IMPORTANT SAFETY INFORMATION

Instructions for the safe use of: Flat Woven Webbing Slings

The information in this leaflet 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 man-made fibre FLAT WOVEN WEBBING SLINGS, commonly known as BELT SLINGS, and is based on Section 15 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, which form an integral part of these instructions.

This information is of a general nature only covering the main points for the safe use of Belt Slings. It may be necessary to supplement this information for specific applications.

ALWAYS:

- Store and handle belt slings correctly.
- Inspect belt slings and accessories before use and before placing into storage.
- Follow safe slinging practices, as given overleaf.
- Position the bight for choke lift at 120° (natural angle).
- Position the sling so that the load is uniformly spread over its width and protect the sling from sharp edges.
- Apply the correct mode factor for the slinging arrangement.

NEVER:

- Attempt to shorten, knot or tie belt slings.
- Expose belt slings to direct heat or flames.
- Use belt slings at temperatures above 80°C or below 0°C without consulting the supplier.
- Expose belt slings to chemicals without consulting the supplier.
- Shock load belt slings.
- Use belt slings which are cut or which have loose or damaged stitching.
- Use a sling with a missing/damaged label or illegible markings

Selecting the Correct Sling

Belt slings are available in a range of materials and sizes in single leg and endless sling forms. Select the slings to be used and plan the lift taking the following into account:

Material - polyester identified by a blue label is resistant to moderate strength acids but is damaged by alkalis; polyamide (Nylon) identified by a green label is virtually immune to alkalis but is damaged by acids; and polypropylene identified by a brown label is little affected by acids or alkalis but is damaged by some solvents, tars and paints and therefore, suitable for appliances where the highest resistance to chemicals other then solvents is required.

Capacity - the sling must be both long enough and strong enough for the load and the slinging method.

Apply the mode factor for the slinging method.

For use at temperatures exceeding 80°C or below 0°C refer to the suppliers instructions.

For flat woven slings made to BS EN 1492-1:2000
Polyester And Polyamide -40ºC to 100º
Polypropylene -40ºC to 80ºC
Ranges vary in a chemical environment, in which case the advice of the manufacturer or supplier should be sought.

If the slings are used in multi-leg arrangement the angle formed between the legs should not be less than 30° or greater than 90°.

If abrasion, heat generated by friction or cutting from edges or corners are likely select a sling fitted with protective sleeves and/or use suitable packing.

Slings with grade 8 fittings and multi-leg slings with grade 8 master links should not be used in acidic conditions. Contact with acids or acidic fumes causes hydrogen embrittlement to grade 8 materials. If exposure to chemicals is likely, the manufacturer or supplier should be consulted.

Storing and Handling Belt Slings

Never return wet, damaged or contaminated slings to storage. They should be cleaned with clear water and dried naturally. Never force dry belt slings.

Store belt slings hung from non-rusting pegs which allow the free circulation of air.

The storage area should be dry, clean, free of any contaminates and shaded from direct sunlight.

Do not alter, modify or repair a belt sling but refer such matters to a Competent Person.

NOTE: The material from which the sling is manufactured may be identified by the colour of the label or printing on the label: Polyester = Blue, Polyamide (Nylon) = Green, Polypropylene = Brown and the sling may also be dyed with a colour code to indicate SWL.

Using Belt Slings Safely

Do not attempt lifting operations unless you understand the use of the equipment, the slinging procedures and the mode factors to be applied.

Do not use defective slings or accessories.

Check the correct engagement with fittings and appliances, ensure smooth radii are formed, do not twist or cross slings and do not overcrowd fittings.

Position the sling so that the load is uniformly spread over its width.

Position the bight for a choke lift at the natural (120°) angle to prevent friction being generated.

Ensure that stitching is in the standing part of the sling away from hooks and other fittings.

Take the load steadily and avoid shock loads.

Do not leave suspended loads unattended. In an emergency cordon off the area.

In-service Inspection and Maintenance

Maintenance requirements are minimal. Belt slings may be cleaned with clear water. Remember weak chemical solutions will become increasingly stronger by evaporation.

Before each use inspect belt slings and, in the event of the following defects, refer the sling to a Competent Person for thorough examination: illegible markings; damaged, chaffed or cut webbing; damaged or loose stitching; heat damage; burns; chemical damage; solar degradation; damaged or deformed end fittings.

Further information is given in:
BS EN 1492-1:2000 – Textile slings – safety – Part 1 Flat woven webbing slings, made of made-made fibres, for general purpose use.

* The Code of Practice for the Safe Use of Lifting Equipment, published by:

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GENERAL PURPOSE SLINGING PRACTICE

The following information is based on Section 1 - Appendix 1.5 of the LEEA Code of Practice for the Safe Use of Lifting Equipment.* It should be read in conjunction with the instructions for the safe use, given overleaf, of which it forms an integral part and with any specific instructions issued by the supplier.

