

## **Amended Report**

File Ref: INZ 58565

Page 1 of 5

This replaces previous Report no.: INZ58565-08 dated 19/06/17.

	TEST REPORT No.: INZ58565-08A
Client:	Fastmount Limited
Order No.:	TBD
Sample Description:	Low Profile Range
Identification:	As listed below
Material Specification:	Acetal copolymer
Tested in accordance with:	Client instruction

**Test:** SGS NZ was engaged by the client to carry out a repetitive pull-out load test (Fig.1) and a shear test (Fig. 2) on the Fastmount Low Profile Range plastic mounting systems in various configurations.

## Method: Repetitive pull-out test

The plastic clip set was subjected to cyclic pull-out loading at a rate of 100mm/min with a frequency of approximately 1 cycle per 10s. The initial pull-out force was measured and recorded and then again after 500 cycles.

## Shear test

Docultor

A shear force was applied to the assembled plastic clip set ensuring no separation between the male and female clips through their axis while under load.

*Test Conditions* - 
$$23 \pm 2^{\circ}$$
C, r.h 50  $\pm 10\%$ 

Female / Male	Pull-out Force (Kgf)		Shear Force (Kgf)	Shear Failure	
Clip	Initial	After 500 Cycles		Location	
LP-F8 / LP-M8A	7.0	7.4	104.7	Male clip pulled ou of mandrel	
LP-F8 / LP-SM8A	7.4	7.8	56.9	Adhesive	
LP-AF8 / LP-M8A	8.7	12.1	136.9	Male clip	
LP-AF8 / LP-SM8A	7.4	8.7	105.3	Adhesive	
LP-DF8 / LP-M8A	8.3	7.8	88.0	Male clip pulled ou of mandrel	
LP-DF8 / LP-SM8A	8.4	8.9	62.6	Adhesive	

Acceptance Criteria:	Report findings	SHEW LEALAND			
Tested by:	G. Schoutens		Date:	07-Jun-17	
Checked by:	N. Woods	CAR MEW ZEALAND	Date:	29-Sep-17	

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms\_and\_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms\_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 14 days only.



File Ref: INZ 58565 Page 2 of 5

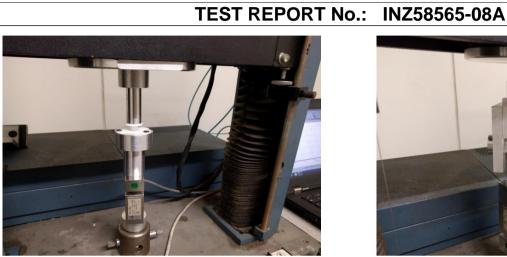


Figure 1 - Pull-out cycling

## Appendix A - Low Profile Range

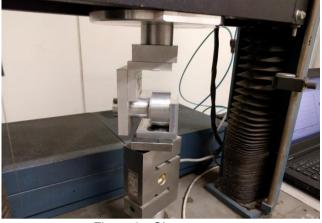


Figure 2 - Shear test



LP-SM8A



LP-F8



LP-M8A



LP-AF8



TEST REPORT No.: INZ58565-08A Appendix B - Graphical representation of repetitive pull-out test data LP-F8 / LP-M8A Load 80-60 40 20 0 Load [N] -20 -40 -60 -80 -100 -120 00 3000 Time [s] 3500 Ó 500 1000 1500 2000 2500 4000 4500 5000 5500 LP-F8 / LP-SM8A Load 80 60 40 20 0-Load [N] -20--40 -60 -80 -100 -120-3000 ó 500 1000 1500 2000 2500 3500 4000 4500 5000 5500 Time [s]

File Ref: INZ 58565 Page 3 of 5

File Ref: INZ 58565 Page 4 of 5

