



**INTELLIGENT MOTION**

Columbus McKinnon



**TEXTILE LIFTING SLINGS**

# INFO

## Maintenance and repair

Inspections and tests must be performed by competent persons or specialist workshops only.

## Inspections

Depending on application, textile lifting equipment must be subjected to regular inspections by competent persons, at least once per year. The inspection must be visual and extended to the following deficiencies:

- Complete and legible identity label.
- Damages by chemical influence, e.g. local soaking, chipping of yarns or heat (hardening).
- Steel links must not show deformations, grooves or reduction to the cross section of more than 10%. Check for cracks; possible welding points must be visible and not covered by the webbing.
- Inspections have to be recorded.
- Defective slings have to be taken out of service immediately and must be stored separately!

## Criteria for disposal

**Textile slings must not be used any longer if e.g.:**

- The marking (identity label) is missing or illegible.
- Detrimental impacts have occurred, e.g. overloading, shock loading, chemical influence or heat.

**Flat webbing slings:**

- Damages of selvedge, defects of the woven structure by abrasion, cuts or yarn breakages have occurred. If 10% or more of the webbing sling cross section is damaged the sling must be discarded.
- Heavy deformation or melting of yarns due to heat (shiny surface and/or hardened webbing) can be recognized.
- Load bearing seams are defective.

**Round slings:**

- The outside (sleeve) is damaged by cuts or abrasion.
- The inside (polyester yarns) of the sling is visible.
- The seams of the sleeve are damaged.



## Contact Us

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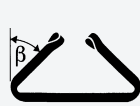



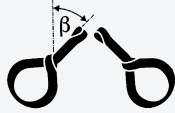
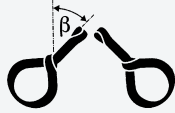








Belfast office business hours:  
Monday - Thursday 08:30 - 17:00  
Friday 08:30 - 14:00

## INFO








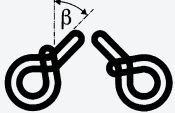
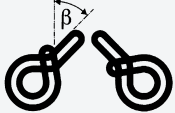








Yale hoists and trolleys are not designed for passenger elevation applications and must not be used for this purpose.

# TEXTILE LIFTING SLINGS

## Webbing slings Rated capacities for different slinging methods

Factor		WLL (kg) with one webbing sling					WLL (kg) with two webbing slings			
		straight pull	choke hitch	basket angle $\beta$			straight angle $\beta$		choke hitch angle $\beta$	
				up to 7°	7°- 45°	45°- 60°	7°- 45°	45°- 60°	7°- 45°	45°- 60°
										
		1.0	0.8	2.0	1.4	1.0	1.4	1.0	1.12	0.8
1000 kg		1000	800	2000	1400	1000	1400	1000	1120	800
2000 kg		2000	1600	4000	2800	2000	2800	2000	2240	1600
3000 kg		3000	2400	6000	4200	3000	4200	3000	3360	2400
4000 kg		4000	3200	8000	5600	4000	5600	4000	4480	3200
5000 kg		5000	4000	10000	7000	5000	7000	5000	5600	4000
6000 kg		6000	4800	12000	8400	6000	8400	6000	6720	4800
8000 kg		8000	6400	16000	11200	8000	11200	8000	8960	6400
10000 kg		10000	8000	20000	14000	10000	14000	10000	11200	8000

## Round slings Rated capacities for different slinging methods

Factor		WLL (kg) with one round sling					WLL (kg) with two round slings					
		straight pull	choke hitch	basket angle $\beta$			straight angle $\beta$		choke hitch angle $\beta$			
				up to 7°	7°- 45°	45°- 60°	7°- 45°	45°- 60°	7°- 45°	45°- 60°		
												
		1.0	0.8	2.0	1.4	1.0	0.7	0.5	1.4	1.0	1.12	0.8
1000 kg		1000	800	2000	1400	1000	700	500	1400	1000	1120	800
2000 kg		2000	1600	4000	2800	2000	1400	1000	2800	2000	2240	1600
3000 kg		3000	2400	6000	4200	3000	2100	1500	4200	3000	3360	2400
4000 kg		4000	3200	8000	5600	4000	2800	2000	5600	4000	4480	3200
5000 kg		5000	4000	10000	7000	5000	3500	2500	7000	5000	5600	4000
6000 kg		6000	4800	12000	8400	6000	4200	3000	8400	6000	6720	4800
8000 kg		8000	6400	16000	11200	8000	5600	4000	11200	8000	8960	6400
10000 kg		10000	8000	20000	14000	10000	7000	5000	14000	10000	11200	8000

# ROUND SLINGS



## RSE

### Round sling with single sleeve

Made from polyester (PES), EN 1492-2 with single stitch-less protection sleeve, with capacity label

#### Features

- With single sleeve, PU-starched, thermally fixed.
- Colour coding of the protective sleeve.
- Printed-on capacities.
- Woven tonnage stripes, per ton capacity 1 stripe (applies only to round slings up to 10t).
- Low weight allows easy handling.
- Protection against hand injuries.
- Protection against cargo surface damage.
- Highly flexible and adaptable to given shapes.
- UV-resistant, eliminating material ageing or embrittlement.
- Heat resistant up to +100 °C.
- Moisture-resistant fabric, thus preventing frost damage (up to approx. -40 °C).

