

Lashing and Transport



GUNNEBO
LIFTING

Lashing

Chain Tensioner, GT 6:2 - 6:4

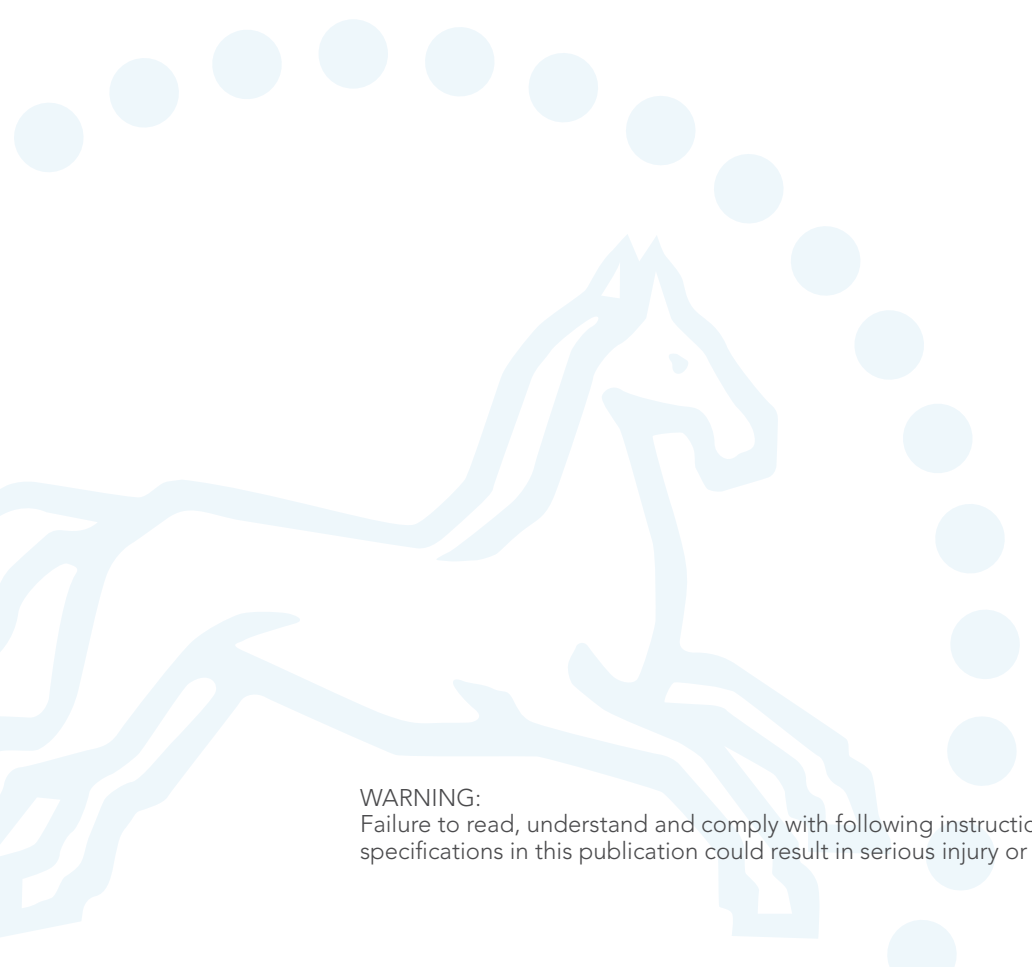
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WARNING:
Failure to read, understand and comply with following instructions, working load limits and specifications in this publication could result in serious injury or damage to property.

