift supervisor, exit the site.
- The operatives to then proceed with the installation process which involves the laying of edge blocks and the cutting of infill blocks and grouting on completion.
- The cutting of the edge blocks may be undertaken by either petrol driven disc cutter or manual block splitter.
- Operatives to wear appropriate PPE throughout.
- **This completes the installation of the beam and block floor.**
- The operatives will now conduct a final check of the floor and ensure that the area is clean, tidy, and safe. All tools will be cleaned, and equipment gathered.
- The operatives will then seek client approval and ensure that all parties are satisfied before conducting a final head count and departing the site.



RISK ASSESSMENT

<u>Hazard</u>	<u>Risk</u>	<u>High/Medium/Low</u>	<u>Action to be Taken</u>	<u>New Risk</u>
Elevated/Moving Load	Risk of injury if the load collides with personnel or nearby belongings	Medium	<ul style="list-style-type: none">- The use of a trained and competent slinger/signaller at all times. The client to ensure that all personnel not involved in the lifting operations are kept clear of the area at all times. All operatives to wear appropriate PPE throughout the lifting operations.	Low
Moving Plant and Machinery	Personnel being struck by moving plant and equipment	Medium	<ul style="list-style-type: none">- All vehicles to be guided by a banksman at all times. All vehicles excluding those involved in the install to be excluded from the radius of the crane.- Lift area to be cordoned off by the client.- Use flashing beacons when traversing the site.	Low



Slips, Trips and Falls	Operatives falling or suffering other injury due to debris and uneven ground	Medium	<ul style="list-style-type: none">- The area immediately adjacent to the floor to be tidied and levelled prior to the commencement of work, with all footings to be backfilled inner and outer to allow safe movement for all personnel.	Low
Falls from Height	Operatives falling from upper floors	High	<ul style="list-style-type: none">- Floorspan will provide a fall arrest system such as airbags or safety netting, and it is compulsory that the client also provides suitable and safe scaffolding around the perimeter of the working area, not less than 900mm below bearings.- A handrail to the perimeter must also be present.- Fall arrest air bags will be positioned in each half of the building that is being installed and transferred over as work progresses.	Low
Open Excavations	Operatives and plant falling into uncovered holes.	High	<ul style="list-style-type: none">- All exposed excavations near to the work area and access egress	Low



			routes to be covered and secured.	
Sprains, Cuts and Abrasions	Operatives harming themselves on sharp materials and power tools.	Medium	<ul style="list-style-type: none">- Training given to operative to increase awareness.- All operatives to be furnished will all appropriate PPE.	Low
Strains from heavy lifting	Operatives injuring themselves due to excessive lifting.	High	<ul style="list-style-type: none">- All operatives to be given instructions on manual handling and lifting correctly. Operatives must also take regular rest breaks and follow the lifting guidance enclosed.	Low
Aerial Obstructions	Load striking objects in the vicinity.	Medium	<ul style="list-style-type: none">- All objects to be removed wherever practicable such as scaffolding and trees.- A slinger/Signaller to be used to guide the crane throughout the lifting operations.- Components forming part of the structure such as braces, struts etc are to be removed by the customer, as required by the progress of the work.	Low



Use of Disc Cutter	Abrasions and Inhalation of dust	High	<ul style="list-style-type: none"> - Operative training in use of equipment PPE to be worn. - Wet cutting to be considered where possible. 	Low
Proximity Risks Pedestrians, Children and Passing Cars	Members of public entering the working area.	Medium	<ul style="list-style-type: none"> - Cordon off the working area clearly. Use flashing beacons on all plant always. - Be vigilant and alert for members of the public. - Use banksman to assist with passing traffic. 	Low
Crane Collapse	The crane collapsing due to unstable/unsuitable ground conditions.	High	<ul style="list-style-type: none"> - Pay attention to the crane warnings and do not overwork the crane. - Adhere to the working duties rigidly. - Ensure the crane is stable and well rigged on level ground. 	Very Low
Cement Dust	Dermatitis. Allergic reaction or Irritation. Burns caused by contact with the skin.	High	<ul style="list-style-type: none"> - The use of suitable gloves. - Keep hands clean by regular use of suitable welfare facilities. - The use of pre and post work creams. - Use wet cutting at all times. 	Low