## INFO

Special lengths available on request.

#### Technical data RSE

Model	Colour code EN 1492	Capacity WLL, with one sling, straight pull kg	Capacity WLL, with one sling, choke hitch kg	Capacity WLL, with one sling, basket, angle $\beta$ up to 7° kg	Capacity WLL, with one sling, basket, angle $\beta$ 7°- 45° kg	Capacity WLL, with one sling, basket, angle $\beta$ 45°- 60° kg	Width approx. under load mm	Thickness approx. under load mm	Shortest possible length mm
RSE-01000	violet	1000	800	2000	1400	1000	50	10	500
RSE-02000	green	2000	1600	4000	2800	2000	55	10	500
RSE-03000	yellow	3000	2400	6000	4200	3000	60	15	500
RSE-04000	grey	4000	3200	8000	5600	4000	75	15	500
RSE-05000	red	5000	4000	10000	7000	5000	85	20	1000
RSE-06000	brown	6000	4800	12000	8400	6000	90	20	1000
RSE-08000	blue	8000	6400	16000	11200	8000	100	25	1000
RSE-10000	orange	10000	8000	20000	14000	10000	120	30	1000

# ROUND SLING SET & ROUND SLING ASSEMBLY

## 20 RSE - Round slings, EN 1492-2

with different working loads and lengths.

With each sports bag you receive:

- 2x RSE 01000, WLL 1000 kg, 0.5 m length
- 4x RSE 01000, WLL 1000 kg, 1.0 m length
- 2x RSE 01000, WLL 1000 kg, 1.5 m length
- 4x RSE 01000, WLL 1000 kg, 2.0 m length
- 2x RSE 02000, WLL 2000 kg, 1.0 m length
- 2x RSE 02000, WLL 2000 kg, 2.0 m length
- 2x RSE 02000, WLL 2000 kg, 3.0 m length
- 2x RSE 03000, WLL 3000 kg, 2.0 m length

*The practical user set for special price!*



Art.-No.: N33500011

Minimum purchase: 3 bags

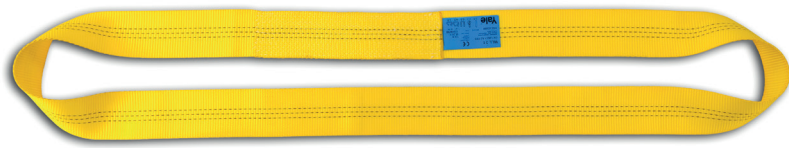


*Including sports bag*

## Round sling assembly Rated capacities for different slinging methods

	single legged		double legged				three and four legged	
	straight pull	choke hitch	straight pull angle $\beta$ 0°- 45°	choke hitch	straight pull angle $\beta$ 45°- 60°	choke hitch	straight pull angle $\beta$ 0°- 45°	45°- 60°
Factor	1.0	0.8	1.4	1.1	1.0	0.8	2.1	1.5
1000 kg	1000	800	1400	1100	1000	800	2100	1500
2000 kg	2000	1600	2800	2200	2000	1600	4200	3000
3000 kg	3000	2400	4200	3300	3000	2400	6300	4500
4000 kg	4000	3200	5600	4400	4000	3200	8400	6000
5000 kg	5000	4000	7000	5500	5000	4000	10500	7500

# WEBBING SLINGS



## HSE

### Endless flat webbing sling, single ply

Made from polyester (PES), EN 1492-1 form A2, with capacity label.

#### Features

- Single ply, PU-starched, thermally fixed.
- Colour coded webbing.
- Woven tonnage stripes.
- Low weight allows easy handling.
- Protection against hand injuries.
- Protection against cargo surface damage.
- Consistent pressure distribution onto pressure- and pull sensitive loads.
- UV-resistant, eliminating material ageing or embrittlement.
- Heat resistant up to +100 °C.
- Moisture-resistant fabric, thus preventing frost damage (up to approx. -40 °C).
- Low elongation (< 4%).