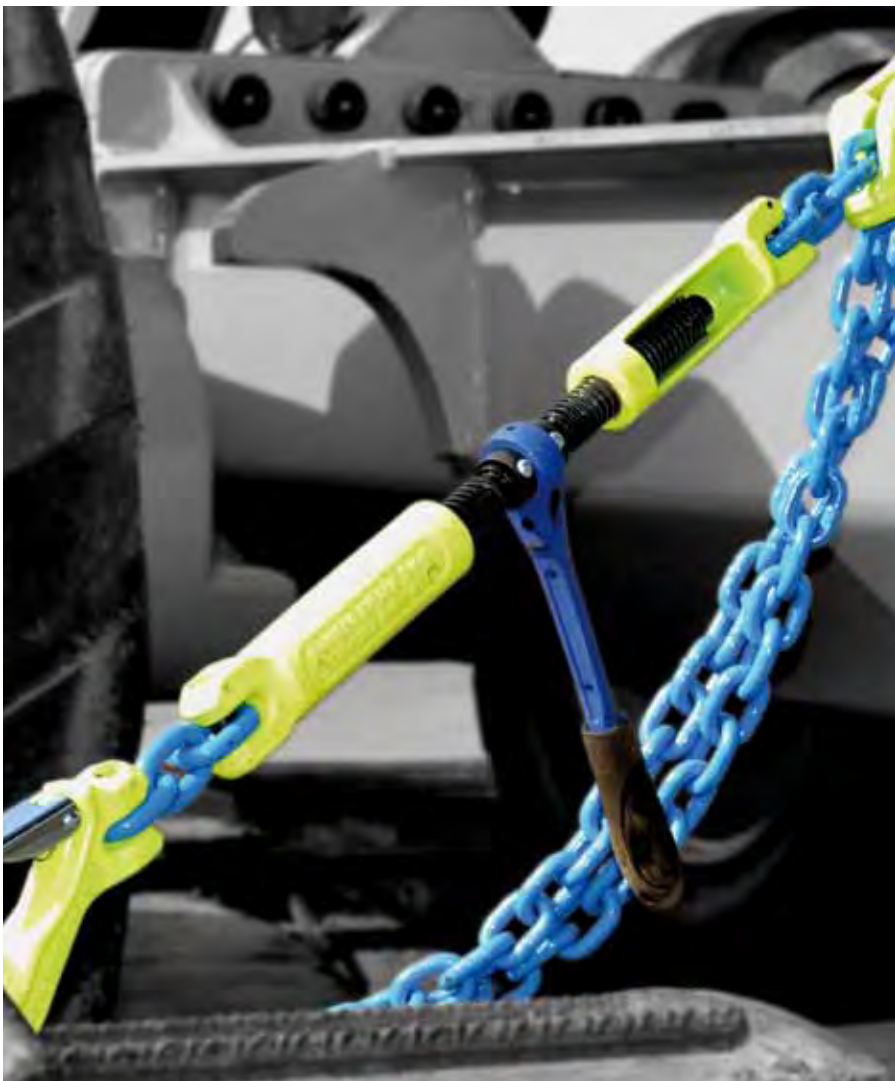
Chain Tensioner - GT

The chain tensioner from Gunnebo Lifting, GT, is integral in one set. It is made of light weight Grade 10 material and the ratchet handle contributes to a fast and ergonomic lashing procedure. The GT is fitted with safety pins to prevent against unintended release of the threaded end fittings, yet allows for disassembly and convenient repair and replacements of parts, making maintenance easier and faster.

Our chain tensioner is designed to be compatible with the GrabiQ product range, enabling the choice of robust end-hooks with latches. Can also be provided as approved for lifting purposes.



Unique Benefits With our Chain Tensioner



Short Handle

- Fully protected ratched mechanism with 8 steps per 90 degree pull, enabling use in very narrow spaces.
- Easy to change direction
- The rubber handle decreases the risk of slipping and is convenient in cold climates

Open Design

- For easier and faster cleaning and lubrication
- Allows dirt to fall through instead of building up
- Two drain holes in the body prevent water residue.

Trapezoidal Thread

- Makes the thread less sensitive to dirt and particles
- Low-friction treated for trouble free operation
- Makes lashing faster
- Safety pins prevents unintended unwinding

The Gunnebo Lifting Chain Lashing System

Gunnebo Lifting offers a complete chain lashing system approved according to EN 12195-3. The system has been developed with focus on the user's needs and working environment, and with safety as highest priority. The unique Midgrab chain shortener saves valuable time and effort, and is a natural part of an efficient and effective chain lashing system.

End Fitting

Lashing hooks in grade 10, such as the EGKN Sling Hook with a heavy duty latch or the GBK Griplatch Safety Hook. Marked with positive indication of the manufacturer, product designation, size, batch number and grade.

