



Australian Compliance Laboratory

Specialising in performance testing of dangerous goods packaging

Test Report

Report ID ACL1224 issued 19 February 2021

Testing a 3.6 metre triple rail fence assembly to the requirements of VicRoads RDN
06-14, 4.2.2 Path User Protection (AS 1657 2018, Appendix B).

Client details: Repeat Plastics Australia Pty. Ltd. trading as Replas
27 Titan Drive, Carrum Downs, VIC 3201

Packaging tested: 3.6 metre triple rail fence assembly manufactured from recycled plastic. The assembly is made from 3 posts and 3 rails.

Job notes

- Sample assembly.** The sample was assembled in concrete footings as per Appendix C. Refer to Appendix A for images. The bugle screws used to fix the rails to the middle post the 14G x 75mm. The holes were predrilled with an 8mm countersunk hole in the post and a 4.5mm hole in the rail.

Testing summary:

Test method: VicRoads RDN 06-14, 4.2.2 Path User Protection. AS 1657 2018, Appendix B4.6 and B4.7. 600N horizontal and vertical point loading as nominated by the client.

Sample selection: The sample was selected by the client.

Testing location: The tests were conducted at the laboratory plant.

Outcomes:

Test name	Test method	Result
Force-deflection test	AS 1657 2018, Appendix B4.6 and B4.7	Pass
Maximum loading test	Client instruction	Horizontal: Deflected 100mm @ 114kg Vertical: Deflected 57.4mm @ 175kg

FORCE-DEFLECTION TEST

Test method: VicRoads RDN 06-14, 4.2.2 Path User Protection. AS 1657 2018, Appendix B4.6 and B4.7. 600N horizontal and vertical point loading as nominated by the client.

Result criteria: AS 1657:2018 Appendix B5. No part of the system shall deflect elastically by more than 100mm under load and shall return within 20mm of its original position.

The fence was assembled as per the instructions in Appendix C. The fence was point-loaded in the centre of its top rail. The rail was preloaded to 50% of the test load for 1 minute and the deflection was set to zero. The force was then gradually increased to the test load and held for 1 minute and the deflection measured. The force was then removed for 2 minutes and then the permanent deflection was measured.

Test conditions	Sample ID	Orientation	Results		
			Deflection at load	Permanent deflection	Assessment
<i>Test date:</i> 19 February 2021	ACL1224-01 (LHS)	Horizontal	45.8mm	2.8mm	Pass
<i>Test load:</i> 600N (61.2kg)	ACL1224-01 (RHS)	Vertical (downward)	17.1mm	0.0mm	Pass
<i>Load rate:</i> 3±1kg/second					
<i>Test temperature:</i> Ambient (27.7°C)					
Notes:					
1. No observations.					
Instrumentation ID: LODC.03, RULE.04					

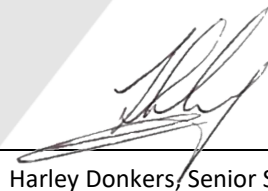
MAXIMUM LOADING TEST

Test method: Client instruction.

After the Force-deflection test, the rails were loaded until they reached 100mm deflection or until the available equipment's limits were reached.

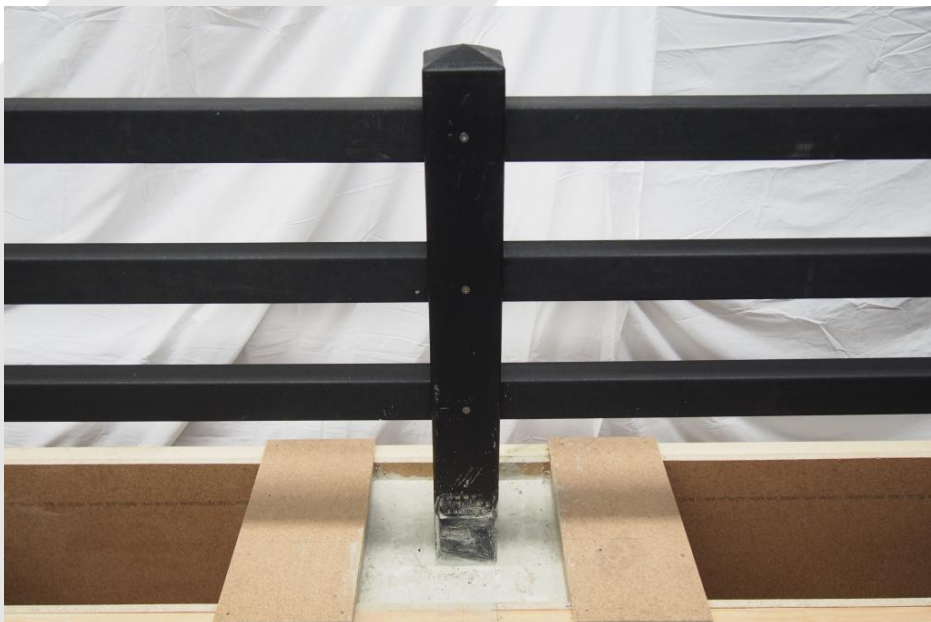
Test conditions	Sample ID	Orientation	Result
<i>Test date:</i> 19 February 2021	ACL1224-01 (LHS)	Horizontal	Deflected 100mm @ 114kg
<i>Load rate:</i> 3±1kg/second	ACL1224-01 (RHS)	Vertical (downward)	Deflected 57.4mm @ 175kg
<i>Test temperature:</i> Ambient (27.9°C)			
Notes:			
1. No observations.			
Instrumentation ID: LODC.03, RULE.04			

