

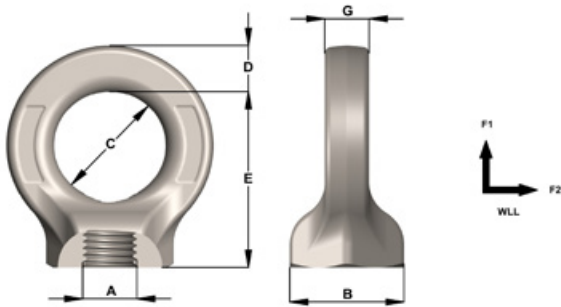
# Grade-8 Eyenuts

## User Guide

- Forged from high tensile alloy steel
- Tempered
- Electromagnetic crack testing to AS1171
- Hi-visibility powder coating to AS4506
- Manufactured exclusively from Australian Made Steel
- Special thread forms made to order

Please ensure that all information contained in this user guide has been read and understood prior to the safe use of the Grade-8 Lifting Eyenut. Failure to follow this guide may result in serious injury and/or property damage. Failure to follow this user guide voids the manufacturer's warranty.

This document may refer to the Eyenut as the Lifting Point.



Townley Drop Forge is both NATA Accredited (Test Lab No. 13554) and AS/NZS ISO9001 Certified (Certificate number FS 604897)..

A Imperial	A Metric	WLL F1	WLL F2	B	C	D	E	G	L	Weight (kg)
5/16"	M08	0.8t	0.2t	27	30	12	48	10	21	0.17
3/8"	M10	1t	0.25t	27	30	12	48	10	21	0.17
1/2"	M12	1.6t	0.4t	27	30	12	48	10	21	0.17
5/8"	M16	4t	1t	34	34	15	56	14	28	0.37
3/4"	M20	6t	1.6t	41	40	17	70	16	35	0.60
7/8"	M22	7t	2t	50	50	20	85	18	42	1.10
1"	M24	8t	2.5t	50	50	20	85	18	42	1.10
1.1/8"	M27	8t	2.5t	50	50	20	85	18	42	1.10
1.1/4"	M30	12t	3t	60	60	26	105	26	52	2.50
1.1/2"	M36	16t	4t	72	72	34	120	32	63	4.00

### WLL (WORKING LOAD LIMIT)

Each Eyebolt is clearly stamped with the permitted F2 WLL.

**F2 WLL** - indicates safe use for non-axial lifts.

**F1 WLL** - indicates loads which are in line with the axis of the threaded end of the eyebolt. F1 WLL allows up to four (4) times higher lifting capacity whilst maintaining a 4:1 design factor of safety.

## Care & Use

1. Observe WLL (Working Load Limit) and ensure proper planning before lifting operation. Do not exceed the WLL
2. Before use, it is important that the user observes relevant standards and other statutory regulations. Inspections shall only be carried out by competent persons.
3. The material construction to which the Lifting Point will be attached shall be of adequate strength to withstand forces during lifting without deformation.

The following recommendations should be observed for minimum thread engagement of a tapped hole.

- 1.50 D in Steel (minimum AS3678 G250)
- 1.75 D in Cast Iron (minimum T250)
- 3.00 D in Aluminum alloys (only available in longer shank versions)

(D = Eyebolt thread diameter, eg. M20)

When lifting light metals, nonferrous heavy metals and grey cast iron, special consideration should be given to the choice of thread and respective Working Load Limit to ensure that the thread corresponds to the requirements of the respective base material.

4. Before installation and every use, visually inspect the Lifting Point and discard if there is evidence of corrosion, wear, weld cracks and deformation.
5. The Lifting Point must be positioned on the load in such a way that movement is avoided during lifting
  - a) For single leg lifts the lifting point must be vertically above the centre of gravity of the load
  - b) For two leg lifts, the lifting points must be equidistant to/ or above the centre of gravity of the load
  - c) For three and four leg lifts, the lifting points must be arranged symmetrically around the centre of gravity and in the same plane.
6. For multi-leg sling assemblies, allowance should be made for the angle between the sling legs. Please refer to the Working Load Limit guidelines and other relevant standards e.g. AS3775 or AS3776 for requirements on reduction of Working Load Limit.
7. Matching Of Threads: Extreme care should be taken to ensure that Eyebolts or Eyenuts are not screwed into threaded holes of different size or thread type.
8. Where an Eyebolt or Eyenut is used in an untapped hole, the thread should engage a nut with a thread length of at least the full thickness of a standard nut.
9. Where an Eyebolt is used in a tapped hole. Drill and tap the work piece so that the Eyebolt is installed perpendicular to the surface of the work piece. The work piece must be flat, providing complete contact for the under surface collar of the Eyebolt.
10. Never rotate the Eyebolt or Eyenut whilst under a load.
11. Excessive tightening of the Eyebolt or Eyenut should be avoided.
12. It should not be possible to enter a 0.04mm feeler gauge at any position between the collar and its seating.

13. Where 90°perpendicular loading is applied, the eye of the Eyebolt or Eyenut must be aligned in the vertical plane.

14. Correct Eye alignment of the lifting point is required at all times. If this cannot be achieved use a shim washer under the collar. A shim washer should not be less in diameter than the diameter of the collar.

15. Continuous slings must never be used with pairs of Eyebolts or Eyenuts.

16. Effects of Temperature: The strength of the Lifting Point is adversely affected by excessively elevated temperatures. Where the temperatures are likely to exceed 200°C, the WLL has to be reduced accordingly:

Temperature °C	Reduction of WLL, percent (%)
-10 to 200	No reduction
200 to 300	10
300 to 400	25
Above 400	Not permitted

17. Do not use under chemical influences such as acids, alkaline solutions and vapours. I.e. in or around pickling baths, hot dip galvanizing plants.

18. After fitting, a periodic inspection should be undertaken by a competent person to examine the continued suitability.

### Inspection Criteria

- Ensure the Eyebolt or Eyenut thread and the tapped hole are compatible
- Ensure the Eyebolt or Eyenut is tight, but not excessively tightened during fitting
- Check that the under face of the collar of the Eyebolt or Eyenut and the contacting surface of the load are smooth, flat and at right angles to the axis of the tapped hole
- The Working Load Limit and manufacturers markings must be clearly visible
- The thread of the Eyebolt or Eyenut has not been damaged in a manner likely to reduce the strength of the joint assembly
- Deformation of any part of the component
- Visible damage such as notches, particularly in high stress areas
- Wear should be no more than 5% of cross sectional diameter.
- Evidence of any cracks
- Evidence of any corrosion