#### Technical data HSE

Model	Colour code EN 1492	Capacity WLL, with one sling, straight pull kg	Capacity WLL, with one sling, choke hitch kg	Capacity WLL, with one sling, basket, angle $\beta$ up to 7° kg	Capacity WLL, with one sling, basket, angle $\beta$ 7°- 45° kg	Capacity WLL, with one sling, basket, angle $\beta$ 45°- 60° kg	Webbing width mm	Shortest possible length mm
HSE-01000	violet	1000	800	2000	1400	1000	30	500
HSE-02000	green	2000	1600	4000	2800	2000	60	500
HSE-03000	yellow	3000	2400	6000	4200	3000	90	500

## INFO

Further capacities (up to 20t) and special lengths available on request.



## HBD

### Flat webbing sling, duplex construction, reinforced eyes

Made from polyester (PES), EN 1492-1 form B2, with capacity label.

#### Features

- Duplex construction, PU-starched, thermally fixed.
- With reinforced eyes.
- Woven tonnage stripes. (up to WLL 10 t).
- Low weight allows easy handling.
- Protection against hand injuries.
- Protection against cargo surface damage.
- Consistent pressure distribution onto pressure- and pull sensitive loads.
- UV-resistant, eliminating material ageing or embrittlement.
- Heat resistant up to +100 °C.
- Moisture-resistant fabric, thus preventing frost damage (up to approx. -40 °C).
- Low elongation (< 4%).

## INFO

Special lengths available on request.

### Technical data HBD

Model	Colour code EN 1492	Capacity WLL, with one sling, straight pull kg	Capacity WLL, with one sling, choke hitch kg	Capacity WLL, with one sling, basket, angle $\beta$ up to 7° kg	Capacity WLL, with one sling, basket, angle $\beta$ 7°- 45° kg	Capacity WLL, with one sling, basket, angle $\beta$ 45°- 60° kg	Webbing width mm	Eye length approx. mm	Eye width approx. mm	Shortest possible length mm
HBD-01000	violet	1000	800	2000	1400	1000	30	300	30	750
HBD-02000	green	2000	1600	4000	2800	2000	60	350	30	1000
HBD-03000	yellow	3000	2400	6000	4200	3000	90	400	45	1000
HBD-04000	grey	4000	3200	8000	5600	4000	120	500	60	1500
HBD-05000	red	5000	4000	10000	7000	5000	150	550	75	1500
HBD-06000	brown	6000	4800	12000	8400	6000	180	600	90	2000
HBD-08000	blue	8000	6400	16000	11200	8000	240	650	120	2500
HBD-10000	orange	10000	8000	20000	14000	10000	300	900	150	2500
HBD-12000	orange	12000	9600	24000	16800	12000	300	900	150	3000

# WEBBING SLINGS



## HBD-ED Webbing sling, duplex construction, steel links on both ends

Made from polyester (PES), EN 1492-1 form C2 and Cr2, with capacity label.

### Features

- Duplex construction, PU-starched, thermally fixed.
- With reeveable steel links.
- Woven tonnage stripes.
- Protection against hand injuries.
- Protection against cargo surface damage.
- Consistent pressure distribution onto pressure- and pull sensitive loads.
- UV-resistant, eliminating material ageing or embrittlement.
- Heat resistant up to +100 °C.
- Moisture-resistant fabric, thus preventing frost damage (up to approx. -40 °C).
- Low elongation (< 4%).

## INFO

HBD-ED - links are reeveable, webbing sling also applicable for use in choke hitch.

### Technical data HBD-ED

Model	Colour code EN 1492	Capacity WLL, with one sling, straight pull kg	Capacity WLL, with one sling, choke hitch kg	Capacity WLL, with one sling, basket, angle $\beta$ up to 7° kg	Capacity WLL, with one sling, basket, angle $\beta$ 7°- 45° kg	Capacity WLL, with one sling, basket, angle $\beta$ 45°- 60° kg	For webbing width mm	Link dimension HBD-ED b x d x t  mm
HBD-01000-ED	violet	1000	800	2000	1400	1000	30	40 x 13 x 80
HBD-02000-ED	green	2000	1600	4000	2800	2000	60	75 x 16 x 125
HBD-03000-ED	yellow	3000	2400	6000	4200	3000	90	105 x 20 x 165
HBD-04000-ED	grey	4000	3200	8000	5600	4000	120	135 x 23 x 210

## INFO

Other capacities upon request.



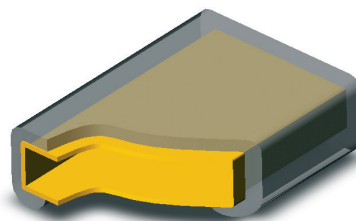
# TEXTILE LIFTING SLINGS ACCESSORIES

## PU-SC

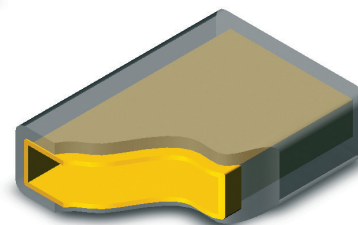
### PU-protection sleeve, single and double-sided

Made from cut resistant polyurethane

With inner fabric insert to ease sliding of the sleeve on the webbing. Standard length 2 and 4 m.