This information is of a general nature only covering the main points for the safe use of various types of slings for general lifting purposes.

ALWAYS:

- Plan the lift, establish the weight of the load and prepare the landing area ensuring that it will take the weight.
- Check slings and equipment are free of damage, use slings/slinging methods suitable for the load and protect slings from sharp edges and corners.
- Attach the sling securely to the load and appliance and position hooks to face outwards.
- Ensure the load is balanced and will not tilt or fall.
- Keep fingers, toes etc clear when tensioning slings and when landing loads.
- Ensure that the load is free to be lifted.
- Make a trial lift and trial lower.

NEVER:

- Use damaged slings or accessories.
- Twist, knot or tie slings.
- Hammer slings into position.
- Overload slings due to the weight of the load or the mode of use.
- Trap slings when landing the load.
- Drag slings over floors etc or attempt to pull trapped slings from under loads.
- Allow personnel to ride on loads.

Sling Configurations and Rating

Slings are available in single, two, three and four leg or endless form. In practice it will be found that chain, wire rope and fibre rope slings are available in any of these configurations but that flat woven webbing is limited to single leg and endless whilst roundslings are only supplied in endless form. The maximum load that a sling may lift in use will be governed by the slinging arrangement (mode of use) and may vary from the marked SWL.** In the case of textile slings the SWL for the various modes of use is usually given on the information label. In other cases it is necessary to multiply the marked SWL by a mode factor.***

The following three simple rules will ensure that the sling is not overloaded. In some cases this will mean that the sling will be under utilised although this is unlikely to hinder the user unduly. Where the maximum utilisation is required reference should be made to a Competent Person who understands the factors involved and who can perform the necessary calculations.

(1) For straight lift never exceed the marked SWL and in the case of multi-leg slings the specified angle or range of angles.

(2) When using slings in choke hitch multiply the marked SWL by 0.8 to obtain the reduced maximum load the sling may lift ie reduce the safe working load by 20%.

(3) With multi-leg slings, when using less than the full number of legs, reduce the maximum load in proportion to the number of legs in use. Simply multiply the marked SWL by the number of legs in use expressed as a fraction of the total thus: one leg of a two leg sling = ½ marked SWL, three legs of a four leg sling = ¾ marked SWL and so on.

Operative Training

Slings should only be used by trained operatives who understand the methods of rating and application of mode factors.****

Safe use of Slings

- o Good slinging practice must ensure that the load is as safe and secure in the air as it was on the ground and that no harm is done to the load, lifting equipment, other property or persons.
- o Establish the weight of the load, ensure the lifting method is suitable and inspect the sling and attachments for obvious defects. Prepare the landing area making sure the floor is strong enough to take the load. Follow any specific instructions from the supplier.
- o Ensure the lifting point is over the centre of gravity. Any loose parts of the load should be removed or secured. Secure the sling firmly to the load by hooks onto lifting points or shackles etc. The sling must not be twisted, knotted or kinked in any way.
- o Use packing to prevent damage to the sling from corners or edges and to protect the load.
- o Do not exceed the SWL or rated angle. Any choke angle must not exceed 120° and any basket 90°.
- o Do not hammer, force or wedge slings or accessories into position; they must fit freely.
- o When attaching more than one sling to the hook of the appliance use a shackle to join the slings and avoid overcrowding the hook.
- o Use an established code of signals to instruct the crane driver.
- o Ensure the load is free to be lifted and not, for example, bolted down.
- o Check that there are no overhead obstacles such as power lines.
- o Keep fingers, toes etc clear ensuring they do not become trapped when lifting, lowering or controlling loads.
- o Make a trial lift by raising the load a little to ensure it is balanced, stable and secure and if not lower it and adjust the slinging arrangement.
- o Where appropriate use tag lines to control the load.
- o Except where special provision is made, do not allow anyone to pass under or ride upon the load. The area should be kept clear.
- o Make a trial set down, ensure the sling will not become trapped and the load will not tip when the slings are released. Use supports which are strong enough to sustain the load without crushing.
- o Never drag slings over floors etc or attempt to drag a trapped sling from under a load.
- o Never use a sling to drag a load.
- o Place the hooks of free legs back onto the master link and take care to ensure that empty hooks do not become accidentally engaged.
- o Never use slings in contact with chemicals or heat without the manufacturers approval.
- o Never use damaged or contaminated slings.
- o On completion of the lift return all equipment to proper storage.

Further information is given in:

* LEEA Code of Practice for the Safe Use of Lifting Equipment.

** BS 6166 Part 1 - Lifting Slings, Methods of Rating.

*** BS 6166 Part 3 - Selection and Safe Use of Lifting Slings for Multi-purposes.

**** HSE Guidance Note GS39 - Training of Crane Drivers and Slingers.

Various British Standards covering individual products.