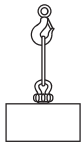
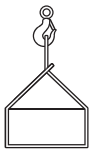
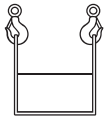
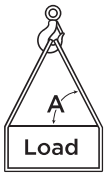
WEB SLING INFORMATION

Common Types of Sling Hitches

Hitch	Comments
Vertical Hitch 	One end is placed on the hook, while the other end is attached directly to the load. A tagline should be used to prevent load rotation.
Choker Hitch 	Sling passes through one end around the load and the other end is placed on the hook. Rated capacity is normally 80% of that for a vertical hitch. Load control is a potential problem with only one sling rigged in a choker hitch. Also, the choke point should always be on the sling body—not on the fittings, base of the fitting or tag.
Basket Hitch 	The sling cradles the load while both ends are attached overhead. The rated capacity for a basket hitch is twice that for a vertical hitch. As with the choker hitch, more than one sling rigged in a basket hitch (or some other means) may be necessary to help ensure load control.

Increased sling tension as a function of sling-to-load angle

Angle "A" in degrees from horizontal	Tension Multiplier
90	1.000
85	1.004
80	1.015
75	1.035
70	1.064
65	1.104
60	1.155
55	1.221
50	1.305
45	1.414
40	1.555
35	1.742
30	2.000

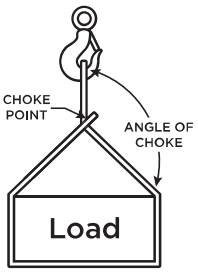


Multiply the load weight (per leg) by the tension factor to determine the increased tension of the sling leg(s)

Reductions in rated capacity as a function of angle of choke

Angle of Choke (degrees)		Angle of Choke Reduction Factor
= or >	<	
120	180	1.000
105	120	0.82
90	105	0.71
60	90	0.58
0	60	0.50

Actual Sling Capacity = Rated Capacity x Reduction Factor



Web Sling Removal from Service Criteria

- If sling identification tag is missing or not readable.
- Holes, tears, cuts, snags, or embedded materials.
- Broken or worn stitches in the load bearing splices.
- Knots in any part of the sling webbing.
- Acid or alkali burns
- Melting, charring or weld spatter on any part of the web sling.
- Excessive abrasive wear or crushed webbing.
- Signs of Ultraviolet (UV) light degradation.
- Distortion, excessive pitting, corrosion or other damage to fitting(s).
- If provided, exposed red core yarn. However, if damage is present and red yarns are not exposed DO NOT USE the sling.
- Any conditions which cause doubt as to the strength of the web sling.

WHERE TO FIND ADDITIONAL INFORMATION:

- WSTDA-WS-1 – RECOMMENDED STANDARD SPECIFICATION FOR SYNTHETIC POLYESTER WEB SLINGS
- WSTDA-WS-2 – RECOMMENDED OPERATING, CARE AND INSPECTION MANUAL FOR NYLON & POLYESTER SYNTHETIC WEB SLINGS
- ASME B30.9 – SYNTHETIC WEBBING SLINGS: SELECTION, USE AND MAINTENANCE
- OSHA GUIDANCE ON SAFE SLING USE (HTTP://WWW.OSHA.GOV/DSG/GUIDANCE/SLINGS/SYNTH-WEB.HTML)
- OSHA 29 CFR 1910.184 - SLINGS
- RIGGING HANDBOOKS
- FORMAL TRAINING FROM CERTIFIED THIRD PARTY OR MANUFACTURE

Sling Thickness	Tolerance
1 PLY	+/- 1.5" + 1.5% of Sling Length
2 PLY	+/- 2" + 2% of Sling Length
3 & 4 PLY	+/- 3" + 3% of Sling Length

* For web sling widths wider than 6", add 1/2" to these values. For tighter tolerance or matched set lengths,consult the manufacturer.

Matched Set Length Tolerance – When multiple legs of a bridle sling are made, or when multiple slings are prescribed to be made within a Matched Set Tolerance, their length variance from their nominal length shall remain within a dimension equal to one-half of their corresponding Standard Length Tolerance Values listed.

Measurement Method – Web sling length is measured with the sling laid flat while being manually pulled taut.