PU-protection sleeve single-sided,  
PU-SC-1



PU-protection sleeve,  
PU-SC-2

## INFO

Lengths over 4 m on request.

### Technical data PU-SC, single-sided

Model	Art.-No.	For webbing width	Dimensions	Height
		mm	outside / inside mm	mm
PU-SC1-030	N39120011	30	50 / 40	22
PU-SC1-050	N39120001	50	70 / 60	22
PU-SC1-060	N39120002	60	80 / 70	22
PU-SC1-090	N39120004	90	110 / 100	22
PU-SC1-120	N39120012	120	145 / 135	22
PU-SC1-150	N39120007	150	170 / 160	22
PU-SC1-180	N39120008	180	200 / 190	22
PU-SC1-240	N39120009	240	260 / 250	31
PU-SC1-300	N39120010	300	330 / 320	31

### Technical data PU-SC, double-sided

Model	Art.-No.	For webbing width	Dimensions	Height
		mm	outside / inside mm	mm
PU-SC2-030	N39130014	30	50 / 40	22
PU-SC2-050	N39130001	50	70 / 60	22
PU-SC2-060	N39130002	60	80 / 70	22
PU-SC2-090	N39130004	90	110 / 100	22
PU-SC2-120	N39130007	120	145 / 135	22
PU-SC2-150	N39130009	150	170 / 160	22
PU-SC2-180	N39130011	180	200 / 190	22
PU-SC2-240	N39130012	240	260 / 250	31
PU-SC2-300	N39130013	300	330 / 320	31

## INFO

Double PU sleeves cannot be fitted subsequently on webbing slings with steel links. If required, state sleeve length when placing the webbing sling order.



## PU-KSW

### PU-edge protector

Made from cut resistant polyurethane

With slots to allow easy attachment and fixing on the round sling.

#### Technical data PU-KSW

Model	Art.-No.	Diameter mm	Length mm	Suitable for round slings up to WLL kg
PU-KSW-30	N39160006	30	80	3000
PU-KSW-50	N39160007	50	125	5000



## PU-SG

### Round sleeve

With fabric insert and PU-coating

Economical solution to protect webbing slings and round slings against wear caused by abrasion.

## INFO

Not suitable for protection against sharp edges.

#### Technical data PU-SG

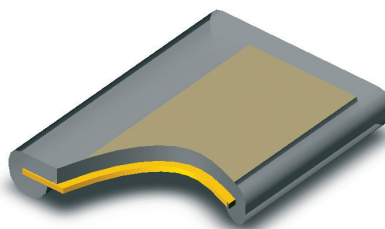
Model	Art.-No.	Width approx. mm	Diameter mm	Suitable for round slings up to WLL kg
PU-SG-040	N39140001	60	40	2000
PU-SG-063	N39140002	95	63	3000
PU-SG-075	N39140003	115	75	6000
PU-SG-090	N39140004	140	90	8000
PU-SG-110	N39140005	170	110	10000
PU-SG-150	N39140006	230	150	15000

## PU-FB

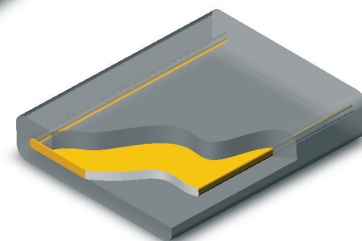
### PU-coating, single and double-sided

Made from transparent polyurethane

Extremely wear and cut resistant. The coating is permanently fixed to the webbing and cannot be lost during usage.



Coating single-sided,  
PU-FB 1



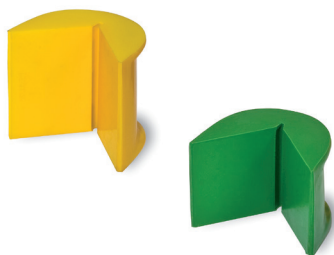
Coating double-sided,  
PU-FB 2

#### Technical data PU-FB, single-sided

Model	Art.-No.	For webbing width mm	Width mm
PU-FB1-030	N39100009	30	40
PU-FB1-050	N39100001	50	60
PU-FB1-060	N39100002	60	70
PU-FB1-090	N39100003	90	100
PU-FB1-120	N39100004	120	130
PU-FB1-150	N39100005	150	160
PU-FB1-180	N39100006	180	190
PU-FB1-240	N39100007	240	250
PU-FB1-300	N39100008	300	310

#### Technical data PU-FB, double-sided

Model	Art.-No.	For webbing width mm	Width mm
PU-FB2-030	N39110009	30	40
PU-FB2-050	N39110001	50	60
PU-FB2-060	N39110002	60	70
PU-FB2-090	N39110003	90	100
PU-FB2-120	N39110004	120	130
PU-FB2-150	N39110005	150	160
PU-FB2-180	N39110006	180	190
PU-FB2-240	N39110007	240	250
PU-FB2-300	N39110008	300	310



