

# Ramset™

## Lifting Anchor



Consistent with the Reid™ commitment to local testing, Ramset™ Face Lift Anchors have been extensively tested in Australian concrete. Analysis of the subsequent test data in accordance with AS3850.1:2015 Appendix A results in Ramset Face Lift Anchors having Working Load Limit capacities that are far higher and more accurate than those simply calculated using the CCD method applicable for footed anchors.



Figure 1: Ramset Face Lift Anchor

Table 1: Compliance details

Clause number	Requirement	Compliant
2.2	The Working Load Limit has been determined by testing 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 & exhibiting not less than 20% elongation.	✓
	Lifting insert shall not be made from cast metals.	✓
	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 to ensure compatibility with other system components.	✓ Refer figure 3 & 4
	$R_y$ (used to determine the WLL) shall be determined by testing the anchor and component reinforcement as a system in concrete.	✓
A2	Concrete for testing complies with AS 1379, tested per AS 1012.	✓
A3	Testing and recording of results.	✓
A4	Statistical evaluation of test results, using formula A4, $X_k = x(1 - k_s COV)$ .	✓
A5	Production Validation through testing to confirm compliance of critical specification requirements (dimensions, material properties and load bearing capacity where appropriate).	✓ * See note on p4
A6	Tension testing of the manufactured lifting insert.	✓
A7	Characteristic capacity determined from a comprehensive test program including individual and combined effects per table A3.	✓



Table 2: AS 3850.1:2015 Performance Data (WLL)

Panel Thickness (mm)	Concrete Strength $f_{cm}$ (MPa)				
	15MPa	20MPa	25MPa	32MPa	40MPa
125	2.44	2.56	2.67	3.50	4.46
150	4.13	4.57	5.00	5.00	5.00
175	4.25	4.62	5.00	5.00	5.00
200	4.25	4.62	5.00	5.00	5.00

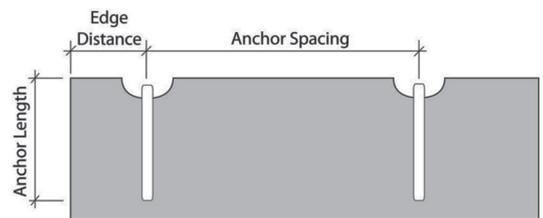


Table 3: Minimum edge and spacing distances required to achieve performances in Table 2

Limiting Dimension	Concrete Strength $f_{cm}$ (MPa)				
	15MPa	20MPa	25MPa	32MPa	40MPa
Edge Distance (mm)	400	370	340	310	290
Spacing (mm)	1200	1090	1010	930	870

Table 4:

Load Group (t)	Panel Thickness (mm)	Head Identification	Part Number
5	125	5TR107	FL050125B
5	150	5TR132	FL050150B
5	175	5TR157	FL050175B
5	200	5TR157	FL050200B

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.

# Ramset™ Face Lift Anchor

AS 3850.1:2015 COMPLIANT\*



The Ramset™ Face Lift Anchors have been designed in Australia to perform under Australian conditions, in Australian concrete, reinforced with Australian reinforcing bar and mesh.

Figure 3: FL050 Face Lift Anchor head markings

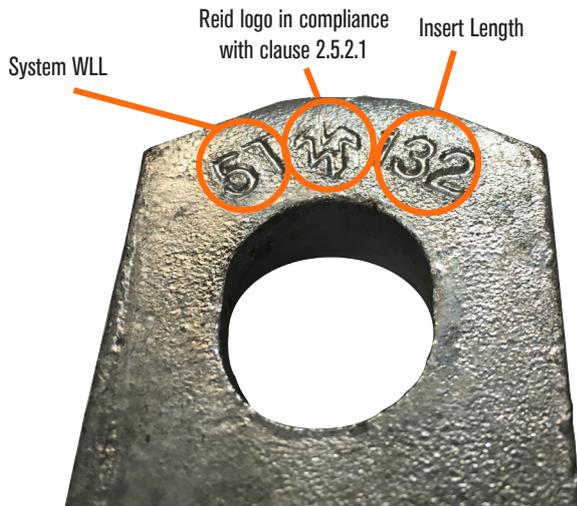


Figure 4: Compatible 3DX85LC Clutch and markings for FL050 range.

Reid™ symbol and name per clause 2.6



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 later in 2016 by the BD-066 committee.

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In the interests of product improvement, ramsetreid™ reserves the right to alter product specifications as required. Information included in this compliance document is correct at time of printing. It is the responsibility of the user to ensure product selected is appropriate for its intended use. For further technical information go to [www.ramsetreid.com](http://www.ramsetreid.com) or contact ramsetreid™ on the numbers indicated. ITW Australia Pty. Ltd. ABN 63 004 235 063 trading as ramsetreid™ © Copyright 2016™ Trademarks of Cetram Pty. Ltd. used under license by ramsetreid™