Silica Dust	Inhalation of dust, which can be retained in the lungs.	Medium	<ul style="list-style-type: none">- Controlled exposure to 0.1 mg.m⁻³ in an 8 hour shift. Continuously attempt to reduce the number of people and the length of time exposed to silica dust.- Face fit masks to be worn at all times.	Low
Petrol	Inhalation of petrol fumes into the lungs. Ingestion into the body. Explosion.	High	<ul style="list-style-type: none">- Use of neat petrol and petrol driven equipment in well ventilated areas. Keep all sources of ignition well clear when using the equipment. If draining into a container use a proper funnel to limit spillages.	Low
Hydraulic Fluid	Ignition and fire. Burning through contact with the skin.	Low	<ul style="list-style-type: none">- Keep sources of ignition away from hydraulic equipment. Do not inspect leaking hydraulic pipes without suitable gloves and eye protection. Should a leak occur turn off all motors to stop propulsion of the fluid.	Very low
Disc Cutter	Sparks from disc cutter igniting combustibles and burns from disc cutter	Low	<ul style="list-style-type: none">- The area where the work is to be completed must	Very low



	sparks.		<p>be cleared of all combustibles.</p> <ul style="list-style-type: none">- Combustible items and other combustible property which cannot be moved, must be protected by non-combustible material and where cutting or grinding is being used, this must extend to at least 6 metres from or beneath work area.- Where there is a danger of ignition either directly or by conducted heat, through any partitions or walls, the area on the other side must be inspected and combustible material removed.- At least one fire extinguisher of a type suitable for the use required must be kept adjacent to the task and be ready for immediate use.- No heat producing equipment must be left	
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			<ul style="list-style-type: none">- out of view of its operator or fire watcher whilst lighted or powered or whilst hot.- A thorough safety check for signs of fire or combustion around, above or below the work area must be made at regular intervals for at least 30 minutes after each period of work is completed.	
Noise Emission	Damage To Hearing	High	<ul style="list-style-type: none">- A weighted emission sound pressure level: 115 dB A² is emitted from our petrol driven cutters.- Compulsory wearing of hearing protectors that reduce noise to 85 dB for all operatives engaged in the installation. With a careful approval or checking process manufacture elements to the correct length to ensure the requirement for onsite cutting is minimised, possibly even eliminated.	Low



			<ul style="list-style-type: none">- Use modern, well maintained equipment to reduce emission.	
Vibration	Hand Arm Vibration Syndrome	Medium	<ul style="list-style-type: none">- Triaxial vibration value for cutting concrete: 4.5 m/s². This level falls within the government recommended Exposure Limit Value.- As above reduce the amount of cutting to the lowest level that is reasonably practicable.- Provide modern and well maintained machinery.- Provide health surveillance to address concerns promptly.- Rotate any cutting duties within the installation team.- Provide training and instruction.	Low
EPS Polystyrene Panels	Ignition and Fire	Medium	<ul style="list-style-type: none">- EPS polystyrene panels are categorised as Fire Euroclass F, (non-flame retardant material) but are however more flame retardant than other popular construction materials such as timber.	Low



