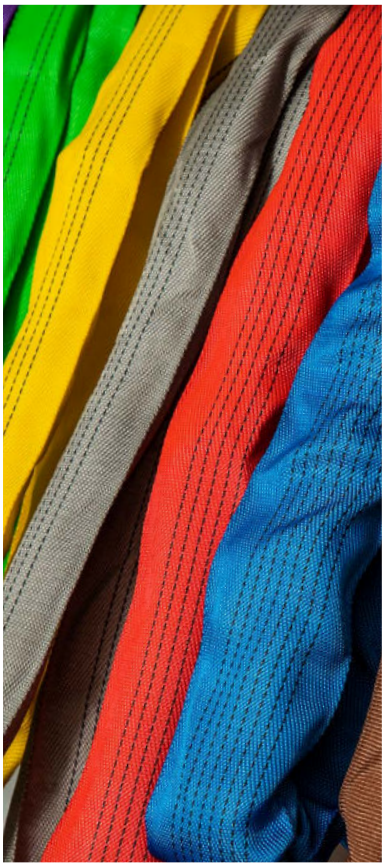
User Instructions & Safety Manual



Webbing & Round Slings

Rated Capacities
1 through to 100 tonnes

Note: Operator must read and fully understand the operating instructions before using this product.

Products supplied comply with the essential health & safety requirements of the Machinery Directive 2006/42/EC, the Supply of Machinery (Safety) Regulations 2008 and the Health & Safety at Work etc Act 1974 section 6.

George Taylor & Company maintain a policy of progressive development of products and reserve the right to alter, without notice, the specifications shown within this manual.

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Safety Information

GENERAL

Duplex Webbing Slings and Polyester Round Slings are used for lifting loads of objects that may have fragile or delicate surfaces, which could be harmed if lifted with chains or wire ropes.

They are soft and easy to handle whilst offering rigidity across their width.

LiftKing is offered in a wide range of Webbing & Round Slings from W.L.L. 1 tonne up to 20 tonne as standard with special slings being manufactured up to W.L.L. 100 tonne.

Specially designed and much larger capacity Round Slings can be produced upon request.

DESIGN

Duplex Webbing Slings in accordance with BS EN 1492 are manufactured from 100% high strength polyester material and are woven using the same core materials.

Polyester Round Slings in accordance with BS EN 1492 are manufactured from 100% high strength polyester material and also produced from the same polyester core materials. Covered by a seamless close woven, heavy duty polyester tubular sleeve.

Each sling is marked with:

- LiftKing (Manufactures ID).
- CE mark.
- UKCA mark.
- W.L.L. and E.W.L.
- Relevant applicable standard (BS EN 1492).
- Individual identification or traceability code.
- Date of manufacture.

CERTIFICATION

All Webbing & Round Slings can be supplied with:

- 2.1 Works Certificate.
- EC/UKCA Declaration of Conformity.

FINISH

Duplex Webbing Slings and Polyester Round Slings supplied in accordance with BS EN 1492 are colour coded to reflect the W.L.L.

W.L.L.	Colour
t	
1	Violet
2	Green
3	Yellow
4	Grey
5	Red
6	Brown
8	Blue
10	Orange
Above 10	Orange

TEMPERATURE

Flat woven webbing slings and polyester round slings manufactured from polypropylene are suitable for use in the temperature range -40°C to +80°C whilst those produced from polyester or polyamide (nylon) are suitable for the range -40°C to +100°C. These temperatures may vary in a chemical environment and should be checked by reference to the supplier. Under no circumstances should webbing slings be used at temperatures outside the range specified.

Care must be taken when selecting slings for use at low temperatures. Although the qualities of the materials used for flat woven webbing slings make them suitable for use at temperatures as low as -40°C, if moisture is present, ice will form. Ice will both act as an abrasive and cutting agent and will damage the sling. Slings selected for use at low temperatures should be dry and steps must be taken to prevent ice forming on or, more importantly, between the woven strands of the webbing.

User Instructions

For your safety and correct operation, please carefully read the manual before use.

