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Sling points



User instructions

Please also read general user instructions for load carrying equipment and slings.

These instructions only give a general overview of the use of rope slings and do not replace the equipment manufacturer's operation instructions.

Changes to delivery condition

The shape and design of sling points should not be changed by bending, grinding, disassembly, drilling holes or other modifications.

Welding is only permitted if carried out according to instructions. Surface coverings such as hot-dip or electro-galvanising may not be applied to high strength sling points. Stripping with alkaline products is also dangerous and should only be carried out after consultation with the manufacturer.

Limits of use



Temperature

The manufacturer's product-related temperature restrictions must be observed. In particular this applies to ball bearing mounted sling points which can permanently reduce load capacity.



Impact loads

Specified load capacities assume there will be no impact when loading.

Slight impacts such as those caused by raising, lowering or moving the load are permitted but powerful impacts such as a falling load are not allowed.



Edge load

Damage to sling points from sharp edge loads should be avoided, including during attaching.



Dangerous conditions

Specified loading capacities assume that there are no dangerous conditions or operations such as lifting personnel, dangerous loads such as molten metal, caustic substances or nuclear materials. In such cases the operation should be assessed by authorised personnel and the load capacity reduced accordingly, or special procedures put in places.



Chemicals

Sling points must not be exposed to chemicals or their gases.

Note that certain production processes will release acids or their gases.

Check before starting work

- Before starting work carry out the following checks:
 - That the conformity declaration or test certificate are available;
 - Sling point labelling and load capacity details match those on the declaration or certificate;
 - That the operating and installation instructions have been read
- Rope slings must be free of damage with legible signs and load capacity details. Visual checks should be carried out before and after use for obvious defects such as evident corrosion, wear, cracks or welding seams, bending and seized screw seats.
- Do not use slings with broken, obviously damaged or deformed links or accessories, or when they have been overloaded. In such cases the sling should not be used until it has been inspected and the necessary repairs carried out.

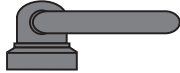
Instructions for use

- The sling point position must be set so that the load can carry the expected force (2.5x safety against remaining deformation and 4x safety against breakage).
- Full contact swivel area must be level and the threadhole at right-angles to the contact area.
- Attach sling points so they can easily be reached for attaching and suspending the sling. Other parts should not obstruct the sling points. Avoid deflection or placing on sharp items.
- Avoid danger points that could endanger the rigger, such as crushing or shearing when attaching the sling. Avoid protruding points that could prevent sling travel.
- The number and arrangement of sling points must be selected to avoid the load changing position unexpectedly during travel.
- When using multi-strand slings, especially in the position of the centre of gravity, the dimensioning of the sling points must take into account the number of bearing points and increased traction forces through the angle of inclination.

Sling points

► User instructions

- The receiving link on the load hook must have sufficient space and should move freely.
- Before slinging, move the receiving link into the right position.



proper use



improper use

- Use only nuts and screws (for example, through holes) to the manufacturer's specified grade and quality.
- In blind holes the thread length must be at least 1.1x the screw-in length, so that the sling point contact area lies securely on the load. Minimum recommended screw lengths are:

Steel; 1 x d

Cast iron; .25 x d (for casting strengths < 200MPa 1.5 x d)

Aluminium; 2x d

Aluminium-magnesium alloys 2.5 x d

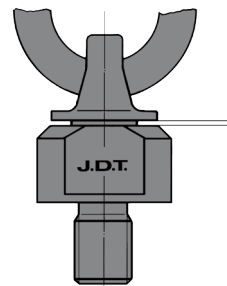
Inspections

- Sling point inspections must be carried out by qualified personnel at least once a year in line with AMVO section 8 (13).
- Chain slings that are often exposed to heat or chemical effects must be inspected more frequently.
- Sling points must be cleaned before testing. The process should not cause any chemical damage, heating through burning off, cover cracks or remove excess material from sandblasting.
- After events such as falling loads, collisions, exposure to heat or chemicals that could affect safety, all load carrying devices must be inspected according to AMVO section 9 (1).
- All inspections should be recorded.

Criteria for rejection

Sling points may no longer be used if:

- The receiving link has been stretched by more than 5%.
- The actual thickness of any component is more than 10% below nominal thickness
- There is evidence of cuts, notches, grooves, cracks, excessive corrosion (such as major visible rust marks), heat discoloration, signs of welding (other than that carried out in line with the manufacturer's instructions), weld spatter on suspension links, bent or twisted receiving links and similar faults.
- The label is missing or illegible.
- The thread is damaged or worn.
- On ball bearing mounted sling swivels, the maximum play is >s< in the table below:



Nominal size	max. play >s<
t	mm
0.5 - 1.4	1.5
2.0 - 2.5	1.5
3.0 - 6.7	2.4
8.0 - 10,0	3.2
15.0	4.0
20.0 - 30.0	

Reuse is then only permitted after repair has taken place.

Temperature reductions

Usage temperature	Reduction				
	CM08EN CM08EB	CM08EN+ CM08EB+ CM08REB+	CM08SEB	Theipa ¹ FP ¹	CM08WLP
	%	%	%	%	%
-40 °C to -20 °C	without deduction	without deduction	without deduction	without deduction	without deduction
-20 °C to +200 °C	without deduction	without deduction	without deduction	without deduction	without deduction
+200 °C to +300 °C	- 10%	- 10%	- 10%	- 10%	- 10%
+300 °C to +400 °C	- 25%	- 25%	- 25%	- 25%	- 25%
over +400 °C	not permitted	not permitted	not permitted	not permitted	not permitted

¹ After use over +200 °C, the load capacity must be permanently reduced for further use according to the table above. Accelerated wear in the ball bearings is possible in this case and must be monitored by the user.










