

DALE

Instructions for the Safe Use of Eyebolts

The information in this document should be passed to the user of the equipment

This document is issued in accordance with the requirements of Section 6 of the Health and Safety at Work etc Act 1974, amended March 1988. It outlines the care and safe use of EYEBOLTS and is based on Section 3 of the LEEA Code of Practice for the Safe Use of Lifting Equipment.* It should be read in conjunction with the requirements for general purpose slinging practice given overleaf, the principles of which may be applied to the use of eyebolts with or without slings.

This information is of a general nature only covering the main points for the safe use of eyebolts which comply with BS 4278 or the withdrawn standard BS 529 Part 1. It may be necessary to supplement this information for specific applications.

ALWAYS

- Store and handle eyebolts correctly.
- inspect eyebolts before use and before placing into storage.
- Select the correct pattern eyebolt for the application.
- Ensure that the eyebolt and tapped hole threads are compatible and strong enough for the load.
- Correctly align the plane of the eye using shims where necessary.
- Ensure that the collar is fully seated when hand tight.

NEVER

- Use tommy bars, grips or wrenches to tighten eyebolts.
- Use dynamo eyebolts for angular loading.
- Use a single eyebolt to lift a load that is free to rotate.
- Reeve slings through the eyes, links or shackles fitted to pairs of eyebolts.
- Force hooks or other fittings into the eye; they must fit freely.
- Shock load eyebolts.

SELECTING THE CORRECT EYEBOLT

Eyebolts to BS 4278 are available in three standard types, eyebolt with link, collar eyebolt and dynamo eyebolt. Select the eyebolt to be used and plan the lift taking the following into account:

Type of eyebolt - eyebolt with link for all general purpose applications, collar eyebolt for most general duties, dynamo eyebolt only where a truly axial load is guaranteed. (A collar eyebolt fitted with a link through the eye must always be considered as a collar eyebolt and not as an eyebolt with link.)

Capacity - (rating eyebolts for angular loading) It is necessary to reduce the SWL by the following factors when using eyebolts with two leg slings:

Included angle α of sling legs

Type of eyebolt $0^\circ < \alpha = 30^\circ$ $30^\circ < \alpha = 60^\circ$ $60^\circ < \alpha = 90^\circ$

Eyebolt with link 1.0 0.8 0.63

Collar eyebolt 0.63 0.4 0.25

STORING AND HANDLING EYEBOLTS

- Never return damaged eyebolts to storage. They should be dry, clean and protected from corrosion. Care must be taken to protect threads from damage whilst in store.
- Where possible use removable plugs to exclude debris from tapped holes.

USING EYEBOLTS SAFELY

- Do not attempt lifting operations unless you understand the use and limitations to use of the equipment, the slinging procedures and the mode factors to be applied.
- Do not use defective eyebolts. Check the thread of both the eyebolt and hole, ensure they are compatible, fully formed, of sufficient length, undamaged and clear of any debris which may prevent proper engagement.
- Ensure the contact surface around the hole is flat, clean and perpendicular to the thread axis. Tighten the eyebolt down firmly by hand. The eye must be in the correct plane and the collar must sit evenly on the contact surface. Use shims but do not machine the collar or over tighten to achieve this.
- A hook may be engaged directly into the eye of a dynamo eyebolt or the link of an eyebolt with link. Collar eyebolts must be fitted with a shackle or link to accept hooks. The hooks must fit freely so do not wedge or force them into position.

IN-SERVICE INSPECTION AND MAINTENANCE

- Maintenance requirements are minimal. Keep eyebolts clean, protect from corrosion and protect threads from damage. Do not attempt to straighten bent eyebolts or re-cut threads.
- Regularly inspect eyebolts and, in the event of the following defects, refer the eyebolt to a Competent Person for thorough examination: illegible markings; distortion; worn, or bent shanks and threads; incomplete or incorrectly formed threads; damaged eyes; nicks, gouges, cracks, corrosion or other

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Further information is given in:

HSE Guidance Note PM 16 - Eyebolts

The Code of Practice for the Safe Use of Lifting Equipment, published by: LIFTING EQUIPMENT ENGINEERS ASSOCIATION

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