SAFE USE

- 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.
- 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.
- 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.
- Use packing to prevent damage to the sling from corners or edges and to protect the load.
- Do not exceed the W.L.L. or rated angle. Any choke angle must not exceed 120° and any backet 90°.
- Do not hammer, force or wedge slings or accessories into position; they must fit freely.
- When attaching more than one sling to the hook of the appliance, use a shackle to join the slings and avoid overcrowding the hook.
- Use an established code of signals to instruct the crane driver.
- Ensure the load is free to be lifted and not, for example, bolted down.
- Check that there are no overhead obstacles such as power lines.
- Keep fingers, toes etc clear ensuring they do not become trapped when lifting, lowering or controlling loads.
- 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.
- Where appropriate use tag lines to control the load.
- Except where special provision is made, do not allow anyone to pass under or ride upon the load. The area should be kept clear.
- Make a trial set down, ensuring 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.
- Never drag slings over floors etc or attempt to drag a trapped sling from under a load.
- Never use a sling to drag a load.
- Place the hooks of free legs back onto the Master Link and take care to ensure that empty hooks do not become accidentally engaged.
- Never use slings in contact with chemicals or heat without the manufacturers approval.
- Never use damaged or contaminated slings.
- On completion of the lift, return all equipment to proper storage.

SLING FORMATION

The selection of the sling formation, i.e endless or multi-leg should be carefully considered.

1. Single endless slings without integral fittings are by far the most common, as they allow for a wide range of applications. They may be used for straight line lifting, use in choke or basket hitch and they may be joined with suitable coupling devices to form temporary multi-leg sling arrangements.

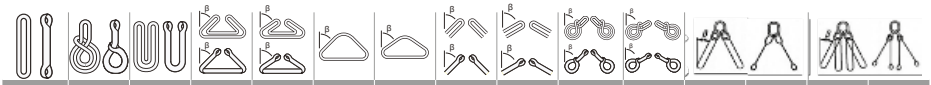
2. If a number or single endless slings are to be used in multi-leg formation, consideration must be given to the use of suitable coupling fittings such as shackles. The slings should be joined together by coupling fittings and not placed directly onto the hook of the lifting appliance. The seat of the fitting should be of adequate width to allow the slings to sit side by side without bunching or riding up on each other. This may require the use of multiple fittings for some arrangements.

User Instructions

MODES OF USE

Always ensure that slings of sufficient capacity are selected and that careful consideration is given to the mode of assembly. The marked Working Load Limit of the sling must be multiplied by the appropriate mode factor to obtain the Safe Working Load for the particular mode of assembly and this Safe Working Load must not be exceeded. Various modes of assembly, mode factors and Safe Working Loads are given in the following table.

With multi-leg slings it should be noted that the individual sling forming the legs will be colour coded for their own Working Load Limits and not that of the sling assembly. As with single slings, the Safe Working Load for the particular sling configuration is obtained by multiplying the Working Load Limit by a mode factor = M



	straight	choked	basket	0-45 deg	45-60 deg	0-45 deg	45-60 deg	0-45 deg	45-60 deg	0-45 deg	45-60 deg	0-45 deg	45-60 deg	0-45 deg	45-60 deg
	M=1	M=0.8	M=2	M=1.4	M=1	M=0.7	M=0.5	M=1.4	M=1	M=1.12	M=0.8	M=1.4	M=1	M=2.1	M=1.5
	W.L.L. for single sling							W.L.L. for pair of slings				W.L.L. for 2 leg sling		W.L.L. for 3 & 4 leg sling	
	1.00	0.80	2.00	1.40	1.00	0.70	0.50	1.40	1.00	1.12	0.80	1.40	1.00	2.10	1.50
	2.00	1.60	4.00	2.80	2.00	1.40	1.00	2.80	2.00	2.24	1.60	2.80	2.00	4.20	3.00
	3.00	2.40	6.00	4.20	3.00	2.10	1.50	4.20	3.00	3.36	2.40	4.20	3.00	6.30	4.50
	4.00	3.20	8.00	5.60	4.00	2.80	2.00	5.60	4.00	4.48	3.20	5.60	4.00	8.40	6.00
	5.00	4.00	10.00	7.00	5.00	3.50	2.50	7.00	5.00	5.60	4.00	7.00	5.00	10.50	7.50
	6.00	4.80	12.00	8.40	6.00	4.20	3.00	8.40	6.00	6.72	4.80	8.40	6.00	12.60	9.00
	8.00	6.40	16.00	11.20	8.00	5.60	4.00	11.20	8.00	8.96	6.40	11.20	8.00	16.80	12.00
	10.00	8.00	20.00	14.00	10.00	7.00	5.00	14.00	10.00	11.20	8.00	14.00	10.00	21.00	15.00
	12.00	9.60	24.00	16.80	12.00	8.40	6.00	16.80	12.00	13.44	9.60	16.80	12.00	25.20	18.00
	15.00	12.00	30.00	21.00	15.00	10.50	7.50	21.00	15.00	16.80	12.00	21.00	15.00	31.50	22.50
	20.00	16.00	40.00	28.00	20.00	14.00	10.00	28.00	20.00	22.40	16.00	28.00	20.00	42.00	30.00
	25.00	20.00	50.00	35.00	25.00	17.50	12.50	35.00	25.00	28.00	20.00	35.00	25.00	52.50	37.50
	30.00	24.00	60.00	42.00	30.00	21.00	15.00	42.00	30.00	33.60	24.00	42.00	30.00	63.00	45.00
	35.00	28.00	70.00	49.00	35.00	24.50	17.50	49.00	35.00	39.20	28.00	49.00	35.00	73.50	52.50
	40.00	32.00	80.00	56.00	40.00	28.00	20.00	56.00	40.00	44.80	32.00	56.00	40.00	84.00	60.00
	50.00	40.00	100.00	70.00	50.00	35.00	25.00	70.00	50.00	56.00	40.00	70.00	50.00	105.00	75.00
	60.00	48.00	120.00	84.00	60.00	42.00	30.00	84.00	60.00	67.20	48.00	84.00	60.00	126.00	90.00
	70.00	56.00	140.00	98.00	70.00	49.00	35.00	98.00	70.00	78.40	56.00	98.00	70.00	147.00	105.00
	80.00	64.00	160.00	112.00	80.00	56.00	40.00	112.00	80.00	89.60	64.00	112.00	80.00	168.00	120.00
	90.00	72.00	180.00	126.00	90.00	63.00	45.00	126.00	90.00	100.80	72.00	126.00	90.00	189.00	135.00
	100.00	80.00	200.00	.00140	100.00	70.00	50.00	140.00	100.00	112.00	80.00	140.00	100.00	210.00	150.00

