



# General Information

**Cavity Number**  
Tells which cavity used during multi-cavity production.

**Size**  
Shank diameter in inches.

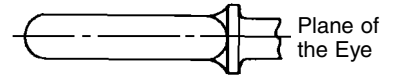


**Lifting Eye Traceability Markings**

**Forging Code**  
Identifies equipment used during forging operation.

**Heat Code**  
Refers to specific heat of steel used.

**Diamond "D" Logo**  
Manufacturing trademark of the Edward W. Daniel Company



**Application:**

(a) Loads should always be applied to lifting eyes in the plane of the eye, not at some angle to this plane.

(b) Shoulder lifting eyes must be properly seated (should bear firmly against the mating part) otherwise the working loads must be reduced substantially. A steel washer or spacer may be required for proper seating.

(c) No greater load should be allowed than that given under rated capacity in each of the tables of dimensional data.

(d) To obtain greatest strength from a lifting eye, it must fit reasonably tight in the hole into which it is screwed to prevent unscrewing due to twist of cable. Tightness and seating must be checked after initial load.

(e) Lifting eyes should never be painted or otherwise coated when used for lifting, as such coatings will very likely cover up flaws.

(f) To attain the rated capacity listed for regular lifting eyes, full thread engagement allowing 1/2 turn for alignment to the plane of the eye is necessary.

**Physical Testing:**

Each lot of standard lifting eyes is manufactured and tested according to ASTM A489-93 and ANSI B18. 15.

**BREAKING STRENGTH:** The threaded shank is screwed into one jaw of a testing machine and a pin secured to the other jaw passed through the eye.

**BEND TEST:** Unthreaded parts must be capable of being bent to pressure or blows through 45° without showing cracks or indications of failure.

**TENSILE TEST:** Per ASTM A489.

**PLAIN & SHOULDER LIFTING EYES**

**Material Data:**

Grade ..... C1030  
Heat Treat ..... Quench & Draw

**Mechanical Properties:**

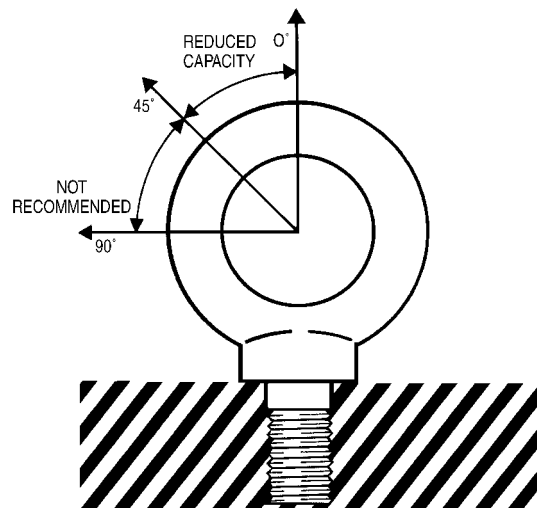
Grain Size ..... 5 or Finer  
Tensile ..... 65,000 psi min.  
Yield ..... 30,000 psi min.  
Elongation ..... 30% min.  
Reduction of Area ..... 60% min.

Diamond "D" Lifting Eyes are processed and tested to the above requirements. Tests are performed on randomly selected lifting eyes from a given heat lot.

**LIMITED WARRANTY:** See page 36 .

**CERTIFICATIONS:** Request for certification(s) must be made at time of order entry and there will be a charge associated with the certification.

**FORGING TOLERANCES:** Tolerances on all forged products is 1/32".



## Lifting Eye Capacities

DIAMETER	RATED CAPACITY				over 45°	
	0°		45°			
IN.	MM	LBS.	KGS	LBS.	KGS	
1/4	(M6)	500	(210)	125	(52)	N
5/16	(M7)	900	(370)	225	(92)	O
3/8	(M8)	1,300	(500)	325	(125)	T
7/16	(M10)	1,800	(740)	450	(185)	
1/2	(M12)	2,400	(1,030)	600	(257)	
9/16	(M14)	3,200	(1,600)	800	(400)	
5/8	(M16)	4,000	(1,810)	1,000	(452)	R
3/4	(M18)	5,000	(2,140)	1,250	(535)	E
7/8	(M20)	7,000	(2,860)	1,750	(715)	C
1	(M24)	9,000	(3,850)	2,250	(962)	O
1-1/8	(M27)	12,000	(5,200)	3,000	(1,300)	M
1-1/4	(M30)	15,000	(6,400)	3,750	(1,600)	M
1-1/2	(M36)	21,000	(8,970)	5,250	(2,242)	E
1-3/4	(M45)	28,000	(11,960)	7,000	(2,990)	N
2	(M52)	38,000	(16,230)	9,500	(4,057)	D
2-1/2	(M65)	56,000	(24,200)	14,000	(6,000)	D

(Metric in Parenthesis)

**NOTE ON LIFTING EYE & NUT EYE BOLT RATED CAPACITIES**  
All rated lifting capacities included in the product charts are based on full sized shank and eye unaltered, and unaltered threading.

### Lifting Eye Capacities & Safety information

**Rated Capacity:** The maximum recommended load that should be exerted on the item at zero degree vertical pull. All rated load values are for pulls exerted in the plane of the eye.

**Ultimate Strength:** As defined in the machinist's handbook is: the stress at which a material in tension, compression, or shear will rupture or fracture.

**Yield Strength:** The maximum stress that can be applied to a material without permanent deformation of the material.

**Safety Factor:** An industry term denoting theoretical capability. Lifting eye rated capacity is figured with a 5 to 1 safety factor for a zero degree straight vertical pull

**Dimensions in Inches • Weight in Pounds**  
Please include stock number and size when ordering

