Safe Use of Ladders in the Specialist Access Industry (ASG:001)

Frequently Asked Questions

Types of Ladders: Item 52 (page 16)

Q. Item 52, page 16 states:

"This guide does not offer to distinguish between ladder types when laddering but looks at the principles of specialist access ladder installation in general and how they should safely be used."

No reference is made in any of the diagrams to the type of ladder being used and there is no reference to splicing Lancashire ladders.

A. To avoid confusion, a decision was taken to focus on Yorkshire laddering, whilst recognising other methods are commonly used including 16'00" Lancashire ladders. The laddering techniques applied in conjunction with 16'00" Lancashire ladders are acknowledged and the current guidance and training delivered in these methods should continue.

Training Providers should emphasise that steeplejack ladders should only be considered as an access method following the completion of a full risk assessment which follows the **HSE's Hierarchy of Risk** and demonstrates that no other form of access (i.e. powered access) would be a suitable alternative.

All Structures – Lashings: Item 78 (page 21)

Q. Item 78, page 21 states:

"Due consideration must also be given to the stability of manmade polypropylene fibre rope lashing materials under exposure to Ultra Violet light when in service in relation to the time they are likely to remain in use. Nylon ropes, as in BS EN ISO 1140:2012 Fibre ropes. Polyamide is much more stable under U.V. exposure and is more suitable for long term or multiple usages. Polypropylene ropes (BS EN ISO 1346) are susceptible to degradation under U.V. light but may be suitable for short term single use duties providing site staff are made aware of the shortcomings of the material and procedures exist to ensure lashings are discarded at the appropriate time."

Should BS EN ISO 1140:2012 Fibre ropes be used solely, to eradicate the possibility of BS EN ISO 1346 type ropes and lashings finding their way back in to the system? Keeping track of these rope lashings would be near impossible!

A. Due to the fact Polypropylene ropes have historically and continue to be widely used throughout the industry it was important to include them within the guidance and at the same time acknowledge the product's potential shortcomings, particularly in relation to U.V. exposure. The product's shortcomings have been acknowledged and information provided on how the polypropylene ropes can remain safe with the correct control measures in place.

With adequate control measures in place companies employing suitably trained & competent employees should be able to monitor and control all ropes used in conjunction with the installation of specialist access ladders.

All Structures – Lashings: Item 83 (page 23)

Q. Item 83, page 23 states:

"Where permanent anchors are not present on structures such as steel chimneys and lead spires, ladders have previously been installed by passing lashings which are fixed to one side of the ladder around the structure and fixed back to the other side of the ladder. This is not recommended as it does not provide sufficient lateral support. It is recommended therefore to use permanent anchors where it is reasonably practicable."

Unfortunately the majority of the smaller height and diameter steel chimneys will not have laddering hooks and screw in eye bosses attached to allow the erection of the steeplejack ladders.

At NCC – East, the students are taught to attach the wire lashing to one side of the ladder limber then pass the lashing around the chimney circumference. This is then looped around the other ladder limber on the other side of the ladder. Keeping the tension on the lashing at all times, the wire lashing is wrapped over the back of the ladder over the other side of the lashing. This is passed under and over the lashings another three times at the back of the ladder. The lashing remains tensioned as the operative applies pressure to the front of the ladder. The end of the wire lashing is tied off with a clove hitch that is formed around the ladder rung and also the wrapped over lashing at the back of the ladder. When the clove hitch is tightened it then pulls more tension on to the already tight lashing. This procedure will now be carried out for a total of three fixing points per ladder. If this procedure is followed correctly the ladders remain tight for an extremely long time.

A. 'Reasonably Practicable' is the key phrase here because it is recognised that often some structures will have no permanent anchors in place where it is possible to fix steeplejack ladders to.

A decision not to recommend the passing around of a wire around a structure to secure steeplejack ladders acknowledges that there are a number of shortcomings with this particular fixing method, not least when ladders are required to be in use for a period of time as oppose to a short duration.

A major shortcoming is the ergonomics associated with this fixing methodology that often sees a requirement for the fixer to 'throw' a wire/s around a structure and catch the wire on the opposite side from which it was thrown. It is recognised that traditionally the installation of a 'cropper' to feed the wire around removes this requirement, however high flue inlets or other obstructions can rule out the practical use of a 'cropper'.