- M = Mode factor for symmetrical loading.
- Handling tolerance for slings or parts of slings indicated as vertical = 6 degrees.
- The angles detailed above: 0-45 degrees and 45-60 degrees are both relative to the vertical.

Safety Information

CHEMICAL ADVISEMENT

The materials from which textile slings are manufactured have a selected resistance to chemical attack. Seek the advice of the manufacturer or supplier if exposure to chemicals is anticipated. It should be noted that the effects of chemicals may increase with rising temperature.

Whilst man-made fibres have good resistane to selected chemicals, attack by other chemicals to the webbing fibres results in local weakening and softening of the material. This is indicated by flaking of the surface fibres, which can be plucked or rubbed off.

Polyester
Resistant to moderate strength acids but is damaged by alkalis.

Polyamides
Virtually immune to the effects of alkalis. However, they are attacked by moderate strength acids. Attention is also drawn to it's loss of strength on wetting which can be in the order of 10%.

Polypropylene
Little affected by either acids or alkalis but is damaged by some solvents, tars, paints etc. It is suitable for applications where the highest resistance to chemicals, other than solvents, is required.

Consideration must be given to the suitability of the material from which terminal and connecting fittings are made.

⚠ WARNING

Certain grades of steel are susceptible to hydrogen embrittlement as a result of contact with acids. The advice of the manufacturer or supplier should always be sought when selecting flat woven webbing slings/polyester round slings and or fittings for use in chemical environments.

SLING FORMATION

The selection of the sling formation, i.e endless or multi-leg should be carefully considered.

1. Single endless slings without integral fittings are by far the most common, as they allow for a wide range of applications. They may be used for straight line lifting, use in choke or basket hitch and they may be joined with suitable coupling devices to form temporary multi-leg sling arrangements.

2. If a number or single endless slings are to be used in multi-leg formation, consideration must be given to the use of suitable coupling fittings such as shackles. The slings should be joined together by coupling fittings and not placed directly onto the hook of the lifting appliance. The seat of the fitting should be of adequate width to allow the slings to sit side by side without bunching or riding up on each other. This may require the use of multiple fittings for some arrangements.

TRAINING

Operative training should take the manufacturer's instructions into account, paying particular attention to the following:

- Operatives should be familiar with the methods of marking textile slings together with the mode factors which vary the Safe Working Load according to the mode of use and assembly, e.g choke hitch, basket hitch, single or multiple slinging and fully understand how to apply them.
- Operatives should be instructed in the correct selection of textile slings for varying applications e.g use with chemicals, and the steps to be taken if accidental exposure to chemicals occurs.
- Operatives should be instructed in the meaning of colour codes, which denote the W.L.L. of the textile sling in straight pull and the material from which the sling is constructed. Caution must be exercised, not only as some manufacturers may adopt alternative colour codes, but also as the operative may suffer from colour blindness.