ID-tag

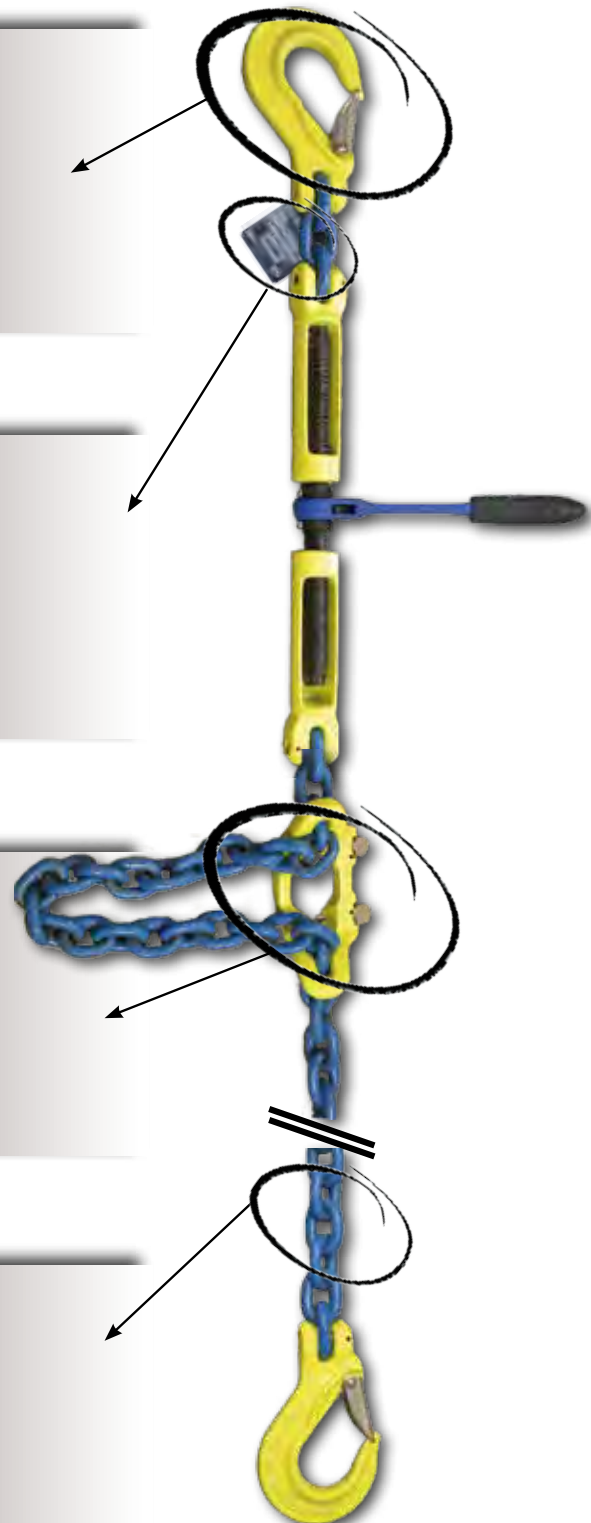
The ID-tag must state the lashing Standard, capacity, tension force, traceability and name of manufacturer. It must also clearly say that the set is for lashing only, lifting is prohibited

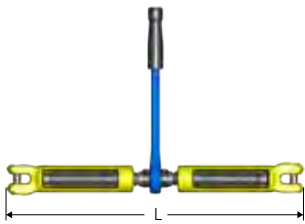
Shortening Function

The Midgrab offers instant mounting on any part of the chain, with the ability to shorten the chain in either direction. It is designed to prevent the chain from disengaging. Marked with positive indication of the manufacturer, product designation, size, batch number and grade

Chain

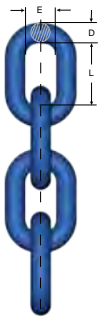
Gunnebo Lifting's high tensile short link chain, grade 10 = 1000 N/mm² type KLA-10-10, LC = 8000 daN. Surface treatment: Powder coated. ID-marking of the chain: 10G





Chain Tensioner GT

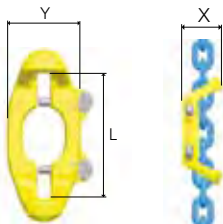
Model	Lashing capacity (kN)	STF (daN)	L = Min. length (mm)	L = Max. length (mm)	Weight (kgs)
GT-10-10	80	2800	400	600	3.3



