

# USER INSTRUCTION MANUAL

*for*

## **WEBBING SLING**



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# **USER INSTRUCTIONS** **(READ CAREFULLY BEFORE USE)**

Applicable to : All Types of Webbing Lifting Sling supplied by Garware

Manufacturer : **Garware-Technical Fibre Limited**  
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## **CAREFULLY READ THESE INSTRUCTIONS BEFORE USING THE PRODUCT**

The user must follow the manufacturer's USER INSTRUCTIONS provided along with the Product. These instructions must be provided to the user of the Product. The user must read and understand these instructions before using the Product. Manufacturer's USER INSTRUCTIONS must be followed for proper use and maintenance of the Product. Alterations or misuse of the Product or failure to follow instructions may result in accidents.

### **1. Use of webbing slings in adverse conditions or hazardous applications**

1.1 The material from which slings are manufactured has selective resistance to chemicals. Polyester (PES) is resistant to most mineral acids but is damaged by alkalis.

Solutions of acids or alkalis which are harmless can become sufficiently concentrated by evaporation to cause damage. Contaminated slings should be taken out of service at once, soaked in cold water, dried naturally and referred to a competent person for examination.

1.2 Slings are suitable to use up to a temperature of 90°C. It should be stored in a cool, dry and dark place.

At low temperatures ice formation will take place if moisture is present and may act as a cutting agent and an abrasive causing internal damage to the sling. Further, ice will lessen the flexibility of the sling, in extreme cases rendering it unserviceable for use.

These ranges vary in a chemical environment, in which case the advice of the manufacturer or supplier should be sought.

Limited indirect ambient heating, within these ranges, is acceptable for drying.

1.3 The man-made fibres from which the slings are produced are susceptible to degradation if exposed to ultra-violet radiation. Slings should not be stored in direct sunlight or sources of ultra-violet radiation

### **2. INSPECTION OF THE SLINGS IN SERVICE**

2.1 Before first use of the sling it should be ensured that:

- a) the sling corresponds precisely to that specified on the order;
- b) the manufacturer's certificate is to hand;
- c) the identification and WLL marked on the sling correspond with the information on the certificate.

2.2 Before each use, the sling should be inspected for defects and to ensure that the identification and specification are correct. A sling that is unidentified or defective should never be used, but should be referred to a competent person for examination.

2.3 During the period of use, frequent checks should be made for defects or damage, including damage concealed by soiling, which might affect the continued safe use of the sling. These checks should extend to any fittings and lifting accessories used in association with the sling. If any doubt exists as to the fitness for use, or if any of the required markings have been lost or become illegible, the sling should be removed from service for examination by a competent person.

### **3. CORRECT SELECTION AND USE OF AND WEBBING SLINGS**

3.1 When selecting and specifying slings, consideration should be given to the required working load limit, taking into account the mode of use and the nature of the load to be lifted. The size, shape and weight of the load, together with the intended method of use, working environment and nature of the load, all affect the correct selection.

The selected sling should be both strong enough and of the correct length for the mode of use. If more than one sling is used to lift a load, these slings should be identical. The material from which the webbing is made should not be affected adversely by the environment or the load.

Consideration should also be given to ancillary fittings and lifting devices which should be compatible with the sling(s). The termination of the sling should also be considered i.e. whether fittings or soft eyes are required.

**3.2** When using slings with soft eyes, the minimum eye length for a sling for use with a hook should be not less than 3.5 times the maximum thickness of the hook and in any event the angle formed in the eye of the sling should not exceed 20°.

When connecting a sling with soft eyes to a lifting appliance, the part of the lifting appliance which bears on the sling should be essentially straight, unless the bearing width of the sling is not more than 75 mm in which case the radius of curvature of the lifting appliance attachment should be at least 0.75 times the bearing width of the sling. Figure 1 illustrates the problem of accommodating webbing on a hook of radius less than 0.75 times the bearing width of the sling.

Wide webbings may be affected by the radius of the inside of the hook as a result of the curvature of the hook preventing uniform loading across the width of the webbing.

**3.3 (a)** Slings should not be overloaded: the correct mode factor should be used.

When slings are used at an angle multiply the sling capacity by the load factor mentioned below to determine the reduced rating.

**(b)** Sling shall be long enough so that the rated capacity of the sling is adequate while considering the angle of the legs.



Figure 1: Inadequate accommodation of a webbing eye on a hook of too small radius

	1-leg	U-lift	Laced	1-leg angle		2-leg sling		3-, 4-leg sling	
Angle of inclination									
Load factor	1	2	0,8	1,4	1	1,4	1	2,1	1,5
Colour	WLL ton								
Violet	1,0	2,0	0,8	1,4	1,0	1,4	1,0	2,1	1,5
Green	2,0	4,0	1,6	2,8	2,0	2,8	2,0	4,2	3,0
Yellow	3,0	6,0	2,4	4,2	3,0	4,2	3,0	6,3	4,5
Grey	4,0	8,0	3,2	5,6	4,0	5,6	4,0	8,4	6,0
Red	5,0	10,0	4,0	7,0	5,0	7,0	5,0	10,5	7,5

**3.4** Good slinging practices should be followed: the slinging, lifting and lowering operations should be planned before commencing the lift.

**3.5** Slings should be correctly positioned and attached to the load in a safe manner. Slings should be placed on the load such that they are able to adopt the flattened form and the loading is uniform across their width. They should never be knotted or twisted.

Damage to labels should be prevented by keeping them away from the load, the hook and the angle of choke.

