

VERSION
(2/1/17)

Crosby BLOCK SELECTION AND APPLICATION GUIDE

RISK MANAGEMENT

COMPREHENSIVE SET OF ACTIONS THAT REDUCES THE RISK OF A PROBLEM, A FAILURE, AN ACCIDENT

YOU NEED

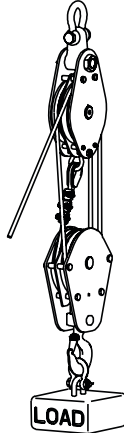
- PRODUCT KNOWLEDGE
- APPLICATION KNOWLEDGE
- MANUFACTURER OF KNOWN CAPABILITY
- PRODUCTS THAT ARE CLEARLY IDENTIFIED WITH THE FOLLOWING:
 1. MANUFACTURER'S NAME AND LOGO
 2. LOAD RATING OR SIZE THAT REFERENCES RATINGS
 3. TRACEABILITY CODE

A GOOD RISK MANAGEMENT PROGRAM RECOGNIZES

- PERFORMANCE REQUIREMENTS INCLUDE THE FOLLOWING:
 1. LOAD RATED PRODUCTS
 2. QUENCHED AND TEMPERED
 3. ABILITY TO DEFORM WHEN OVERLOADED.
 4. ABILITY TO WITHSTAND REAL WORLD LOADING IN DAY TO DAY USE, TOUGHNESS.

MECHANICAL ADVANTAGE AND TOTAL LOAD

MECHANICAL ADVANTAGE IS THE LEVERAGE GAINED BY A MULTIPLE PART BLOCK. MUST HAVE A TRAVELING BLOCK TO HAVE MECHANICAL ADVANTAGE. THE THEORETICAL ADVANTAGE IS EQUAL TO THE NUMBER OF PARTS OF LINE SUPPORTING THE TRAVELING BLOCK.



TRUE MECHANICAL ADVANTAGE

ADVANTAGE FOR BRONZE BUSHING	ADVANTAGE FOR ANTI FRICTION	NUMBER OF LINE PARTS
5.16	5.60	6
5.90	6.47	7
6.60	7.32	8
7.27	8.16	9
7.91	8.98	10
8.52	9.79	11
9.11	10.60	12

TOTAL LOAD

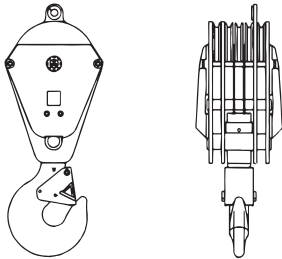
THE TOTAL LOAD PLACED ON THE BLOCK AND ITS END FITTING DETERMINES THE WORKING LOAD LIMIT REQUIRED.

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WORKING WITH BLOCKS

OVERHAUL WEIGHT



To determine the weight of the block or overhaul ball that is required to free fall the block, the following information is needed: **Size of wire rope, Number of line parts, Type of sheave bearing, Length of crane boom, and Drum Friction.**

BLOCK REAVING

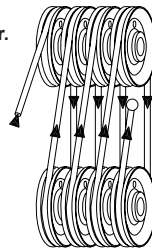
Straight laced reeving is a basic method of placing the rope through a set of blocks. The end of the rope is fed through the outside sheave of the upper block to the outside sheave of the lower (traveling) block. This continues to the last sheave.

ADVANTAGES:

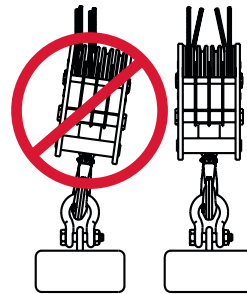
1. Allows blocks to run closer together.
2. Is simple.
3. Has no reverse bends.

DRAWBACKS:

Tilting because of imbalanced loading can cause block rotation and wear of the sheaves and wire rope



SYMMETRICAL REEVING



Reeve blocks symmetrically to distribute load evenly. All sheaves must be reeved to achieve the full working load limit of the block.

BLOCK CABLING

1. Reduce wire rope length
2. Use even part reeving
3. Dead end to boom
4. Evaluate wire rope construction

FOR ADDITIONAL INFORMATION REFER TO THE CROSBY GENERAL CATALOG