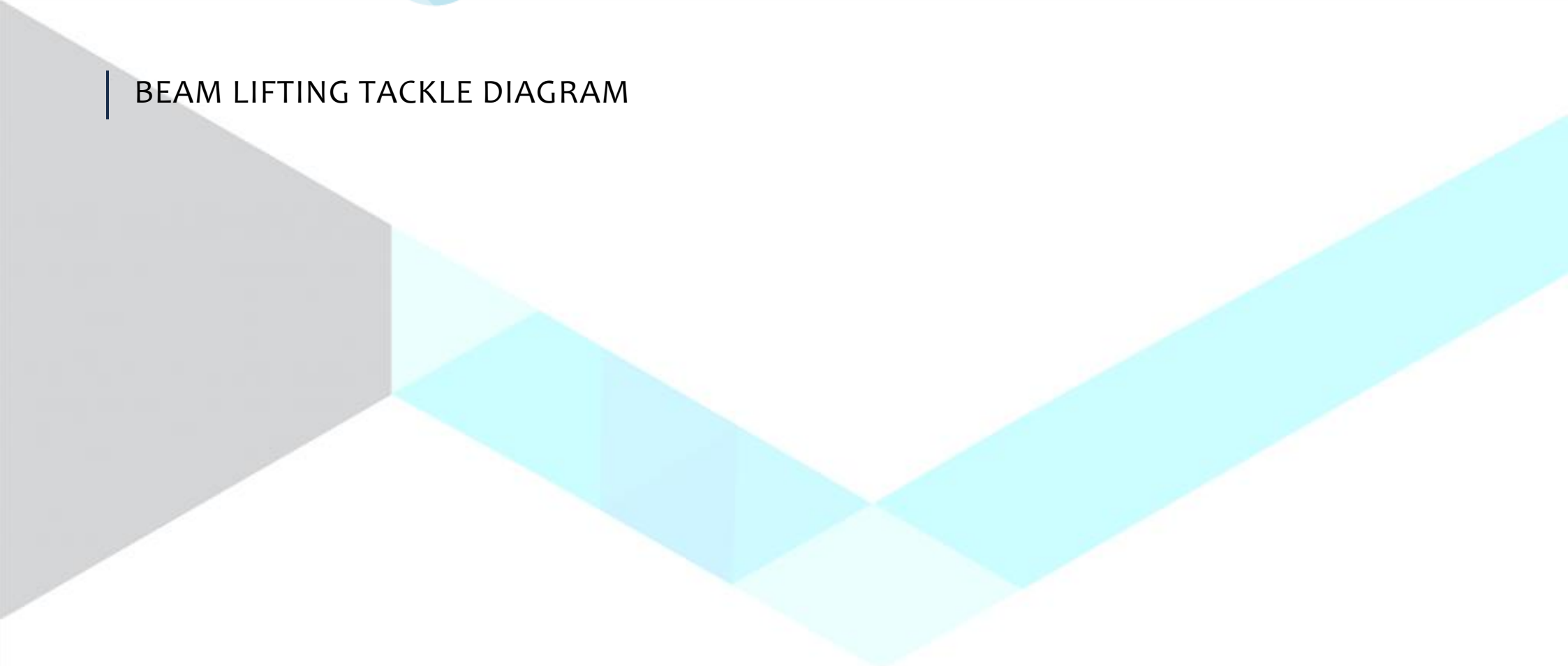
			<ul style="list-style-type: none">- Objective analysis shows that the influence of insulating material on the occurrence and development of fire is marginal, or non-existent. Independent work, validated by KPMG, has been carried out on the role of the insulation material into the cause and development of fires. The conclusion is that EPS does not contribute to the start or the development of these fires. It has been demonstrated that there is no proven relationship between the type of insulation material used and the fire damage. Contributory factors have been identified, amongst which are careless use of high temperature equipment and processes absence of extinguishing equipment. Therefore, if	
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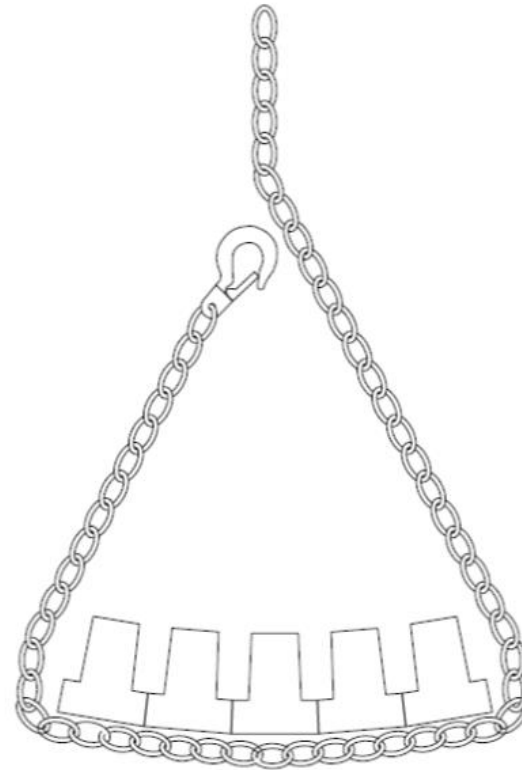


			<p>the minimal 'hot works' (using a disc cutter) that we carry out on site are undertaken well away from the EPS polystyrene panels chances of ignition are minimal. No other flammable materials are used in our process. Combine this will the added safeguard of fire extinguishers placed on the installation vans and the risk is mitigated.</p>	
Environmental (Weather)	Crane collapse load instability	Medium	<ul style="list-style-type: none">- Weather conditions to be monitored always and lifting not to take place if conditions outside of manufacturers recommendations. Ground conditions to be monitored.	Low



BEAM LIFTING TACKLE DIAGRAM





Precast Beams Installation method