



Guidance on the Lifting and Handling of Long Loads on the forks of forklift trucks

Introduction

The purpose of this document is to provide industry guidance for lifting and handling of long loads carried on the forks of forklift trucks. Whilst the primary use of fork lift trucks is to handle palletised loads, it is the intention of this document to provide guidance on the lifting and handling of long loads often associated with piling and foundation activities, which are not generally palletised.

It is not the intention of this document to provide guidance on the carriage of underslung loads. Further information on this topic is available from <http://www.cpa.uk.net/sfpgpublications/>

This document should be read in conjunction with all other legislation, HSE and best practices guidance currently published - <http://www.hse.gov.uk/>

Definitions for the purpose of this document are -

- **Forklift truck** - covers a range of tracked and tyred plant items which are or can be fitted with forks or a fork attachment, including but not limited to Telescopic Handler, Rough Terrain Fork Lift, Side Loader, Loading Shovel or excavator fitted with forks etc.
- **Long loads** – typically loads greater than 3 times the fork width with the forks set at the maximum outward position.

It is recommended that for any long loads lifted in excess of 3 times the fork width serious consideration be given as to whether a forklift truck is suitable to carry out this work.

Whilst load handling attachments are available and are indeed often appropriate, these must be approved by the lifting equipment manufacturer as suitable for a particular forklift truck model and a suitable and sufficient risk assessment be carried out along with a documented lift plan/method statement. Care must also be taken as the use of such attachments may reduce the safe working load rating of the forklift truck.

General

Lifting operations by mechanical means are common place on piling sites with a variety of lifting equipment being used. Cranes and piling rigs carry out the majority of lifting operations on site and are the preferred option when planning lifting operations of long loads. However, it is recognised that forklift trucks may also be used due to methods of working, limited access, restricted space within the site, limited storage areas, the presence of utilities and other hazards which determine that cranes or piling rigs cannot be used.

Planning

UK Legislation requires that all construction activities are appropriately planned by competent people and carried out to ensure the health, safety and welfare of employees and others who may be affected with due consideration for all foreseeable risks. This starts at the tender and planning stage. Scheme Designers are key in designing out risk and by proper selection of suitable design, materials and construction methods, risk can be eliminated / reduced. In the context of this document design and planning considerations should focus on issues which may affect selection, suitability and safe use of lifting equipment. Forklift operations generally require firm level ground. Consideration during the design and planning stage should focus on:

- Suitability of the site in relation to the preferred piling technique / typical lifting operations and the loads expected with respect to selection of potential lifting equipment
- Site space constraints and logistics.
- Lay down areas for plant equipment and storage of materials.
- Traffic management, suitability of access routes, piling platform and gradients.
- Travel distances – unloading and lay down areas should be near to the place of use to avoid double handling and travel with loads.

Construction and working methods are often detailed by the Specialist Piling Contractor in response to the outcome of the considerations above. It is often preferable and beneficial for the Specialist piling contractor to be involved at the time of the above considerations in order to eliminate / reduce any risk by the selection of the most appropriate piling technique/working methods.

Note – the construction site environment is constantly changing on a daily often hourly basis. Regular and careful planning and coordination of activities is key to maintaining a safe place of work.

Selection of lifting equipment

Lifting equipment must be selected by a suitably competent person, ensuring that all lifts comply with the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER). Due consideration should be given to –

- Nature of the work being undertaken
- Characteristic of the load and the lifting operations required.
- Particular site constraints.
- The need for additional handling attachments such as fork width extensions and their effect on the safe working load of the forklift truck.
- How best to secure the load to prevent it moving or sliding during transport.
- The weight of any handling attachments must be included in any load calculations.
- The need to de-rate the SWL of equipment to provide an increased factor of safety
- Supervision arrangements

When selecting the lifting equipment careful consideration should be given to the lifting of the following long loads:

- Circular long steel tubes, vibro cones, pokers etc. offer minimum surface contact with the forks and therefore serious consideration should be given to equipment selection before deciding that a forklift is the method of choice.
- Square section precast concrete piles and relatively flat sheet piles offer greater surface contact and therefore increased load stability but it must be remembered that steel to steel contact reduces adhesion on the forks.

Management of lifting operations on site

At the induction and mobilisation stage of a project the following points should be reviewed at the earliest opportunity prior to commencing work, particularly with reference to the forklift trucks but also other health and safety aspects of the work -

- The site is as was expected at the design / planning stage and the planned method of working is acceptable.
- Lifting equipment delivered is as per any lift plan / SSOW which is in place.
- The piling platform and vehicular access routes are firm level and suitable for the intended lifting activities.
- Delivery vehicles can access a suitable storage / unloading area on site. Ideally at the same level as the piling platform.
- Storage / unloading areas are close to the intended piling works area to reduce / prevent double handling or excessive travel.
- Suitable segregation of lifting operations from pedestrian routes or other work activities with appropriate barrier signage provided to suit.

Training

It is important that operators, supervisors and managers involved with the use of forklift trucks receive adequate training relative to their role, in the safe use and operation supervision of forklift trucks with particularly emphasis on the lifting long or irregular loads including the foreseeable risks and controls to be adopted. Training should be in line with the CPCS scheme and should include but not be limited to -

- the key principles of the safe use and operation of the lifting equipment
- Understanding the capabilities of the lifting equipment and load characteristics and the effect on the forklift truck stability in all operating modes
- Likely hazards and risk controls associated with handling long loads,
- Personal position of any support staff, such that they will be not be injured in the event of loss of load or machine overturn etc.

Operational controls

When lifting long loads it is recommended that the following are adhered to

- The load be carried as low as is practicable,
- The load is centred equidistant on the forks,
- The load is carried close to the heel forks and with slight back tilt sufficient to stabilise the load.
- The forklift truck is operated within the site speed limits and driven accordingly to the site conditions and terrain.

Handling attachments

When selecting object handling attachments consideration must be given to the effects that the attachment may have on the stability and capacity of the forklift truck. For example using width extensions may increase the load handling stability, however it may have an adverse effect on the lateral stability as the load may be outside the wheelbase of the forklift truck. Always consult and work to manufacturer's instructions ensuring any chosen attachment has been checked as being compatible to the forklift truck to which it is fitted by a competent person.



Ensure that all lifts comply with the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER), applying best practice and ensure that they are planned and adequately supervised (regulation 8).

When lifting any load that can affect the key principles of stability of the lifting equipment, ensure that every lift is adequately planned and supervised to comply with LOLER & BS 7121 (part 6)

Further Guidance

- L113 The Lifting Operations and Lifting Equipment Regulations 1998
- BS 7121 Safe Use of Cranes Part 6
- ACOP L117 Rider Operated Lift Trucks – Operator Training
- HSG (6) Safety in Working With Lift Trucks

References

- The Health and Safety at Work Act 1974 Sections 2, 2, (b) & (c)

Disclaimer

Although every effort has been made to check the accuracy of the information and validity of the guidance given in this document, neither the FPS or its members accept any responsibility for misstatements contained herein or misunderstanding arising here from.