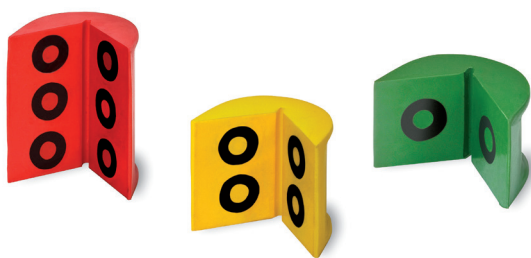
## PU-KSE

### Edge protection profile

From colour coded polyurethane, extremely abrasive and cut resistant.

#### Technical data PU-KSE

Model	Art.-No.	Colour mm	For webbing width mm	Width mm
PU-KSE-065	N39160023	green	60	100
PU-KSE-100	N39160024	yellow	90	135
PU-KSE-125	N39160025	grey	120	160
PU-KSE-150	N39160026	red	150	185
PU-KSE-200	N39160027	black	180	225
PU-KSE-300	N39160028	orange	300	330



## PU-KSE-MAG

### Edge protection profile with magnets

From colour coded polyurethane, extremely abrasive and cut resistant.

#### Technical data PU-KSE-MAG

Model	Art.-No.	Colour mm	For webbing width mm	Width mm	Number of magnets
PU-KSE-065-MAG	N39160029	green	60	100	2
PU-KSE-100-MAG	N39160030	yellow	90	135	4
PU-KSE-125-MAG	N39160031	grey	120	160	4
PU-KSE-150-MAG	N39160032	red	150	185	4
PU-KSE-200-MAG	N39160033	black	180	225	6
PU-KSE-300-MAG	N39160034	orange	300	330	8

# OF THE LINE

## General information about load security

The varying forces, which can result in slipping, rolling, tilting or even lift-off of loads during transport, are regularly underestimated. Possible consequences are e.g. that the vehicle gets out of control, the driving cab is damaged, the vehicle even overturns and the falling load endangers others! The common assumption that very heavy loads do not require lashing security, is a fatal error. Lashing of loads may be performed by competent users (trained in theory and practice) only.

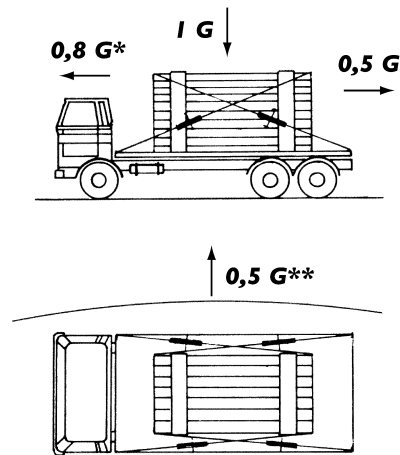
### Some basic rules about load security with ratchet lashings

- Depending on the cargo, consideration shall be given to select an appropriate vehicle with adequate structures and lashing points.
- The load centre of gravity should be as low as possible and ideally positioned according to the load distribution plan of the vehicle.
- The permissible gross weight and loads per axle must not be exceeded.
- The load should be stored as close and low as possible and should not leave free space between load, front wall or side walls. Free spaces between the outer walls and the load should be stuffed where possible.
- Depending on the type of cargo, the driving speed should be conform to the road and traffic situation as well as to the driving quality of the vehicle.
- Adverse friction values between cargo and loading area (oily metals, wet areas etc.) will considerably increase the requirement for a correct security of the load. Slip restraining mats will contribute to achieve a more economic and efficient load lashing security.
- Unstable cargo is very susceptible to tilting and in most cases has to be lashed extensively (calculation against slipping and tilting).
- Positive load lashing (e.g. supporting the cargo at front and side walls or with wedges or scantlings fixed on the loading platform) will contribute substantially to the stabilisation of the cargo and to reduction of additional lashing requirement.

## Forces on cargo loads (EN 12195)

### Truck and trailer loading (road transport) – Acceleration coefficients

During road transport the heaviest stresses on the load security equipment will occur during braking, lift-off of the load by vibration and impact as well as centrifugal forces in narrow curves.



\* The value for the longitudinal acceleration in combined traffic (lorry and/or trailer during rail transport) has to be calculated with 1G.

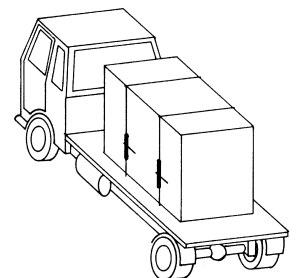
\*\* 0.7 for tilting of instable cargo loads

## Lashing methods

### Over top lashing

Over top lashing consists of tensioning the lashings to the tension force so as to increase the friction force at the contact surface of the load to avoid any sliding of the load. Influence factors are the dimensions of the load, the acceleration values, the dynamic friction factors as well as the lashing angle.

