Anchor INDUSTRIES

cargo lashing and tie-down equipment

QUALITY SYSTEM CERTIFICATION DNV·GL ISO 9001

TYPE APPROVAL DNV·GL 2.7-1=2.7-3

LEEA Development Member

labour Department: Labour REPUBLIC OF SOUTH AFRICA

merSETA MANUFACTURING, ENGINEERING AND RELATED SERVICES SETA

BEE VERIFIED LEVEL 4 CONTRIBUTOR

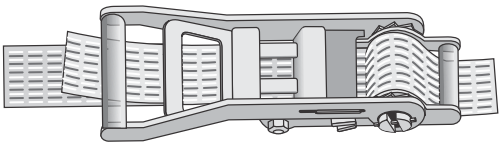
Cargo Ratchet and Strap with J-Hook

Lashing straps can be supplied with J-hooks, D-rings or Open claw end fittings

VERTEX Webbing Products

Lashing Ratchet

Product Code	MBL	Tail Length	Tail Width	Weight
	[t]	[mtr]	[mm]	[kg]
LR-025	0.80	0.40	25.00	0.29
LR-050	4.00	0.40	50.00	1.30
LR-075	10.00	0.50	75.00	2.00

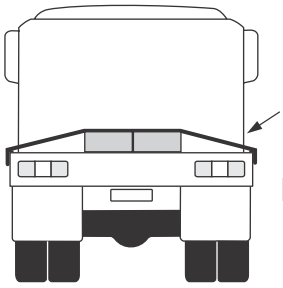


Lashing Strap with J-Hook

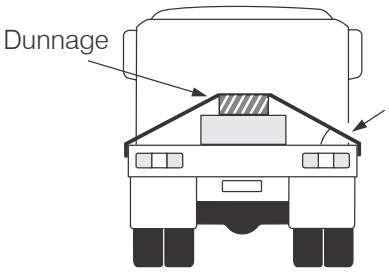
Product Code	MBL	Strap Length	Strap Width	Weight
	[t]	[mtr]	[mm]	[kg]
LS-025x01	0.80	1.00	25.00	0.09
LS-025x02	0.80	2.00	25.00	0.11
LS-025x03	0.80	3.00	25.00	0.13
LS-050x09	4.00	9.00	50.00	1.08
LS-050x12	4.00	12.00	50.00	1.39
LS-050x16	4.00	16.00	50.00	1.85
LS-050x18	4.00	18.00	50.00	1.91
LS-075x12	10.00	12.00	75.00	2.00

Tie-down Angle

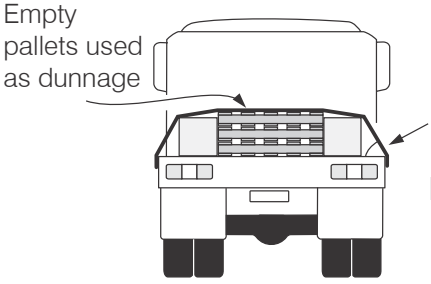
Many loads are not high enough for tie-down lashings to be used effectively. Dunnage can be used to increase the lashing angles, by lifting the load.



low tie-down angle
not recommended

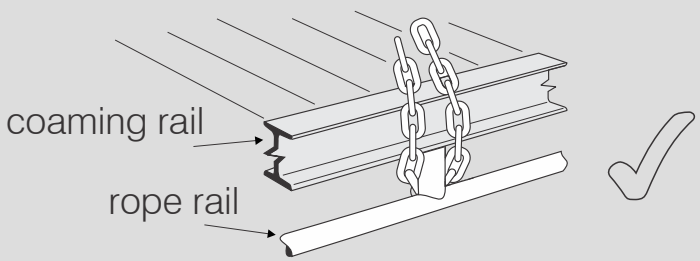


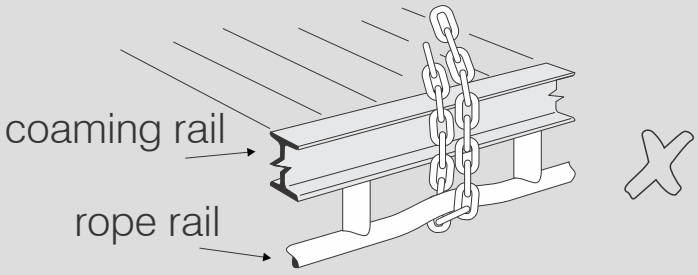
higher tie-down angle
more effective



higher tie-down angle
recommended

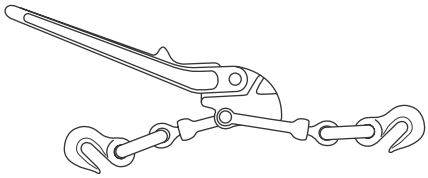
Where tie-down lashings are attached to tie rails, they must be secured at or near the tie support points





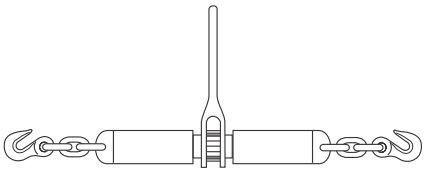
Load Binder - Lever Type

Product Code	Chain Size	MBL	Lashing Capacity	Take Up	Handle Length	Weight
	[mm]	[t]	[t]	[mm]	[mm]	[kg]
8LB10	10	8.563	2.450	102	405	3.5
10LB13	13	14.97	4.175	115	470	5.1