Chain GrabiQ Grade 10

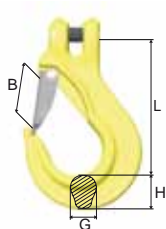
Short link, KL

Art. no.	Code	WLL tonnes	Lashing capacity (kN)	D nom. mm	L » mm	E » mm	Weight kgs/m	MPF kN
Z801921	KLA 10-10	4	80	10	30	14	2.3	100



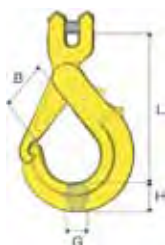
Midgrab MIG

Art. no.	Code	WLL tonnes	Lashing capacity (kN)	L	X	Y	Weight kgs
B14310	MIG-10-10	4	80	125	70	77	1.1



Sling Hook EGKN

Art. no.	Code	WLL tonnes	Lashing capacity (kN)	L	B	G	H	Weight kgs
B14462	EGKN-10-10	4	80	121	35	23	31	1



Safety Hook GBK

Art. no.	Code	WLL tonnes	Lashing capacity (kN)	L	B	G	H	Weight kgs
Z100760	GBK-10-10	4	80	150	47	22	29	1.4

Lashing 4 - 10 Tonnes

European standard EN 12195-2

Art. no.	Description	Colour	Width	Breaking strength (t)	EN 12195-2 LC daN	EN 12195-2 STF daN
Complete lashing						
M275140	0.4+3.5 m with wire hook	Yellow	75	10	3000	305
M275141	0.4+9.5 m with wire hook	Yellow	75	10	3000	305
Complete lashing Extra long handle (ERGO)						
M23410K	0.4+9.5 m wire hook	Blue	50	5	2000	430
Complete lashing						
M135098	0.4+7.5 m with wire hook	Blue	50	5	2000	340
M136090	0.4+9.5 m with wire hook	Blue	50	5	2000	340
Complete lashing						
M134098	0.5+ 7.5 m wire hook	Blue	50	4	1700	340
M134090	0.5+9,5 m wire hook	Blue	50	4	1700	340
M24595W	10m endless	Blue	50	5	4000	340
Ratchet with short straps						
M135051K	0.5m with wire hook	Blue	50	4 & 5	1700	



Lashing 1 - 4 Tonnes

European standard EN 12195-2

Art. no.	Description	Colour	Width mm	Breaking strength (t)	EN 12195-2 LC daN	EN 12195-2 STF daN
Complete lashing						
M140090	0.5+4.5 m with wire hook	Orange	35	2.5	1000	180
M140091	0.5+5.5 m with wire hook	Orange	35	2.5	1000	180
LC 2000	5 m endless (single web.)	Orange	35	2.5	1000	
Complete lashing stainless						
M22210K	0.4+9.5 m with wire hook	Blue	50	3	1500	305
M151106	0.4+3.6 with sewn-on eyes	White	25	0.6	300	
Complete lashing						
M150101	0,4+3,6 m with sewn-on eyes	Blue	26	1.5	700	150
M150102	0,4+3,6 m with wire hook	Blue	26	1.5	700	150
M150110	0,5+4,5 m with wire hook	Blue	26	1.5	700	150
LC 1400	5 m endless	Blue	26	1.5	700	150
Complete lashing						
M151002	0.4+3.6 m with sewn-on eyes	Orange	25	0.7	300	100
M151003	0.4+3.6 m with wire hook	Orange	25	0.7	300	100
M151005	0.5+4.5 m with wire hook	Orange	25	0.7	300	100
LC 600	5 m endless	Orange	25	0.7	300	100
Wheel lashing						
M144301	2 m Tensioner with fixed hook and wheel sling	Orange	35	2.5	1000	180
M144302	3 m Tensioner with fixed hook and wheel sling	Orange	35	2.5	1000	180
M144303	0.3+2 m Tensioner with hook, webbing and wheel sling	Orange	35	2.5	1000	180
M144304	0.3+3 m Tensioner with hook, webbing and wheel sling	Orange	35	2.5	1000	180
M122301	2 m Tensioner with fixed hook and wheel sling	Orange	50	4	1700	340
M122302	3 m Tensioner with fixed hook and wheel sling	Orange	50	4	1700	340
M122303	0.3 + 2 m Tensioner with hook, webbing and wheel sling	Orange	50	4	1700	340
M122304	0.3 + 3 m Tensioner with hook, webbing and wheel sling	Orange	50	4	1700	340



