

Hazard Alert

Failure of synthetic fibre slings



Government
of South Australia
SafeWork SA

Summary of incident

SafeWork SA has received reports of damaged slings which may compromise the safety of lifting activity.

Synthetic fibre slings or 'soft' slings are regularly used in workplaces for the lifting and moving of loads by cranes.

While synthetic fibre slings may have certain advantages over wire rope and chain slings, they are susceptible to damage and can be cut if exposed to sharp edges or corners without protection.

Possible causes

- Undersized sling capacity.
- Any defect or damage visible on the sling can reduce the Working Load Limit (WLL) of the sling and potentially be an initiating point for failure.
- Excessive choke.
- Incorrect slinging techniques including excessive angles between legs of sling.
- Inappropriate selection of slings in relation to the load size or shape.
- Use of synthetic slings without a protective sleeve.
- Poor storage and harsh environmental conditions.

Action required

- Prior to the selection of a sling, an assessment must be made as to the appropriate type of sling to be used. A range of sling types and sizes should always be available to ensure the correct sling can be selected.

- Slings must be checked by a competent person before each use for any visible signs of damage that could affect its safe use. The person checking the sling must have attained appropriate instruction and training prior to conducting this work.
- The Working Load Limit (WLL) with respect to the lifting configuration (hitches) must not be exceeded at any time. The WLL of a sling depends on the included angle between the legs of the slings, or in the case of choked hitch or basket hitch, the angle of the hitch. Avoid an included angle exceeding 120°.
- The sling must be slung or reeved as per manufacturer's instructions or label.
- Where the load to be lifted has sharp edges or attached components (e.g. cleats), chain or wire rope slings should be used. Synthetic slings must not be used unless they are protected from these sharp edges.
- Protecting the surface finish or paintwork of the load should not be primary factors in sling selection. Protection can generally be achieved by fitting engineered lifting points during manufacture or having suitable packing materials between the sling and load when using chain or wire rope slings.
- Where a load lift is not pre-planned, the person deciding on correct sling selection must hold a Licence to Perform High Risk Work for Dogging or Rigging.
- Slings must be inspected by a competent person at regular intervals, preferably not exceeding three months, for sling condition and continued safe use. Where synthetic slings are exposed to harsh operating or storage conditions, more frequent inspection may be required.
- Ensure that synthetic slings are used with a protective sleeve.
- Refer to AS 4497.2 *Round slings – synthetic fibre - Part 2 Care and use* for more information.

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