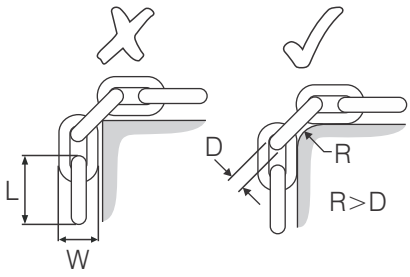
Load Binder - Ratchet Type

Product Code	Chain Size	MBL	Lashing Capacity	Take Up	Handle Length	Barrel Length	Weight
	[mm]	[t]	[t]	[mm]	[mm]	[mm]	[kg]
10RB13	10 / 13	14.97	4.175	200	356	254	5.6



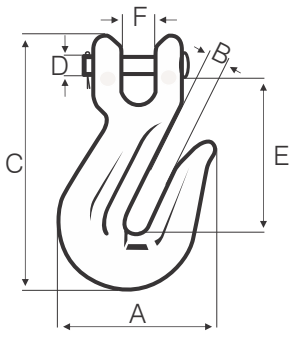
Lashing Chain (Gr43)

Product Code	Chain Size	Break Load	L	W
	[mm]	[t]	[mm]	[mm]
SLC10-4	10	6.72	30	34.0
SLC13-4	13	11.40	39	44.2

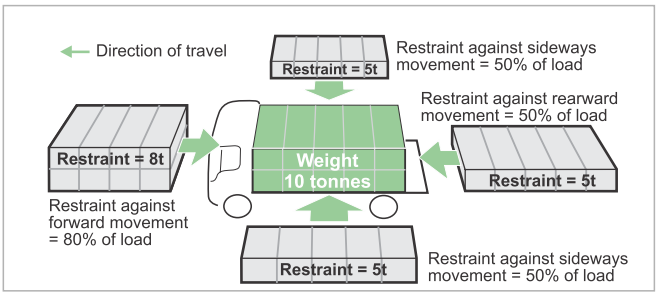


Grab Hook - Heat treated and tempered (Gr43)

Chain Size	A	B	C	D	E	F	Weight
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
10	68	12.7	114	11	68	11	0.5
13	84	16.7	143	14	85	15	0.9

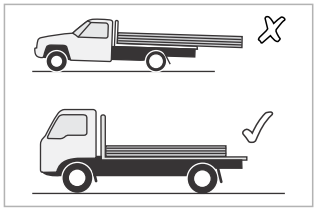


When moving, a vehicle and its load are subjected to forces caused by changes of speed, direction or slope. A load that is restrained so that it doesn't shift is required to withstand forces of at least:



- 80% of its weight in the forward direction
- 50% of its weight sideways and rear ways
- 20% of its weight vertically

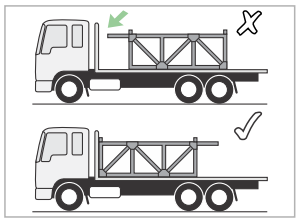
In order to achieve these forces the operator must insure that they have chosen the correct vehicle suitable for the size and type of load. In other words it must have adequate load carrying capacity and sufficient space for the load.



Vehicles carrying long loads should be long enough to avoid excessive overhang and to also ensure good weight distribution for vehicle stability.

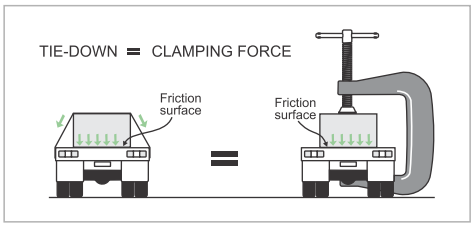
The higher the position of the load's centre of gravity (COG) the lower the speed will be at which the vehicle will overturn when cornering. To counter this, when carrying a load with a high COG, the load should be carried on a vehicle with a low platform height such as a low bed or drop frame trailer.

Incorrect positioning of the load on a vehicle can result in a significant safety risk. The load must be positioned to maintain adequate stability, steering and braking and not overload tyres and axles.

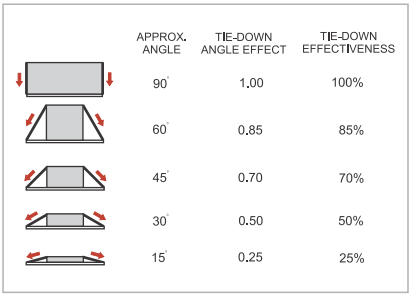


A load that has a potential dangerous projection should be placed to minimise the risk to the driver or any other person, in the event of the load shifting during braking or a collision.

A load that projects more than 1.2 metres must be made conspicuous in daytime by fixing a brightly coloured flag or piece of material at least 300mm long.



Most loads are restrained using the tie-down method. This combines the tension in the lashings with the amount of friction to stop the load moving similar to a giant clamp. Friction between smooth surfaces can be increased using timber or anti-slip rubber matting while oil or water between metal surfaces act as lubricants and reduce the friction.



	APPROX. ANGLE	TIE-DOWN ANGLE EFFECT	TIE-DOWN EFFECTIVENESS
	90°	1.00	100%
	60°	0.85	85%
	45°	0.70	70%
	30°	0.50	50%
	15°	0.25	25%

Lashings must be correctly pre-tensioned, if they loosen below the minimum required pre-tension during the journey, the friction forces are reduced and the load could shift.

Tie-down lashings are most effective if they are vertical and tight. The more a lashing is angled from the vertical, the less the clamping force. The lower the angle, the more lashings are required to give the same clamping force.

To find the number of lashings required for any load, divide the total weight of the load by the weight that each lashing can restrain and then round the answer up to the next whole number.

Only use lashings that are in good working order, free from damage.

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