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Chain Tensioner

Webbing width: 50 mm

Suits chain LLU 6-11 mm



Art. no.	Description	Breaking strength appr. tonnes
M129002	Chain tensioner 0.5 + 1 m, with chain tensioning hook no M161 00D	4.5
M129003	Chain tensioner 0.5 + 1 m, with twisted flat hook with latch no M016 604	5.0

Lashing for Construction Machinery

Rigging Screw with Ratchet Handle

Art. no.	Code	For chain diam. mm	Breaking strength approx. tonnes
G009860018	RS 15 T	10-13 mm	15
G009860023	RS 20 T	13-16 mm	20



Chain Grade 8 with clevis hooks EGK at both ends

Length = 3.5 meter

Art. no.	Chain dim.	Suit above rigging screw	Breaking strength approx. tonnes
Z100099	10 mm	RS 15 tonnes	12.6
Z100100	13 mm	RS 20 tonnes	21.6



Complete Lashing Sets (RS) for construction machinery

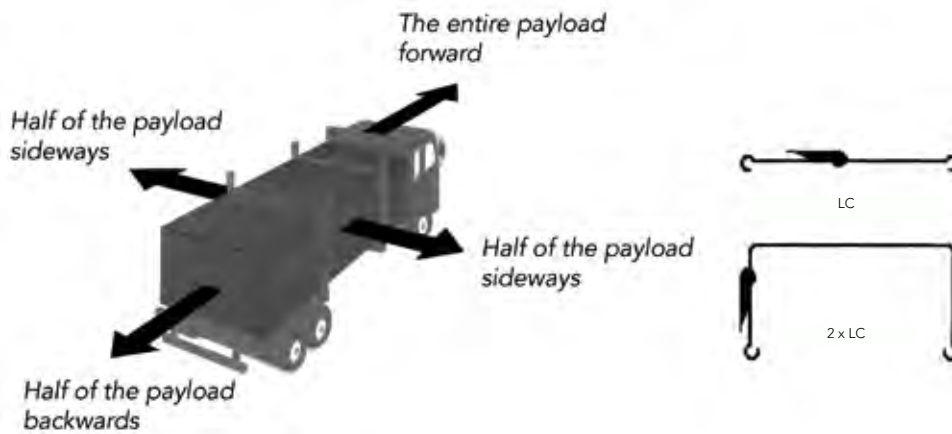
Art. no.	Contents
G009860118	4 rigging screws RS 15 t. nr G009 860 017 4 chains, 10 mm no Z100 099
G009860123	4 rigging screws RS 20 t. nr G009 860 022 4 chains 13 mm no Z100 100



Information for Use and Maintenance of Web Lashing

1. 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 secured. 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 load units must be secured with a minimum of one pair of web lashings for frictional lashing and two pairs of web lashing for diagonal lashing.
2. 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
 - Only web lashings designed for frictional lashing, marked with STF on the label, are to be used for frictional lashing
 - Check the tension force periodically, especially shortly after starting the journey.
 - The handle must be in a closed position during transport.
3. Because of different behaviour and elongation under load conditions, different lashing equipment (i.e. lashing chain and web lashings) shall not be used to lash the same load. Consideration shall also be given to ancillary fittings (components) and lashing devices in the load restraint assembly are compatible with the web lashing.
4. During use flat hooks shall engage over the complete width of the bearing surface of the strap.
5. Release of the web lashing: Care should be taken to ensure that the stability of the load is independent of the lashing equipment and that the release of the web lashing does not cause the load to fall off the vehicle, thus endangering the personnel. If necessary, attach lifting equipment for further transportation, before releasing the tensioning device in order to prevent accidental falling and/or tilting of the load.
6. Before attempting to unload, the web lashings shall be released so that it can be lifted freely from the load platform.
7. During loading and unloading attention has to be paid to proximity of any low overhead power lines.
8. The materials from which web lashings are manufactured have a selective 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. Polyester has good resistance to mineral acids but is attacked by alkalis. Solutions of acids or alkalis which are harmless may become sufficiently concentrated by evaporation to cause damage. Take contaminated webbings out of service at once, thoroughly soak them in cold water, and dry naturally.
9. Web lashings complying with EN 12195-2 are suitable for use in the following temperature ranges: $-40\text{ }^{\circ}\text{C}$ to $+120\text{ }^{\circ}\text{C}$ for polyester (PES). These ranges may vary in a chemical environment. In this case the advice of the manufacturer or supplier shall be sought.
10. Changing the environmental temperature during transport may affect the forces in the web lashing. Check the tension force after entering warm areas. Web lashings shall be rejected or returned to the manufacturer for repair if they show any signs of damage. The following criteria are considered to be signs of damage:
 - Only web lashings bearing identification labels should be repaired.
 - If there is any accidental contact with chemical products, a web lashing shall be removed from service and the manufacturer or supplier shall be consulted
 - for web lashings (to be rejected): tears, cuts, nicks and breaks in load bearing fibres and retaining stitches; deformations resulting from exposure to heat
 - for end fittings and tensioning devices: deformations, splits, pronounced signs of wear, signs of corrosion.
11. Care should be taken that the web lashing is not damaged by the sharp edges of the load on which it is used. A visual inspection before and after each use is recommended.
12. Only legibly marked and labelled web lashings shall be used.
13. Web lashings shall not be overloaded: Only the maximum hand force of 500 N (50 daN on the label; 1 daN = 1 kg) shall be applied. Mechanical aids such as levers, bars etc. as extensions are not to be used unless they are part of the tensioning device.
14. Never use a knotted web lashing.
15. Damage to labels shall be prevented by keeping them away from sharp edges of the load and, if possible, from the load itself.
16. The webbing shall be protected against friction, abrasion and damage from loads with sharp edges by using protective sleeves and/or corner protectors.