**3.6** In the case of multi-leg slings, the WLL values have been determined on the basis that the loading of the sling assembly is symmetrical. This means that when a load is lifted the sling legs are symmetrically disposed in plan and subtended at the same angle to the vertical.

**NOTE-** With a rigid load the majority of the weight may be taken by only three, or even two, of the legs, with the remaining legs only serving to balance the load.

**3.7** Slings should be protected from edges, friction and abrasion, whether from the load or the lifting appliance. Where protection against damage from edges and/or abrasion is supplied as part of the sling, this should be correctly positioned. It may be necessary to supplement this with additional protection.

**3.8** The load should be secured by the sling(s) in such a manner that it cannot topple or fall out of the sling(s) during the lift.

Sling(s) should be arranged so that the point of lift is directly above the centre of gravity and the load is balanced and stable.

Movement of the sling over the lifting point is possible if the centre of gravity of the load is not below the lifting point.

When using basket hitch, the load should be secure since there is no gripping action as with choke hitch and the sling can roll through the lifting point. For slings which are used in pairs, the use of a spreader is recommended so that the sling legs hang as vertically as possible and to ensure that the load is equally divided between the legs.

When a sling is used in choke hitch, it should be positioned so as to allow the natural (120°) angle to form and avoid heat being generated by friction. A sling should never be forced into position nor an attempt made to tighten the bite. The correct



Figure 2

method of securing a load in a double choke hitch is illustrated in figure 2. A double choke hitch provides greater security and helps to prevent the load sliding through the sling.

**3.9** Care should be taken to ensure the safety of personnel during the lift. Persons in the danger area should be warned that the operation is to take place and, if necessary, evacuated from the immediate area.

Hands and other parts of the body should be kept away from the sling to prevent injury as the slack is taken up.

The work with lifting devices and equipment's must be planned, organized and executed in order to prevent hazardous situations.

In accordance with national statutory regulations lifting devices and equipment's must only be used by someone well familiar with the work and having theoretical and practical knowledge of safe use.

Apart from the instruction manual we refer to existing national regulations on each work place.

**3.10** A trial lift should be made. The slack should be taken up until the sling is taut. The load should be raised slightly and a check made that it is secure and assumes the position intended. This is especially important with basket or other loose hitches where friction is essential to the load.

If the load tends to tilt, it should be lowered and attachments re-positioned. The trial lift should be repeated until the stability of the load is ensured.

**3.11** Care should be taken when making the lift to ensure that the load is controlled, e.g. to prevent accidental rotation or collision with other objects.

Snatch or shock loading should be avoided as this will increase the forces acting on the sling.

A load in the sling or the sling itself should not be dragged over the ground or rough surfaces.

**3.12** The load should be lowered in an equally controlled manner as when lifted.

Trapping the sling when lowering the load should be avoided. The load should not rest on the sling, if this could cause damage and pulling the sling from beneath the load when the load is resting on it should not be attempted.

**3.13** On completion of the lifting operation the sling should be returned to proper storage.

When not in use, slings should be stored in clean, dry and well ventilated conditions, at ambient temperature and on a rack, away from any heat sources, contact with chemicals, fumes, corrodible surfaces, direct sunlight or other sources of ultra-violet radiation.

**3.14** Prior to placing in storage, slings should be inspected for any damage which may have occurred during use. Slings should never be returned damaged to storage.

**3.15** Where lifting slings have come into contact with acids and/or alkalis, dilution with water or neutralization with suitable media is recommended prior to storage.

**3.16** Slings which have become wet in use, or as the result of cleaning, should be hung up and allowed to dry naturally, not near a heat source.

## **4. Examination and Repair**

Examination periods should be determined by a competent person, taking into account the application, environment, frequency of use and similar matters, but in any event, slings should be visually examined at least annually by a competent person to establish their fitness for continued use.

Records of such examinations should be maintained.

Damaged slings should be withdrawn from service. Never attempt to carry out repairs to the slings yourself.

## **5. Information**

We recommend the maximum shelf life of 5 years, effective from the date of production.

Before first use: Mark up the date for first use by year and month the example shown.

## **6. End of use/Disposal**

Garsafe lifting slings shall always be sorted / scrapped as polyester scrap.

Main material is polyester.

## **7. Do's & Don'ts for safe use of Flat Webbing Slings-**

1. Use only identified slings
2. Never use a cut or damaged sling
3. Never make knots in a sling
4. Never drag a sling from underneath a load that is resting on it,
5. Never use a sling with a load with unprotected sharp edges,
6. Always ensure that lifting hooks or devices have smooth edges that will not damage the eyes of the slings

7. If slings are to be used in chemically abnormal atmosphere or in constant high temperature then seek confirmation or advice before use
8. Do not store slings under ultraviolet lights OR direct Sunlight OR near direct heat
9. Always observe the certified capacity of a sling
10. Always inspect a sling before use
11. When inspecting slings examine the full length for chafe/cuts/seam damage.
12. Do not use directly on abrasive surfaces. Use protective sleeves.
13. Any slings with cuts at the edge or damaged at stitched seams must be taken out of service immediately
14. Do not pull the Sling from underload when the load is resting on it.
15. Do not stand under and stand clear of the suspended load.
16. Do not put any part of the human body between the Sling & the Load or between the sling & the hooks.
17. Do not use the sling unless a proper training is provided for handling, usage & maintenance.

## **8. Contact**

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## **9. Disclaimer**

We reserve the right to modify product design, materials, specifications or instructions without prior notice and without obligation to others.

If the product is modified in any way, or if it is combined with a non-compatible product/component, we take no responsibility for the consequences in regard to the safety of the product.