


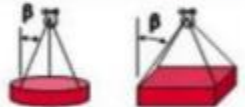
	Quality Electric Inc. Safety Management System		Doc No:	SECTION 16 – TOOLS & EQUIP
			Initial Issue Date	01/01/2022
			Revision Date:	Initial Version
CRANES, HOISTING AND RIGGING			Revision No.	1
			Next Review Date:	01/01/2023
Preparation: Safety Director	Authority: President	Issuing Dept: Safety	Page:	Page 14 of 14

Rigging Information

INSPECTION OF HARDWARE	INSPECTION OF WIRE ROPE SLINGS 11										
<p>DEFORMATION</p> <p>REMOVE FROM SERVICE IF ANY SIGNIFICANT DEFORMATION. CHECK THROAT OPENING OF HOOKS.</p> <p>WEAR</p> <p>REMOVE FROM SERVICE IF EXCESSIVE WEAR. WEAR IS EXCESSIVE IF:</p> <ul style="list-style-type: none"> MORE THAN 5% WEAR IN THROAT OR EYE OF HOOK AND OTHER CRITICAL AREAS OF HARDWARE. MORE THAN 10% WEAR IN OTHER AREAS. <p>CRACKS, NICKS, GOUGES</p> <p>REMOVE FROM SERVICE IF CRACKS, NICKS, OR GOUGES ARE DETECTED.</p> <p>MODIFICATION</p> <p>DO NOT WELD, DO NOT SUBSTITUTE SHACKLES PINS OR OTHER COMPONENTS, DO NOT HEAT, BEND OR MODIFY IN ANY MANNER.</p> <p>PROPER FUNCTION</p> <p>IMPROPERLY INSTALLED HARDWARE OR MALFUNCTION IS CAUSE FOR REMOVAL. CHECK FOR LATCHES, SWIVEL BEARINGS, LOCKING DEVICES, AND INSTALLATION OF WIRE ROPE CLIPS AND WEDGE SOCKETS.</p>	<p>ALL SLINGS AND ATTACHMENTS SHALL BE VISUALLY INSPECTED BY THE PERSON HANDLING THE SLING EACH DAY THEY ARE USED. IN ADDITION, A PERIODIC INSPECTION SHALL BE PERFORMED BY A COMPETENT PERSON, AT LEAST ONCE EVERY 6 MONTHS (OR PER LEGAL REQUIREMENTS) AND SHALL INCLUDE A RECORD OF THE INSPECTION.</p> <p>INSPECTION CRITERIA</p> <table> <tr> <td>KINKING</td><td>CORE PROTRUSION</td></tr> <tr> <td>CRUSHING</td><td>CORROSION</td></tr> <tr> <td>UNSTRANDING</td><td>BROKEN OR CUT STRANDS</td></tr> <tr> <td>BIRDCAGING</td><td>BROKEN WIRES</td></tr> <tr> <td>STRAND DISPLACEMENT</td><td></td></tr> </table> <p>BROKEN WIRES</p> <p>REFER TO THE APPLICABLE STANDARDS SUCH AS ISO 4309 WITH SPECIFIC DISCARD CRITERIA AND GUIDANCE REGARDING THE NUMBER OF BROKEN WIRES.</p> <p>DISTORTION OF WIRE ROPE</p> <p>REMOVE FROM SERVICE WIRE ROPE SLINGS THAT HAVE ANY DAMAGE RESULTING IN DISTORTION OF THE WIRE ROPE STRUCTURE SUCH AS KINKING, CRUSHING, UNSTRANDING, BIRD CAGING, STRAND DISPLACEMENT OR CORE PROTRUSION.</p>	KINKING	CORE PROTRUSION	CRUSHING	CORROSION	UNSTRANDING	BROKEN OR CUT STRANDS	BIRDCAGING	BROKEN WIRES	STRAND DISPLACEMENT	
KINKING	CORE PROTRUSION										
CRUSHING	CORROSION										
UNSTRANDING	BROKEN OR CUT STRANDS										
BIRDCAGING	BROKEN WIRES										
STRAND DISPLACEMENT											
Remember - "When buying Crosby, you're buying more than product, you're buying <i>Quality</i> ."											

WIRE ROPE SLING CAPACITIES (t) (refer to standard EN13414-1) 12								
WORKING LOAD LIMITS FOR SLINGS USING STEEL CORED ROPE OF CLASSES 6X19, 6X36 AND 8X36 AND HAVING FERRULE-SECURED EYE TERMINATIONS TENSILE STRENGTH 1770 kN/mm ² DESIGN FACTOR 5 / 1								
WIRE ROPE SIZE		Q&T CARB. SHACKLE MIN. SHACKLE SIZE FOR A Dlg ≥ 1 AT LOAD CONNECTION						
MM	MBL (kN)	SHACKLE SIZE (NCH)	VERTICAL (SINGLE LEG)	CHOKER	TWO LEG SLINGS		THREE AND FOUR LEG SLINGS	
			t	t	0° < β ≤ 45°	45° < β ≤ 60°	0° < β ≤ 45°	45° < β ≤ 60°
8	40.3	3/8	0.75	0.60	1.05	0.75	1.55	1.10
10	63.0	7/16	1.15	0.92	1.60	1.15	2.40	1.70
12	90.7	1/2	1.70	1.36	2.30	1.70	3.55	2.50
13	106	5/8	2.00	1.60	2.80	2.00	4.15	3.00
14	124	5/8	2.25	1.80	3.15	2.25	4.80	3.40
16	161	3/4	3.00	2.40	4.20	3.00	6.30	4.50
18	204	7/8	3.70	2.96	5.20	3.70	7.80	5.65
20	252	7/8	4.60	3.68	6.50	4.60	9.80	6.90
22	305	1	5.65	4.52	7.80	5.65	11.80	8.40
24	363	1-1/8	6.70	5.36	9.40	6.70	14.00	10.00
26	426	1-1/8	7.80	6.24	11.00	7.80	16.50	11.50
28	494	1-1/4	9.00	7.20	12.50	9.00	19.00	13.50
32	645	1-3/8	11.80	9.44	16.50	11.80	25.00	17.50
36	817	1-1/2	15.00	12.00	21.00	15.00	31.50	22.50
RATED CAPACITIES (t) BASED ON PIN DIAMETER OR HOOK NO LARGER THAN THE NATURAL EYE WIDTH (1/2 X EYE LENGTH) OR LESS THAN THE NOMINAL SLING DIAMETER. TURNBACK EFFICIENCY: k = 0.9 FLEMISH EYE TERMINATION OFFERS A HIGHER EFFICIENCY REFER TO EN 13414-1 FOR FULL DETAILS VERTICAL SLING ANGLES GREATER THAN 60° ARE NOT RECOMMENDED!								