The calculation of lashing forces will give the required tension force of the lashing devices.



# RATCHET LASHING

## ZGR-25-400

### Ratchet lashing

Made from polyester (PES), EN 12195-2  
25 mm - lashing capacity LC 400 daN.



#### Features

- Standard tension force STF 50 daN at standard hand force SHF 50 daN.
- Standard lengths 4 m and 6 m.

## INFO

Other lengths on request.

#### Technical data ZGR-25-400

Model	Art.-No.	Version	Lashing capacity LC daN	Webbing width mm	Length of lashing mm
ZGR-25-400-1	N34100440	one-part	400	25	4000
ZGR-25-400-1	N34100460	one-part	400	25	6000
ZGR-25-400-2-SPH	N34700440	two-part - with double J hook	400	25	4000
ZGR-25-400-2-SPH	N34700460	two-part - with double J hook	400	25	6000

## ZGR-25-500

### Ratchet lashing

Made from polyester (PES), EN 12195-2  
25 mm - lashing capacity LC 500 daN.



#### Features

- Standard tension force STF 100 daN at standard hand force SHF 50 daN.
- Standard lengths 2 m, 4 m and 6 m.

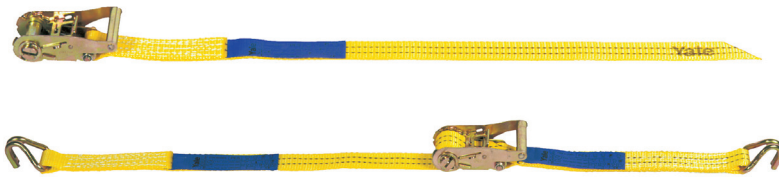
## INFO

Other lengths on request.

#### Technical data ZGR-25-500

Model	Art.-No.	Version	Lashing capacity LC daN	Webbing width mm	Length of lashing mm
ZGR-25-500-1	192067491	one-part	500	25	2000
ZGR-25-500-1	N34100540	one-part	500	25	4000
ZGR-25-500-1	N34100560	one-part	500	25	6000
ZGR-25-500-2-SPH	192067503	two-part - with double J hook	500	25	2000
ZGR-25-500-2-SPH	N34700540	two-part - with double J hook	500	25	4000
ZGR-25-500-2-SPH	N34700560	two-part - with double J hook	500	25	6000

# RATCHET LASHING



## ZGR-35-1000 Ratchet lashing

Made from polyester (PES), EN 12195-2  
35 mm - lashing capacity LC 1000 daN.

### Features

- Standard tension force STF 150 daN at standard hand force SHF 50 daN.
- Standard lengths 4 m, 6 m and 8 m.



SPH - with double J hook



### Technical data ZGR-35-1000

Model	Art.-No.	Version	Lashing capacity LC daN	Webbing width mm	Length of lashing mm
ZGR-35-1000-1	192067506	one-part	1000	35	4000
ZGR-35-1000-1	N34101060	one-part	1000	35	6000
ZGR-35-1000-1	N34101080	one-part	1000	35	8000
ZGR-35-1000-2-SPH	192067515	two-part - with double J hook	1000	35	4000
ZGR-35-1000-2-SPH	N34701060	two-part - with double J hook	1000	35	6000
ZGR-35-1000-2-SPH	N34701080	two-part - with double J hook	1000	35	8000

## INFO

Other end fittings (hooks) and individual prints on webbing are available on request.

Other lengths on request.

# RATCHET LASHINGS



## ZGR-50-2500 Ratchet lashing

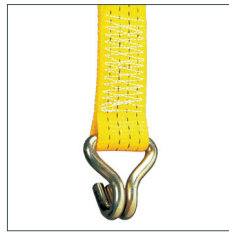
Made from polyester (PES), EN 12195-2  
50 mm - lashing capacity LC 2500 daN.

