SwiftLift™

Combination & Eye Anchors

AS 3850.1:2015 COMPLIANT*

Figure 1: SwiftLift™ Combination & Eye Anchors

Table 1: Compliance Details

Clause number	Requirement	Compliant
2.2	The Working Load Limit has been determined in accordance with Appendix A, using a FOS per Table 2.1.	✓
2.5.1	Manufactured from ductile steel.	✓
2.5.2.1	WLL determined per clause 2.2.	✓
	Manufactured from steel that is fully killed, with a grain size of six or finer and exhibiting not less than 20% elongation.	✓
	When loaded to tensile failure, a ductile failure and plastic deformation is observed and the failure surface is 100% fibrous.	✓
	Insert assembly including void former shall be marked with the manufacturer's name or symbol.	✓
	R_u (used to determine the WLL) determined in accordance with AS 3600.	✓
A5	Production Validation through testing to confirm compliance of critical speciation requirements (dimensions, material properties and load bearing capacity where appropriate).	✓ * See note on p4
A6	Tension testing of the manufactured lifting insert.	✓

SwiftLift™ Combination & Eye Anchors

Description	Combination anchors for load groups from 1.3t to 5t, retained by a combination of a foot plus additional tension reinforcement. Eye anchors for load groups from 10t to 32t, retained by additional tension reinforcement.
Material	Carbon steel.
Finishes	Hot dip galvanised.
Applications	Thin walled precast products, Low strength concrete units, Heavy structural units.

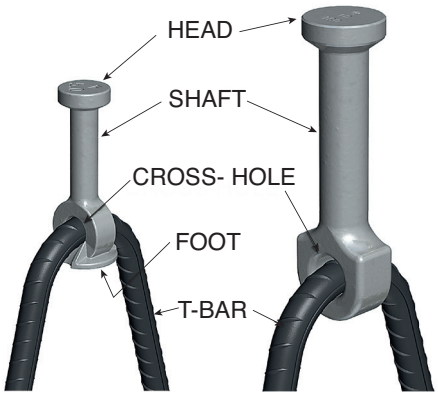


Figure 2: SwiftLift™ Combination & Eye Anchor features.

Figure 3: SwiftLift™ Combination & Eye Anchor Markings

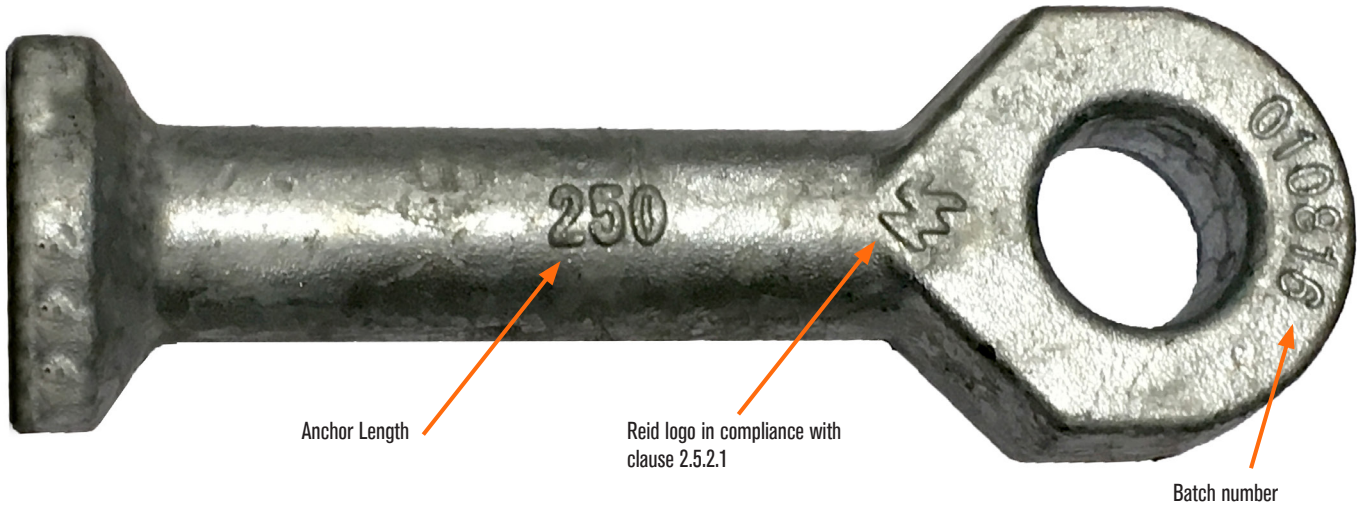
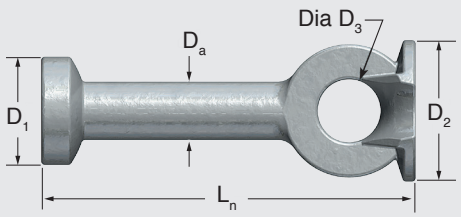
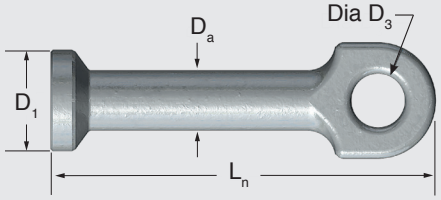


