Crosby Rigging Information

WEB SLING AND ROUNDSLING CAPACITIES

WEB SLING IDENTIFICATION INCLUDES:

SLING TYPE:
TC - TRIANGLE CHOKER
TT - TRIANGLE TRIANGLE
EE - EYE AND EYE
EN - ENDLESS

NUMBER OF PLIES: 1 OR 2
WEBBING GRADE: 9 OR 6
SLING WIDTH (INCHES)

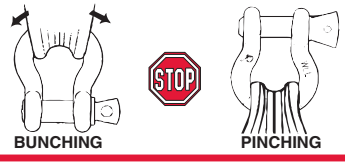
EE 2-9 04 X 12 ← SLING LENGTH (FEET)

ROUNDSLING IDENTIFICATION INCLUDES:

SLING NUMBER: 1-13
SLING NUMBERS ARE FOR REFERENCE ONLY, SOME ROUNDSLINGS HAVE DIFFERENT RATINGS.

SLING COLOR: PURPLE, GREEN, YELLOW, TAN, RED, WHITE, BLUE, ORANGE
SLING COLOR IS NOT FOLLOWED BY ALL MANUFACTURERS AND SOME COLORS HAVE MORE THAN ONE RATED LOAD.

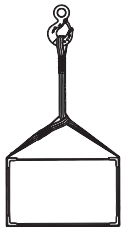
FOLDING, BUNCHING, OR PINCHING OF SYNTHETIC SLINGS, WHICH OCCURS WHEN USED WITH SHACKLES, HOOKS OR OTHER APPLICATIONS WILL REDUCE THE RATED LOAD.



BUNCHING PINCHING

CHOKER CAPACITY

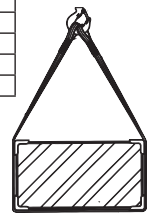
A CHOKER HITCH HAS 80% OF THE CAPACITY OF A SINGLE LEG SLING ONLY IF THE ANGLE OF CHOKE IS 120 DEGREES OR GREATER. A CHOKE ANGLE LESS THAN 120 DEGREES WILL RESULT IN A CAPACITY AS LOW AS 40% OF THE SINGLE LEG.



BASKET HITCH CAPACITY

HORIZONTAL CAPACITY % OF ANGLE SINGLE LEG	
90	200%
60	170%
45	140%
30	100%

A TRUE BASKET HITCH HAS TWICE THE CAPACITY OF A SINGLE LEG ONLY IF THE LEGS ARE VERTICAL



MULTIPLE LEG SLINGS

TRIPLE LEG SLINGS HAVE 50% MORE CAPACITY THAN DOUBLE LEG SLINGS (AT SAME SLING ANGLE) ONLY IF THE CENTER OF GRAVITY IS IN THE CENTER OF CONNECTION POINTS AND LEGS ARE ADJUSTED PROPERLY. THEY MUST HAVE AN EQUAL SHARE OF THE LOAD.

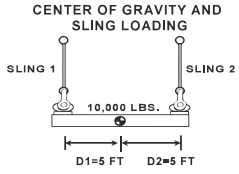
QUAD (4 LEG) SLINGS OFFER IMPROVED STABILITY BUT PROVIDE INCREASED CAPACITY ONLY IF ALL LEGS SHARE AN EQUAL SHARE OF THE LOAD.

NEVER PLACE A SYNTHETIC SLING EYE OVER A FITTING WITH A DIAMETER OR WIDTH GREATER THAN ONE THIRD THE LENGTH OF THE EYE.
CONSULT MANUFACTURER OR QUALIFIED PERSON WHEN EXPECTED LOAD ON SYNTHETIC SLING IS EXPECTED TO EXCEED 80% OF THE SLING RATED LOAD.

CENTER OF GRAVITY AND SLING LOADING

WHEN LIFTING VERTICALLY, THE LOAD WILL BE SHARED EQUALLY IF THE CENTER OF GRAVITY IS PLACED EQUALLY BETWEEN THE PICK POINTS.

IF THE WEIGHT OF THE LOAD IS 10,000 LBS., THEN EACH SLING WILL HAVE A LOAD OF 5,000 LBS. AND EACH SHACKLE AND EYEBOLT WILL ALSO HAVE A LOAD OF 5,000 LBS.



WEIGHTS AND MEASURES

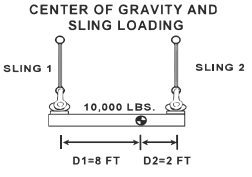
UNIT WEIGHT STEEL = 490 LBS/FT^3
UNIT WEIGHT ALUMINUM = 165 LBS/FT^3
UNIT WEIGHT CONCRETE = 150 LBS/FT^3
UNIT WEIGHT WOOD = 50 LBS/FT^3
UNIT WEIGHT WATER = 62 LBS/FT^3
UNIT WEIGHT SAND AND GRAVEL = 120 LBS/FT^3
UNIT WEIGHT COPPER = 560 LBS/FT^3
UNIT WEIGHT OIL = 58 LBS/FT^3

1 CUBIC FT. = 7.5 GALS
1 METRIC TON = 1.1 US TONS
1 KILOGRAM = 2.2 LBS

1/2 INCH = 12.7 mm
1 INCH = 25.4 mm

CENTER OF GRAVITY AND SLING LOADING

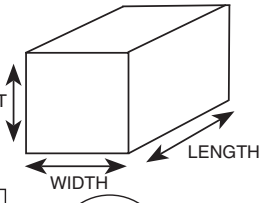
WHEN THE CENTER OF GRAVITY IS NOT EQUALLY SPACED BETWEEN THE PICK POINTS, THE SLING AND FITTINGS WILL NOT CARRY AN EQUAL SHARE OF THE LOAD. THE SLING CONNECTED TO THE PICK POINT CLOSEST TO THE CENTER OF GRAVITY WILL CARRY THE GREATEST SHARE OF THE LOAD.



SLING 2 IS CLOSEST TO COG. IT WILL HAVE THE GREATEST SHARE OF THE LOAD.

SLING 2 = 10,000 X 8 / (8+2) = 8,000 LBS.
SLING 1 = 10,000 X 2 / (8+2) = 2,000 LBS.

VOLUME OF RECTANGLE = HEIGHT x WIDTH x LENGTH



VOLUME OF SPHERE = 3.14 x (DIAM. x DIAM. x DIAM.) / 6

VOLUME OF CYLINDER = 3.14 x (DIAM. x DIAM. x LENGTH) / 4