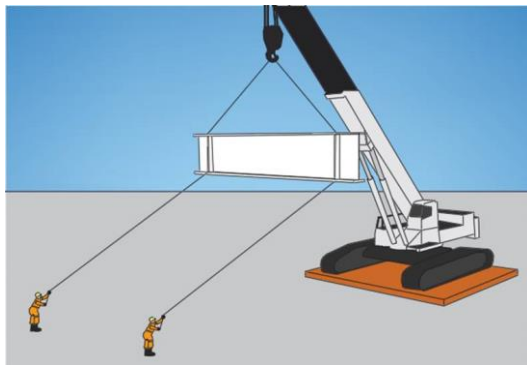




**TIN 022**

**The Use of Tag Lines with Tower Cranes**

Tag lines are ropes attached to a load, with the free end held by personnel on the ground to provide control and minimize swing of the load on the hook during lifting operations. They are useful in controlling the rotation of long loads and are particularly helpful where lateral and overhead clearances are tight. It should however be borne in mind that the use of tag lines introduces additional hazards to the lifting operation and should only be employed if the benefits outweigh the risks.



**Tag line**



**Push-pull Pole**

Tag lines should always be made from man made or natural fibres, never from wire rope which may cause injury from broken wires. Nylon and polypropylene ropes easily fray, are slippery when wet or contaminated and more importantly can conduct electricity. In close proximity to high voltage power lines such tag lines can present the hazard of electrocution. When this hazard is present non-conductive tag lines should be used and specified in the lift plan.

When guiding loads the use of push pull poles should be considered in preference to tag lines. These telescopic poles can, as their names suggests, be used for both pulling and pushing when rotating or positioning a load. Use of these poles reduces the need for hand contact with the load, thereby reducing the risk of entrapment.

As outlined above, tag lines should be used with caution. Their use should be considered as part of the planning of the lift to avoid creating additional hazards. Particular attention should be paid to the following:

- The path to be taken by the load should be surveyed as part of the planning process to ensure that taglines cannot become snagged on the structure, scaffolding or other plant or equipment;
- Tag lines should be inspected before use to ensure that they are undamaged and do not contain knots or loops etc.;
- Tag lines should never be “tied off” to any machine, equipment or structure, including at the end to be held i.e. no hand loops;
- Tag lines should not have anything attached to their ends;
- Persons guiding the load using tag lines should:
  - take care that they do not cause the load to swing or pull the load out of balance;
  - ensure that any spare line does not become entangled with anything, including their own feet;
  - never wrap the tagline around an arm or leg in an attempt to stop a load’s swing.



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- If lifting in a confined area the tag line should be long enough to control the load throughout the lift;
- If the load only requires controlling with a tag line as it is raised from the ground and during landing, it is permissible to use a short tag line;
- When erecting or dismantling tower cranes:
  - Two tag lines should be used where possible when lifting a long tower crane jib. These lines should be attached close to the ends of the jib to give maximum control;
  - Tag lines should always be controlled by persons other than the slinger/signaller. The person controlling a tag line will often require two hands and may be out of the line-of-sight of the crane operator, preventing them from giving either effective hand or radio signals;
  - Extra care must be taken when lifting long tower crane jibs that the end of the jib does not come into contact with the boom of the mobile crane, damaging control cables and immobilising the mobile crane.

**Tag Line Incident**

*A slinger/signaller helping unload a truck at a site London when he inadvertently stepped into a loop created on a purpose designed tag line. He signalled to the tower crane to raise the load and before he knew what happened the loop had tightened around his legs raising him off the ground.*

*Fortunately, his reflexes were fast enough to enable him to grab the tag line with his hands, keeping himself upright. A co-worker quickly signalled to the tower crane operator to lower the load and the slinger/signaller was lowered carefully back to the truck from a height of about 15 metres.*

A video of the incident can be found at <https://www.vertikal.net/en/video-library/detail/141/>