### Features

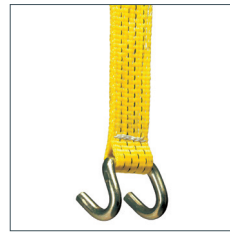
- Standard tension force STF 300 daN at standard hand force SHF 50 daN.
- Standard lengths 8 m and 10 m



GKH - with twisted snap hook



SPH - with double J hook



KLH - with claw hook

### Technical data ZGR-50-2500

Model	Art.-No.	Version	Lashing capacity LC daN	Webbing width mm	Length of lashing mm
ZGR-50-2500-1	N34102580	one-part	2500	50	8000
ZGR-50-2500-1	N34102510	one-part	2500	50	10000
ZGR-50-2500-2-GKH	N34202580	two-part - with snap hook	2500	50	8000
ZGR-50-2500-2-GKH	N34202510	two-part - with snap hook	2500	50	10000
ZGR-50-2500-2-KLH	N34302580	two-part - with claw hook	2500	50	8000
ZGR-50-2500-2-KLH	N34302510	two-part - with claw hook	2500	50	10000
ZGR-50-2500-FE-KLH	N34302505	Fixed end with ratchet and claw hook	2500	50	400
ZGR-50-2500-2-SPH	N34702580	two-part - with double J hook	2500	50	8000
ZGR-50-2500-2-SPH	N34702510	two-part - with double J hook	2500	50	10000
ZGR-50-2500-FE-SPH	N34702505	Fixed end with ratchet and double J hook	2500	50	400

## INFO

Other end fittings (hooks) and individual prints on webbing are available on request.

Other lengths on request.



# RATCHET LASHINGS

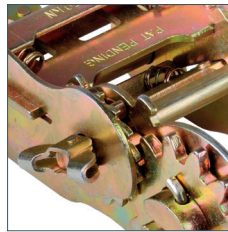
## ZGZ-G-75-5000

### Ratchet lashing

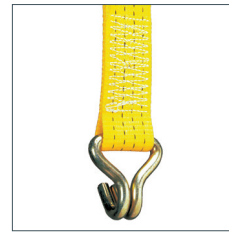
Made from polyester (PES), EN 12195-2  
75 mm - lashing capacity LC 5000 daN.

#### Features

- Standard tension force STF 500 daN at standard hand force SHF 50 daN.
- with long lever-transmission - pull ratchet
- Standard lengths 2 m and 4 m.



Long lever-transmission



SPH - with double J hook

#### Technical data ZGZ-G-75-5000

Model	Art.-No.	Version	Lashing capacity LC daN	Webbing width mm	Length of lashing mm
ZGZ-G-75-5000-1	192067448	one-part	5000	75	2000
ZGZ-G-75-5000-1	192067450	one-part	5000	75	4000
ZGZ-G-75-5000-2-SPH	192017853	two-part - with double J hook	5000	75	2000
ZGZ-G-75-5000-2-SPH	192017854	two-part - with double J hook	5000	75	4000

## INFO

Other end fittings (hooks) and individual prints on webbing are available on request.

Other lengths on request.

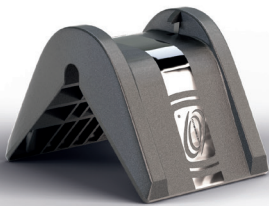


## ZGZB-RU-PU Ratchet base

Manufactured from cut resistant polyurethane.  
Can also be used as edge protector.

### Technical data ZGZB-RU-PU

Model	Art.-No.	For webbing width mm
ZGZB-RU-PU-50	N39150001	35 - 50
ZGZB-RU-PU-75	N39150002	75



## ZGZB-KS-PP-50 Edge protector

Edge protector for lashing sensitive loads  
(cardboard boxes etc.).

### Technical data ZGZB-KS-PP-50

Model	Art.-No.	For webbing width mm
ZGZB-KS-PP-50	N39160003	50



## ZGZB-KS-PP-70 Edge protector

Inherently stable edge protection, protects both load and  
ratchet lashing.

Leg lengths 135 x 170 mm.

### Technical data ZGZB-KS-PP-70

Model	Art.-No.	For webbing width mm
ZGZB-KS-PP-70	192020360	up to 70

## ZGZB-KSP-PP

### Edge protector profile

Manufactured from polypropylene or recycled cardboard, to protect edges of loads. Length up to 6 m.



#### Technical data ZGZB-KSP-PP

Model	Art.-No.	Dimensions mm
ZGZB-KSP-PP	N39160004	190 x 19 x 20

## ZGZB-ARM

### Slip restraining mats

Manufactured from compressed rubber granulate to achieve a defined friction coefficient of  $\mu = 0.6$ . Even if an emergency stop or evasive action is being taken – the cargo trucks or train wagons must not move. But only in very few cases the vehicle structure alone will offer sufficient load security.

For this reason, slip restraining devices should belong to the standard equipment of every professional transport. Slip restraining mats will decrease the danger which emanates from plain loading platforms. They will reduce the required total pre-tensioning forces during over top lashing of loads and will contribute – together with the textile lashings – that the loads will form a single unit with the vehicle or wagon.

The slip restraining effect will benefit especially those products, which do not stand a high surface pressure. The dangers resulting from incorrect load lashing practices are often underestimated. Acceleration forces in standard driving situations are close to the dead weight of the load.



