

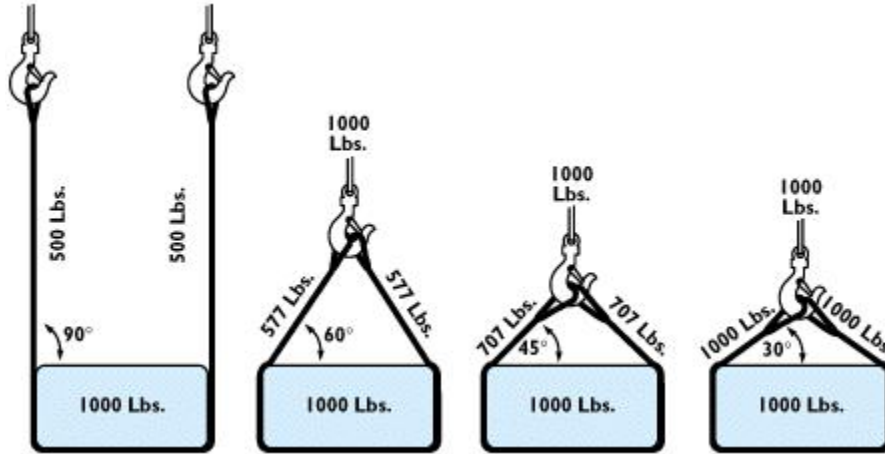
Although chain slings are designed for rugged, lasting service, precautions should be observed to extend the product's useful life. Certain hazards are inherent in the operation of chain slings and users must exercise intelligence, care and common sense to ensure a safe working environment.

- Never exceed the working load limit of a chain sling.
- All fittings and attachments must have a working load limit (WLL) equal to or greater than that of the chain; if not, the assembly must be rated at the WLL of the weakest component.
- Do not rest or drop load on chain.
- Eliminate all twists, knots or kinks before lifting.
- Do not point load hooks - load should be seated properly within throat opening and centered in bowl of the hook.
- Balance the load to avoid undue stress on one leg of multi-leg slings.
- Never bounce, jerk or shockload a sling when lifting or lowering items. Remove slack by slowly applying the load to the chain.
- Use pads around sharp corners.
- Never force or hammer hooks or chain into position.
- Never anneal alloy chain slings.
- Do not use in acid solutions. Consult manufacturer for recommendations.
- If possible, avoid extreme temperatures (under 20 degrees F or over 350 degrees F).
- Temporary and permanent reductions to working load limits occur when chain slings are used at high temperatures.

Temperature		Grade of Chain			
		Grade 80 (System 8)		Grade 100 (System 10)	
(F)	(C)	Reduction of Working Load Limit WHILE AT Temperature	Reduction of Working Load Limit AFTER EXPOSURE to Temperature	Reduction of Working Load Limit WHILE AT Temperature	Reduction of Working Load Limit AFTER EXPOSURE to Temperature
<400°	<204°	None	None	None	None
400°	204°	10%	None	15%	None
500°	260°	15%	None	25%	5%
600°	316°	20%	5%	30%	15%
700°	371°	30%	10%	40%	20%
800°	427°	40%	15%	50%	25%
900°	482°	50%	20%	60%	30%
1000°	538°	60%	25%	70%	35%
>1000°	>538°	OSHA requires that any chain sling exposed to temperatures in excess of 1000°F be removed from service.			

- Return slings to manufacturer to ensure proper repair procedures are followed.
- Clean chain slings regularly since dirt and grit can cause wear at link bearing points.
- Protect chain from corrosion.
- Store chain slings in a clean, dry area, preferably by hanging on racks or A-frames; slings stored on floors are subject to abuse.
- Institute a continuous inspection program to maximize life expectancy.

Sling angles have a direct and oftentimes dramatic affect on the working load limit of a sling. This angle, which is measured between a horizontal line and the sling leg or body, may apply to a single leg sling in an angled vertical or basket hitch, or to a multi-legged bridle sling. Anytime pull is exerted at an angle on a leg, the tension or stress on each leg is increased. To illustrate, each sling leg in a vertical basket hitch absorbs 500 lbs. of stress from a 1,000 lb. load. The same load, when lifted in a 60 degree basket hitch, exerts 577 lbs. of tension on each leg.



It is critical therefore, that working load limits be reduced to account for sling angles. Angles less than 45 degrees are not recommended and those below 30 degrees should be avoided whenever possible. Use the formula and chart shown below to calculate the reduction in working load limits caused by various sling angles.

$$\text{Actual Sling Working Load Limit} = \text{Factor} \times \text{Working Load Limit}$$

Sling Angles in Degrees	Factor	Sling Angles in Degrees	Factor
15	.259	55	.819
20	.342	60	.866
25	.423	65	.906
30	.500	70	.940
35	.574	75	.966
40	.643	80	.985
45	.707	85	.996
50	.766	90	1.000