

EFFECT OF LEG ANGLE ON SLING WORKING LOAD LIMIT (W.L.L.)

When slings are used at an angle (i.e. two slings or one sling in a basket attached to only one hoist hook), sling capacity is reduced. How much it is reduced depends on the degree of the angle. You can determine whether a sling will be rated high enough if you know the angle between the sling leg and the horizontal. Once you know this angle, multiply the sling's rating by the appropriate factor in the Angle Degree and Factor table. This will give you the sling's reduced rating. Horizontal sling angles less than 30° shall not be used.

ANGLE DEGREES	FACTOR
90°	1.0000
85°	0.9962
80°	0.9848
75°	0.9659
70°	0.9397
65°	0.9063
60°	0.8660

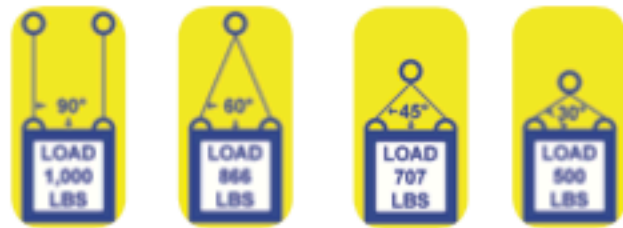
ANGLE DEGREES	FACTOR
55°	0.8192
50°	0.7660
45°	0.7071
40°	0.6428
35°	0.5736
30°	0.5000

REMOVAL CRITERIA FOR WEB SLINGS AND POLYESTER ROUND SLINGS:

Shall be removed from service if conditions such as the following are present:

- missing or illegible sling tag
- acid or caustic burns
- melting or charring of any parts of the sling or weld splatter that exposes core yarns
- holes, tears, cuts or snags or exposed core yarns
- broken or worn stitching in load bearing splices
- excessive abrasive wear
- knots in any part of the sling
- discoloration and brittle or stiff areas on any part of the sling; which may mean chemical or ultraviolet/sunlight damage.
- other conditions, including visible damage, that cause doubt as to the continued use of the sling

SLING CAPACITY DECREASES AS THE HORIZONTAL ANGLE DECREASES



A sling capable of lifting 1,000 lbs. in a 90° horizontal basket hitch, can only lift 866 lbs. at a 60° angle, 707 lbs. at a 45° angle and 500 lbs. at a 30° angle. These calculations apply to all types of slings, web slings, polyester round slings, chain slings and wire rope slings.

INSPECTIONS (all types of slings)

Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person designated by the employer.

Additional inspections shall be performed during sling use, where service conditions warrant. A complete inspection for damage to the sling shall be periodically performed by a designated person. Each sling and component shall be examined individually, taking care to expose and examine all surfaces. The sling shall be examined for conditions such as those listed below for the type of sling used and a determination made as to whether they constitute a hazard. These type of periodic inspections shall not exceed one year. The frequency of periodic inspections should be based on:

- Frequency of sling use.
- Severity of service conditions.
- Nature of lifts being made.
- Experience gained on the service life of slings used in similar circumstances.

Guidelines for the time intervals are:

- normal service—yearly
- severe service—monthly to quarterly
- special service—as recommended by a qualified person.
- Written records of the most recent periodic inspection shall be maintained.



Operating Practices

⚠ WARNING ⚠

- FAILURE TO READ, UNDERSTAND AND FOLLOW THESE INSTRUCTIONS MAY CAUSE DEATH OR SERIOUS INJURY.
- READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE USING WEB SLINGS.
- WEB SLINGS SHOULD NEVER BE USED WHERE ACID OR ACID FUMES ARE PRESENT. (SEE CHEMICAL DATA CHART.)
- WEB SLINGS SHOULD NEVER BE USED WHERE ALKALIS ARE PRESENT. (SEE CHEMICAL DATA CHART.)

NYLON vs. POLYESTER

The most popular material for web slings is nylon. The tough, long wearing properties of nylon make it the best choice for general use. Nylon should never be used where acid or acid fumes are present. Where acid conditions are present, polyester slings should be used. Nylon web slings will stretch under load which protects both the sling and the load from sudden shocks. This stretch can be reduced by using slings with larger work loads or by using polyester slings. Polyester slings should never be used where alkalis are present.

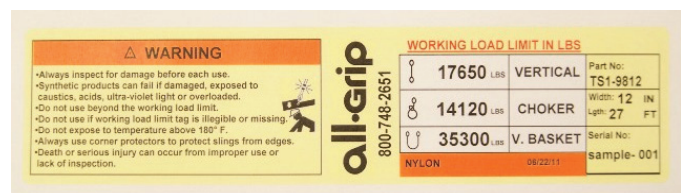
RED CORE YARNS

all•Grip® web slings have red core yarns within the web material. When these red yarns become visible, it is evident that the sling is damaged and must be removed from service.

NOTE: Evidence of red core yarn is not the only gauge for which web slings must be removed from service. Please contact our sales office for additional criteria.

TAGS

Each all•Grip® web sling manufactured has a legible tag sewn to the sling body. Each is serial numbered and has the date of manufacture.



UV LIGHT

Environments in which web slings and round slings are continuously exposed to ultra-violet light can affect the strength of these slings in varying degrees ranging from slight to total degradation. To minimize these effects, store slings not being used in a cool, dry and dark place. Visual indications of ultra-violet degradation are bleaching out of the color, increased stiffness and surface abrasion at points not normally in contact with the load.

CHEMICAL DATA

The chemical data included below should be used only as a guide.

Please consult with Western Sling and Supply prior to using for specific information regarding chemicals.

	ACIDS	ALCOHOLS	ALDEHYDES	STRONG ALKALIS	BLEACHING AGENTS	DRY CLEANING SOLVENTS	ETHERS	HALOGENATED HYDROCARBONS	HYDROCARBONS	KETONES	OILS CRUDE	OILS LUBRICATING	SOAPS & DETERGENTS	WATER & SEAWATER	WEAK ALKALIS
NYLON	NO	OK	OK	OK	NO	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
POLY-ESTER	*	OK	NO	**	OK	OK	NO	OK	OK	OK	OK	OK	OK	OK	OK

* DISINTEGRATED BY CONCENTRATED SULPHURIC ACID

** DEGRADED BY STRONG ALKALIS AT ELEVATED TEMPERATURES