### INFO

The friction force  $FW$  of a slip restraining mat impedes load displacement and is physically explained as follows:

$$FW = m \times G$$

$G$  = Weight force  
 $m$  = Friction value

The difference between inertial force  $F$  and friction force  $FW$  is called securing force  $FS$ .

$$FS = F - FW$$

The securing force  $FS$  is the strength which has to be absorbed by the safety devices.

#### Technical data ZGZB-ARM

Model	Art.-No.	Dimensions mm
ZGZB-ARM-250-8	N39170001	1000 x 250 x 8



## RLSP Load binders

Lashing capacity 4000 - 10600 daN

The load binder is a universal tool to restrain and secure loads and freight. Manual operation of the binder lever extends or retracts the threaded spindles. Tension is upheld by the self-locking threads.

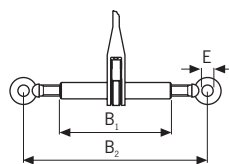
The load binder is fitted with shortening hooks for direct attachment to chains or with clevis ends for use with existing fastening devices.

### Technical data RLSP

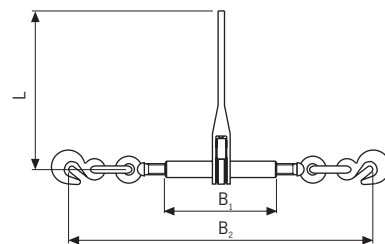
Model	Art.-No.	Version	Lashing capacity LC daN	Weight kg
RLSP-08-ÖÖ	N43300015	Clevis	4000	3.6
RLSP-10-ÖÖ	N43300016	Clevis	6300	3.6
RLSP-13-ÖÖ	N43300017	Clevis	10600	3.8
RLSP-08-HH	N43300012	Shortening hooks	4000	4.5
RLSP-10-HH	N43300013	Shortening hooks	6300	5.5
RLSP-13-HH	N43300014	Shortening hooks	10600	8.4

### Dimensions RLSP

Model	RLSP-08-ÖÖ	RLSP-10-ÖÖ	RLSP-13-ÖÖ	RLSP-08-HH	RLSP-10-HH	RLSP-13-HH
Chain size, mm	8	10	13	8	10	13
B1, mm	250	250	250	250	250	250
B2 min., mm	360	360	366	588	630	722
B2 max., mm	510	510	516	738	780	872
Ø E, mm	20	20	25	-	-	-
L, mm	230	230	360	190	230	360



Load binder with protection against unscrewing, clevis acc. to EN 12195-3 on both ends.



Load binder with protection against unscrewing, clevis or shortening hook with safety pin acc. to EN 12195-3 on both ends.

## ASH

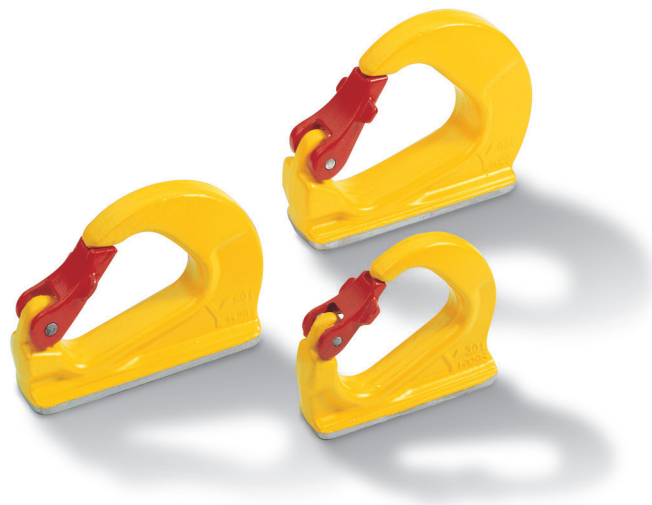
### Weld-on hooks

#### Capacity 1000 - 8000 kg

Weld-on hooks model ASH are universal attachments for use on trucks, excavators, low loaders and spreader beams, etc. The forged safety latch has high lateral stability and an ergonomic shape. Every weld-on hook has an identification number so that its history can be traced back through forging to the origin of the material.

The hook can be welded without any special preparation, e.g. prewarming.

The hook and safety latch are epoxy resin coated for added corrosion protection, the return spring is made from stainless steel.



#### Technical data ASH

Model	Art.-No.	Capacity kg	Weight kg
ASH 1	N41000104	1000	0.5
ASH 3	N41000035	3000	1.3
ASH 5	N41000036	5000	2.4
ASH 8	N41000037	8000	3.6

#### Dimensions ASH

Model	ASH 1	ASH 3	ASH 5	ASH 8
Seam density a, mm	4	6	7	8 - 9
L1 x B1, mm	90 x 25	130 x 35	160 x 45	170 x 50
B2, mm	19	26	30	40
C, mm	24	32	40	51
H1, mm	6	10	12	12
H2, mm	76	117	121	142
L2, mm	22	29	47	52