IN-SERVICE INSPECTION

In addition to the thorough examination necessary under statutory provisions, all webbing slings and round slings should be visually inspected by a responsible person prior to use or on a regular basis. The interval between inspections will depend on the conditions of service but as textile slings can be easily damaged in use, they should be visually checked on each occasion prior to slinging the load. If any of the following defects are found, the sling should be withdrawn from service and referred to a competent person:

Surface Chafe

In normal use, some chafing will occur and is unavoidable. If this is confined to the surface as opposed to the yarns, it has no effect on the safe use. However, in extreme cases, the faces of the webbing become so worn that the outer yarns are severed.

Local Abrasion

If the webbing shows signs of local abrasion, as opposed to general wear, serious loss of strength may occur.

Cuts

Both longitudinal and cross cuts into the surface of the webbing results in loss of strength.

Cuts & Chafing to the Selvedge

A small cut into the selvedge of the webbing will result in serious loss of strength.

Chemical Attack

Whilst man-made fibres have good resistance to selected chemicals, attack by other chemicals to the webbing fibres results in local weakening and softening of the material. This is indicated by flaking of the surface fibres, which can be plucked or rubbed off.

Missing or Illegible Marking

Heat & Friction Damage

The surface fibres take on a glazed appearance and in extreme cases, fusion of the fibres occurs.

Weld Splatter Burns

Textile slings are often used in welding processes as they insulate the work piece from the lifting appliance. Weld splatter will cause localised burning and will embbed the webbing, causing internal abrasion.

Damaged Stitching

Any damage to the stitching or looseness of the threads noticed at any time must be treated very seriously.

Loose Webbing

The webbing becomes loose and soft to the touch so that the weft can be moved or split with the fingers.

Damaged Eyes or Terminal Fittings

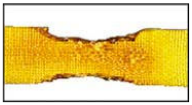
Cuts, abrasion or any apparent damage to the stiching around folded eyes and where eye protection is fitted, check this for deep cuts or excessive wear. Cracks, bruising, deformation or any other form of damage to metal terminal fittings. Particular attention should be paid to the webbing where it passes around terminal fittings as this is a point of high wear and cutting can occur from misuse.

Soiling

Heavy soiling can obscure damage, making detection during inspection difficult. It can also make identification difficult by obscuring any marking or colour coding. Grit and dirt will pick up on the face of soiled webbing and can cause rapid wear and abrasion. Clean the sling in an approved manner but if the soiling is such that cleaning has little or no effect, withdraw from service and refer to a competent person.

Safety Information

ACID OR CAUSTIC BURNS



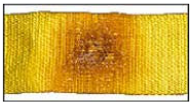
CUT



EDGE CUT



MELTING OR CHARRING



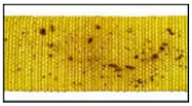
ABRASIONS



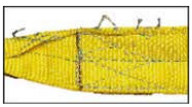
PUNCTURE



WELD SPATTER



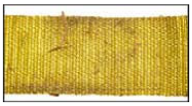
BROKEN OR WORN STITCHES



DAMAGED EYE



EMBEDDED MATERIALS



TENSILE BREAK



MISSING OR ILLEGIBLE TAG



UV DEGREDATION



RED CORE YARN



KNOT



CRUSHED WEBBING



SNAG



DAMAGED HARDWARE



CARE, STORAGE & CLEANING

In order to prevent damage to slings when not in use, we recommend that they be stored in a proper location.

- **COOL** to prevent damage resulting from exposure to excessive temperatures.
- **DRY** to prevent the growth of mold and mildew, which can degrade synthetic fibres.
- **DARK** to prevent the deleterious effects of prolonged exposure to sources of ultraviolet light.
- **FREE OF ENVIRONMENTAL/MECHANICAL DAMAGE** ventilated and not exposed to heat and chemical exposure, sunlight, weld spatter or grit and splinters from grinding or machining.

Slings should also be kept clean and free of dirt, grime and foreign materials. Soap and water can be used for this purpose. Hard bristle brushes damage webbing, consider using a sponge. Soaking slings in mild soap and water for short periods of time is non-damaging. After cleaning, rinse slings thoroughly and allow them to completely dry before returning them to storage.

A clean sling, free of dirt and grime is easier to inspect for damage. Consider replacing slings, instead of attempting to clean. The time, energy and resources necessary to be a sling launderer may exceed the purchase price of replacement slings.

⚠ WARNING

Steam cleaning at temperatures in excess of 90°C/194°F can damage the sling.

Power or pressure washing can force residue inside web and yarn fibres. The foreign material can cause internal yarn and fibre damage. Web and round slings are severely damaged by machine washing, resulting in a serious loss of sling strength.



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