User Instructions

Ratchet Lashing Assemblies

Full details and safety information about our range of Ratchet Lashing Assemblies.

Applications

Ratchet Lashings are used for lifting loads or securing objects that may have fragile or delicate surfaces, which could be harmed if lifted with chains or wire ropes.

Range

Ratchet Lashings can be supplied from 800 kgs to 10 tonne MBL (10,000 daN). Special lashing assemblies can be manufactured upon request.

Design

Ratchet Lashings in accordance with BS EN 12195-2 are produced from the same polyester core materials.
Each lashing is marked with:

- Length.
- Standard
- Traceability code.
- Material.
- Manufacture date.
- L.C., SHF / STF.

Finish

Ratchet lashings supplied in accordance with BS EN 12195 are supplied in a blue or orange colour as standard. Various other colours are also available upon request to suit customers requirements.

Instructions for use

In selecting and using web lashings, consideration shall be given to the required lashing capacity, taking into account the mode of use and the nature of the load to be secure. The size, shape and weight of the load, together with the intended method of use, transport environment and the nature of the load will affect the correct selection. For stability reasons free-standing units of load have to be secured with a minimum of one pair of web lashings for frictional lashing and two pairs of web lashing for diagonal lashing. The selected web lashings shall both be strong enough and of the correct length for the mode of use.
Basic lashing rules:

- Plan the fitting and removal operations of lashing before starting a journey.
- Keep in mind that during journeys parts of the load may have to be unloaded.
- Calculate the number of web lashings according to EN 12195-1.
- Only those web lashings designed for frictional lashing with STF on the label are to be used for frictional lashing;
- Check the tension force periodically, especially shortly after starting the journey.

Compatibility of Lashing Equipment

Due to variations in behaviour and elongation under load, different types of lashing equipment (e.g., lashing chains and web lashings) should not be used together on the same load. Ensure that all ancillary fittings and lashing devices in the load restraint assembly are compatible with the web lashing.

Hook Engagement

During use, flat hooks should engage across the full width of the hook's bearing surface to ensure secure attachment.

Releasing the Web Lashing

- Before releasing the web lashing, confirm that the load is stable and does not depend on the lashing equipment for support. This will help prevent the load from falling off the vehicle, which could endanger personnel.
- If necessary, attach lifting equipment to the load before releasing the tensioning device to avoid accidental falling or tilting. This precaution also applies when using tensioning devices with controlled release.

Unloading Procedure

Ensure that all web lashings are fully released before attempting to lift the load from the platform, allowing the load to be freely lifted.

Overhead Power Line Awareness

During loading and unloading, be aware of any low overhead power lines in the vicinity.

Chemical Resistance of Webbing Materials

Web lashings are selectively resistant to chemical attack. If exposure to chemicals is expected, consult the manufacturer or supplier. Note that chemical effects can intensify with rising temperatures. Here is a summary of chemical resistance by material:

- **Polyamide (Nylon)**: Resistant to alkalis but susceptible to mineral acids.
- **Polyester**: Resistant to mineral acids but vulnerable to alkalis.

Inspection and Rejection Criteria
Web lashings must be inspected before and after each use. They should be rejected or sent to the manufacturer for repair if any of the following signs of damage are present:

- **Webbing Damage**: Tears, cuts, nicks, or breaks in load-bearing fibres and retaining stitches, or deformation from heat exposure.
- **End Fittings and Tensioning Devices**: Visible deformations, splits, significant wear, or corrosion.
- **Chemical Exposure**: If a web lashing has accidental contact with chemical products, it should be removed from service, and the manufacturer or supplier should be consulted.

Label and Marking Requirements
Only web lashings that are legibly marked and labelled should be used to ensure traceability and compliance.

Usage Guidelines

- **Overloading Prevention**: Web lashings should never be overloaded. A maximum hand force of 500 N (equivalent to 50 daN, where 1 daN = 1 kg) should be applied. Avoid using mechanical aids (such as levers or bars) as extensions unless they are integral to the tensioning device.
- **Prohibition of Knots**: Do not use web lashings if they are knotted, as this compromises their load-bearing capacity.
- **Edge Protection**: Prevent label damage by keeping labels away from sharp edges and, if possible, from direct contact with the load.
- **Webbing Protection**: Protect the webbing from friction, abrasion, and damage from sharp-edged loads by using protective sleeves and/or corner protectors.
- **Polypropylene**: Generally resistant to acids and alkalis, suitable for high chemical resistance applications (except with certain organic solvents).

Concentrated solutions, which can develop through evaporation, may still cause damage. Remove any contaminated webbings from service immediately, soak them thoroughly in cold water, and allow them to air-dry.

Temperature Range Compliance

Web lashings meeting the specifications in this part of EN 12195 are suitable for use within the following temperature ranges:

- 40°C to +80°C for polypropylene (PP);
- 40°C to +100°C for polyamide (PA);
- 40°C to +120°C for polyester (PES);

These ranges may vary in a chemical environment. In that case the advice of the manufacturer or supplier shall be sought.

Changing the environment temperature during transport may affect the forces in the web lashing. Check the tension force after entering warm areas

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