Table 2: SwiftLift™ Combination and Eye Anchor dimensions

Load Group (t)	Shaft Diameter D_a (mm)	Head Diameter D_1 (mm)	Foot Diameter D_2 (mm)	Cross-hole Diameter D_3 (mm)	Length L_n (mm)	Recess Form Max Radius (mm)	Part No
1.3	10	19	24	12	50	30	1REA050
1.3	10	19	24	12	65	30	1REA065
2.5	14	26	31	15	90	37	2REA090
5	20	36	41	20	90	47	5REA090
5	20	36	41	20	120	47	5REA120
10	28	47	-	25	180	59	10EA180
20	39	70	-	37	250	80	20EA250
32	50	88	-	47	300	105	32EA300



Combination Anchor



Eye Anchor

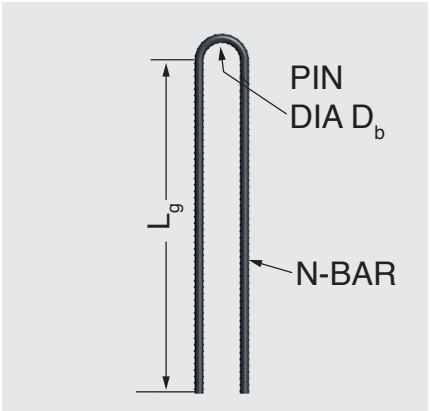
Table 3: AS 3850.1:2015 Tensile Performance Data (WLL), tonnes

WLL (t)	T-bar Size	Bend Internal Diameter D_b (mm)	Concrete Strength f_{cm} (MPa)						
			10	15	20	25	30	35	40
1.3	N10	40	500	400	320	300	300	300	300
2.5	N12	48	550	450	390	350	350	350	350
5	N16	64	750	600	540	480	460	460	460
10	N20	80	1000	800	700	630	580	580	580
20	N28	112	-	1200	1050	950	850	800	800
32	N36	154	-	1700	1500	1300	1200	1100	1050

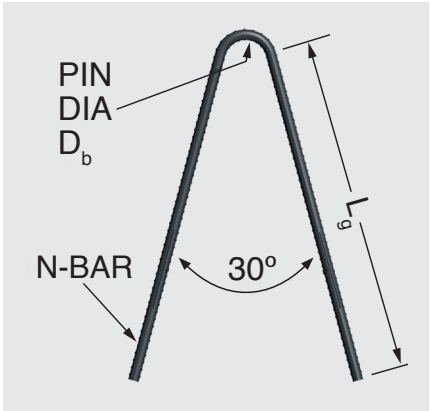
Tension bars may be shaped as either an inverted U, or as an inverted V. If other codes or standards are applicable, ensure that the development length is adjusted for compliance, if necessary.

For load group 1.3t, an R10 round bar shaped as an inverted V with hook ends may be substituted for the N10 bar.