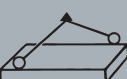


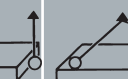




For the safe lifting, pulling or other further movement of loads, it is necessary to provide corresponding sling points on all technical products that cannot be moved manually or transported.

Only tested sling points or eyebolts are suitable for this. For the safe use the permissible load capacity, the manufacturer, the material used or the grade etc. must be known. The permissible usage conditions such as the max. inclination angle, permissible usage temperatures, rejection criteria etc. must also be considered. (Operating instructions)

Our high-strength, tested sling points and swivels fulfil these requirements!

Sling points

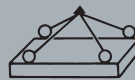
► Load table

															
TYPE:	CM08EN/EB		CM08EN+/EB+/REB+						CM08SEB						
Sling type															
Number of sling points	1	1	1	1	2	2	3 or 4		1	1	2	2	3 or 4		
Inclination angle	0°	90°	0°	90°	0°-45°	46°-60°	0°-45°	46°-60°	0°	90°	0°-45°	46°-60°	0°-45°	46°-60°	
Thread	Load capacity t														
M 6	0.40	0.15	0.40	0.10	0.20	0.16	0.32	0.24	-	-	-	-	-	-	
M 8	1.00	0.40	0.80	0.20	0.40	0.32	0.64	0.48	-	-	-	-	-	-	
M 10	1.00	0.40	1.00	0.25	0.50	0.40	0.80	0.60	0.90	0.45	0.63	0.45	0.95	0.68	
M 12	2.00	0.75	1.60	0.40	0.80	0.64	1.28	0.96	1.00	0.50	0.70	0.50	1.05	0.75	
M 14	4.00	1.50	3.00	0.75	1.50	1.20	2.40	1.80	-	-	-	-	-	-	
M 16	4.00	1.50	4.00	1.00	2.00	1.60	3.20	2.40	2.00	1.12	1.57	1.12	2.35	1.68	
M 18	-	-	5.00	1.25	2.50	2.00	4.00	3.00	-	-	-	-	-	-	
M 20	6.00	2.30	6.00	1.50	3.00	2.40	4.80	3.60	4.00	2.00	2.80	2.00	4.20	3.00	
M 24	8.00	3.20	8.00	2.00	4.00	3.20	6.40	4.80	6.30	3.15	4.41	3.15	6.62	4.73	
M 27	-	-	10.00	2.50	5.00	4.00	8.00	6.00	-	-	-	-	-	-	
M 30	-	-	12.00	3.00	6.00	4.80	9.60	7.20	10.60	5.30	7.42	5.30	11.13	7.95	
M 33	-	-	14.00	3.50	7.00	5.60	11.20	8.40	-	-	-	-	-	-	
M 36	-	-	16.00	4.00	8.00	6.40	12.80	9.60	11.80	8.00	11.20	8.00	16.80	12.00	
M 42	-	-	24.00	6.00	12.00	9.60	19.20	14.40	-	-	-	-	-	-	
M 45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M 48	-	-	32.00	8.00	16.00	12.80	25.60	19.20	-	-	-	-	-	-	
M 56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M 64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M 72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M 80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Theipa

Flatpoint FP



1

1

2

2

3 or 4

1

1

2

2

3 or 4

0°

90°

0°-45°

46°-60°

0°-45°

46°-60°

0°

90°

0°-45°

46°-60°

0°-45°

46°-60°

-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.00	0.50	0.70	0.50	1.00	0.75	0.50	0.70	0.70	0.50	1.00	0.70		
1.40	0.70	1.00	0.70	1.40	1.00	0.80	1.25	1.12	0.80	1.60	1.12		
2.00	1.00	1.40	1.00	2.12	1.50								
2.80	1.40	2.00	1.40	3.00	2.12	1.50	2.12	2.00	1.50	3.15	2.24		
-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.40 / 5.00	1.70 / 2.50	2.40 / 3.55	1.70 / 2.50	3.55 / 5.30	2.50 / 3.75	2.50	3.55	3.35	2.50	5.00	3.75		
3.40 / 8.00	1.70 / 4.00	2.40 / 5.60	1.70 / 4.00	3.55 / 8.50	2.50 / 6.00	4.00	4.00	5.60	4.00	8.00	6.00		
-	-	-	-	-	-	5.30	7.10	7.10	5.30	11.20	8.00		
8.00 / 12.00	4.00 / 6.70	5.60 / 9.50	4.00 / 6.70	8.50 / 14.00	6.00 / 10.00	6.00	8.00	8.00	6.00	12.50	9.00		
-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.00	10.00	14.00	10.00	21.20	15.00	8.00	8.00	11.20	8.00	16.80	12.00		
15.00 / 20.00	12.50 / 13.00	17.00 / 18.00	12.50 / 13.00	25.00 / 27.00	18.00 / 19.00	10.00	15.00	14.00	10.00	21.20	15.00		
25.00	17.00	23.50	17.00	35.00	25.00	15.00	20.00	21.20	15.00	31.50	22.40		
25.00	17.00	23.50	17.00	35.00	25.00	-	-	-	-	-	-		
25.00	18.00	25.00	18.00	37.50	26.50	-	-	-	-	-	-		
25.00 / 32.50	20.00 / 28.00	28.00 / 39.00	20.00 / 28.00	42.50 / 58.00	30.00 / 42.00	-	-	-	-	-	-		
32.50	28.00	39.00	28.00	58.00	42.00	-	-	-	-	-	-		
32.50	28.00	39.00	28.00	58.00	42.00	-	-	-	-	-	-		