Also often in breezy conditions the process of throwing and catching a wire around the circumference of a larger structure can be quite a difficult skill to master and can significantly increase the time associated with installing ladders using this particular methodology.

Furthermore when there is a need to ladder a larger diameter chimney using the 'wire around method', this often sees a requirement to join wire lashings together to give the added length required. Whilst there is an industry recognised method of joining wires together, the fact remains that this process creates a joint in the wire that represents a potential failure point which when the wire is installed is often not visible from the ladder elevation.

ATLAS recommends phasing out the teaching of this particular laddering methodology together with the 'arms and dogs', commencing with the 2016 intake.

It is acknowledged that the erection of two, three and even four sets of diametrically opposed ladders to access a large diameter chimney has traditionally sometimes been employed by steeplejacks, however this is a practice that industry should no longer acknowledge as best practice due to its many shortcomings, and it has not been included within the Ladder Guide. One of the major shortcomings of erecting diametrically opposed sets of ladders are that often installers are only in contact verbally with no visual contact to monitor each other's actions. In a noisy environment the risk of the installers misunderstanding or not hearing verbal instruction whilst fixing ladders, is significantly increased. On small diameter chimneys where no other means of access is practicably available i.e. a MEWP, a chimney with no fixing points should be fully risk assessed and laddering hooks which meet BS 3678: 1986 should be installed for the fixing of temporary steeplejack access ladders.

All Structures – Laddering with Permanent Anchors: Item 101 (page 26)

Q. Item 101, page 26 states:

"Operative 1 now locates the bottom of the second ladder into the sockets or hoops at the top of the first ladder. It should be noted that only one person should ever be on the top ladder (See Diagram 21)."

When we talk about the slotting, punting or hemping of the second ladder is this just referring to the lighter aluminium type ladders? To slot traditional wooden Lancashire type ladders would take a lot of skill and favourable light wind conditions and would appear to contravene the manual handling regulations.

A. To avoid confusion, a decision was taken to focus on Yorkshire laddering, whilst recognising other methods are commonly used including 16'00" Lancashire ladders. The laddering techniques applied in conjunction with 16'00" Lancashire ladders are acknowledged and the current guidance and training delivered in these methods should continue.

Training Providers should emphasise that steeplejack ladders should only be considered as an access method following the completion of a full risk assessment which follows the **HSE's Hierarchy of Risk** and demonstrates that no other form of access (i.e. powered access) would be a suitable alternative.

It would not be acceptable to slot, lift in or hemp the heavier wooden type ladder and any installer should have received adequate training i.e. an NVQ L2 Steeplejack or be under supervision at college to ensure this scenario did not occur.

All Structures – Laddering with Permanent Anchors: Diagrams 20 and 21 (page 26)

Q. If a chimney already has permanent laddering fixtures and has screw in eye fittings already set out at 1.5m does this mean that only two fittings per ladder are required as shown in diagrams 20 and 21? Do the three tie points not apply?

A. Where permanent in situ ladder fixings are installed and have been tested only two fixings per ladder are required. Whenever there is a requirement to install temporary fixings, a minimum of three fixings are to be installed for each ladder.

Laddering Brick Structures – Temporary Anchors: Item 154 (page 33)

Q. Item 154, page 33 states:

"Please note where ladders are fixed to existing parts of the structure (such as steel bands) checks should be made to ensure these will be suitable for that purpose."

As bands on brick chimneys normally come in three/ four sections or more, how would you inspect/ check the condition and suitability of the other band lugs and connection bolts on the same band that are out of view around the circumference of the chimney?

A. Wherever there is a potential opportunity to fix a ladder/s to a component part fixed to a structure i.e. a steel tensioning band, this should only be undertaken following the completion of a thorough inspection confirming the condition and suitability of the steel tensioning bands. If it is practicable to do so, powered access should be employed firstly to undertake this initial inspection prior to the installation of ladders. If it is not practicable to carry out this initial inspection and confirm the condition and suitability of the ancillary items (consider possible design requirements) then no fixing of ladders to these component parts should take place.

Please also refer to section 72 on page 21:

"On no account should ladders be attached to fittings or components or any other type of equipment that will not support loads from the ladder system and/or has not been specifically designed for the purpose of attaching and supporting ladder."

The guidance is clear that ladders should never be attached to any fitting or component installed to or around a chimney that has not been specifically designed for the purpose of attaching or supporting ladders.