Figure 4: Tension Bar details



Inverted U



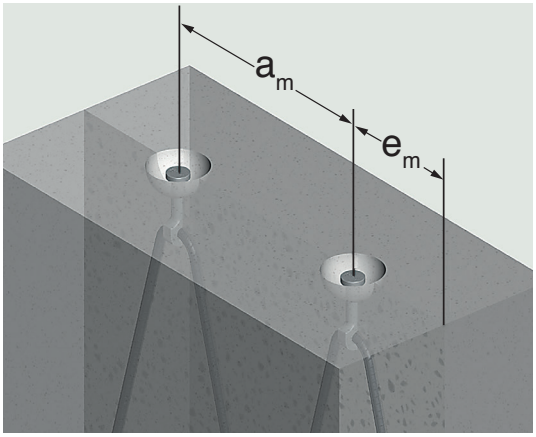
Inverted V

Table 4: Minimum edge and spacing distances required to achieve WLL

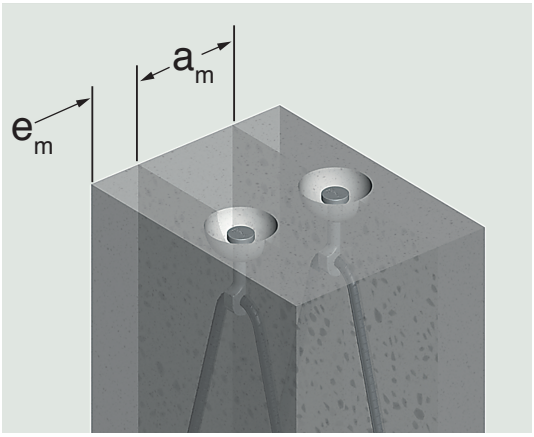
Load Group (t)	Parallel to T-bar Plane		Transverse to T-bar Plane	
	Min Spacing a_m (mm)	Min Edge Distance e_m (mm)	Min Spacing a_m (mm)	Min Edge Distance e_m (mm)
1.3	200	100	100	50
2.5	250	120	120	60
5	320	160	150	75
10	400	200	170	85
20	640	320	320	160
32	800	400	400	200

Figure 5: Minimum edge and spacing diagram

Spacing and edge distance minima, depend upon the direction of the minima relative to the orientation of the T-bar.
If the two legs of the T-bar define the T-bar plane, the direction of the minima can be either parallel to or transverse to the plane.



Minima Parallel to T-Bar Plane



Minima Transverse to T-Bar Plane

To reflect the progress of the industry and the new innovative uses of precast and tilt-up construction, Australian Standard AS 3850 was updated in 2015. This update included a change in title to AS 3850:2015 Prefabricated Concrete Elements, a widened scope to include all prefabricated elements in Building Construction and splitting of the document into two parts:

- Part 1, called 'General requirements' details the new performance and testing requirements for suppliers of componentry into the industry. These new requirements are significantly different to AS 3850:2003 and should enable the industry to have greater confidence in the products that they are specifying and using;
- Part 2, called 'Building construction', aligns with the 2008 National Code of Practice for Precast, Tilt-Up and Concrete Elements in Building Construction and focuses on the interrelation of the various stages of manufacture, construction, transport and erection. It is specifically for the construction design and documentation of prefabricated concrete elements in building construction and provides guidance for the Erection Designer and highlights the importance of the Erection Design and Documentation.

The new AS 3850:2015 is central for the safe, efficient and cost-effective manufacture, construction, transport and erection of prefabricated concrete elements.

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All Reid™ branded products and all products manufactured at our Melbourne manufacturing facility are designed, manufactured, tested and supplied in compliance with our Quality Management System which has been independently audited and certified by SAI Global to ISO 9001:2015. ramsetreid™ undertake strict quality control processes to ensure performance specifications and metallurgical properties are maintained.

** ramsetreid™ are currently in discussions with Australian Standards and the BD-066 committee regarding the wording of Clause A5.3 and the associated cost implications to the Precast industry. ramsetreid™ manage production validation in compliance with our ISO 9001:2015 quality management system. It is expected that Clause A5.3 will be reviewed by the BD-066 committee.*

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