The lashing must take:



Gunnebo Lifting lashings with a breaking load of 500 kg and above are clearly marked with labels.

The dimensioning of a lashing arrangement must be based on local regulations

Technical Explanations for: Standard EN 12195-2

LC = Lashing capacity:	Maximum force for use in straight pull that a web lashing is designed to sustain in use.
Safety factor:	2:1 complete system and metal parts. 3:1 non-sewn polyester webbing.
Elongation:	Maximum 7% when polyester webbing subjected to the LC.
Marked:	Traceability code similar to lifting products. A protected label ensures traceability at all circumstances.



Properties of polyester fibre

Physical properties

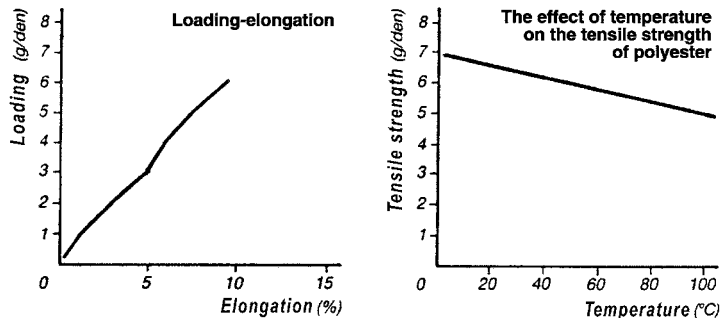
Specific weight: ca 1.38

Melting point: 260°C

Sensitivity to low temperature: No effect down to -40°C

Aging: Very low

Examples of the properties of polyester fibre



Elongation properties webbing

Polyester webbing has an elongation to break of approximately 15-20%. The first time a webbing lashing or lifting assembly is loaded, it can elongate slightly when the fibres settle.

Chemical properties

Polyester offers good resistance to most acids provided the concentration does not exceed 50%.

Resistance to various acids

Acid	Concentration	Temp.	Exposure	Strength derating appr. (%)
Acetic acid	Crystalline	80°C	72 h	5
Formic acid	90%	80°C	72 h	10
Oxalic acid	Saturated solution	80°C	72 h	15
Hydrofluoric acid	40%	25°C	1 week	0
Hydrobromic acid	40%	30°C	4 weeks	5
Bromic acid	15%	30°C	4 weeks	20
Phosphoric acid	98%	70°C	5 weeks	45
Phosphoric acid	50%	70°C	5 weeks	15
Uric acid	Saturated solution	70°C	4 months	0
Hydrocyanic acid	Moist gas	22°C	4 months	0

The tensile strength of polyester can be affected by alkalis, depending on temperature and time. At low concentrations and normal temperatures, resistance is good. However, polyester webbing should not be used in the presence of alkalis.