Authorising signatory:



Harley Donkers, Senior Signatory Officer

Appendix A – Product photographs

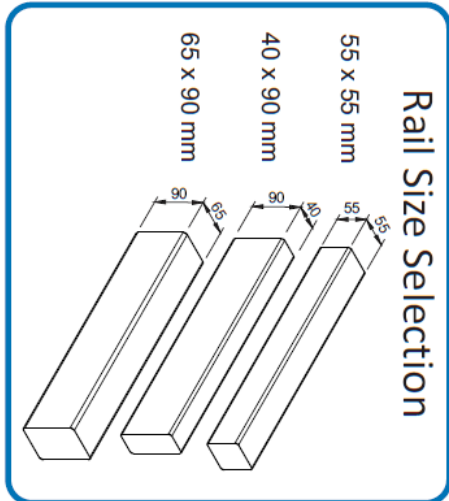
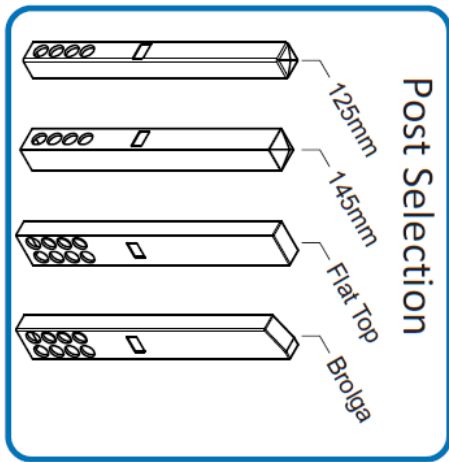
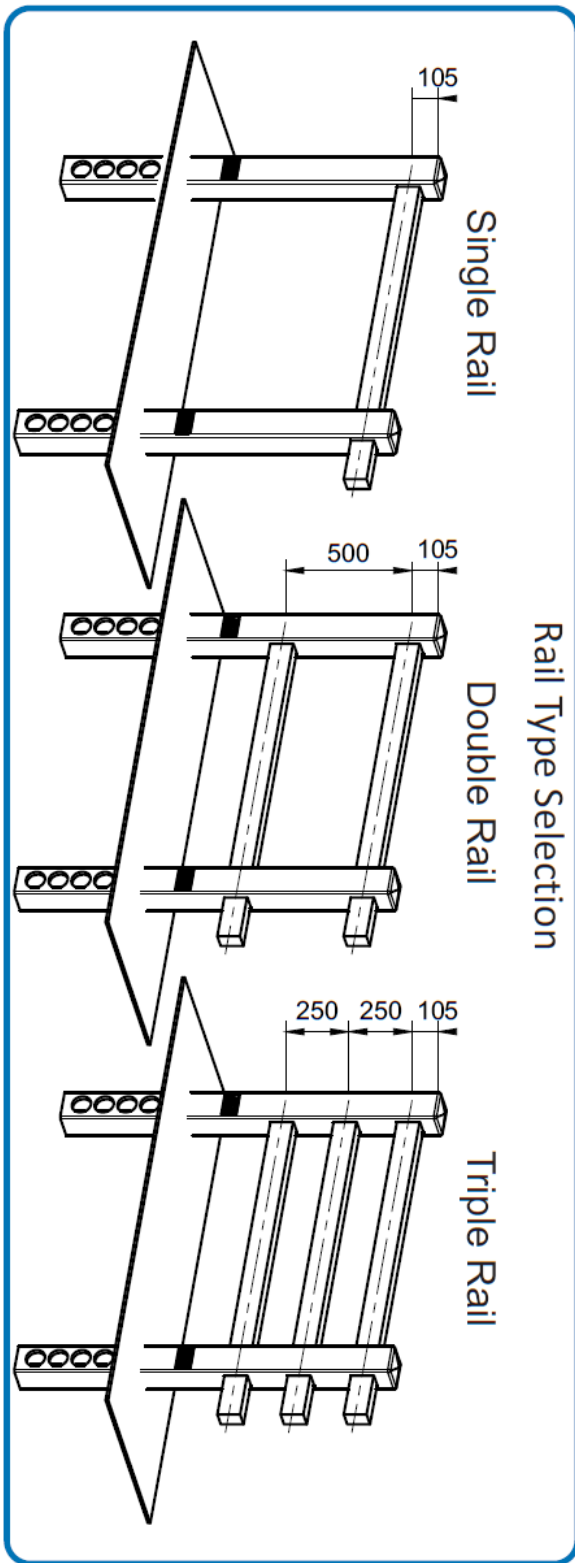


Appendix B – Replas product geometry



Post & Rail

www.replas.com.au
1800 REPLAS



Appendix C – Replas assembly specification

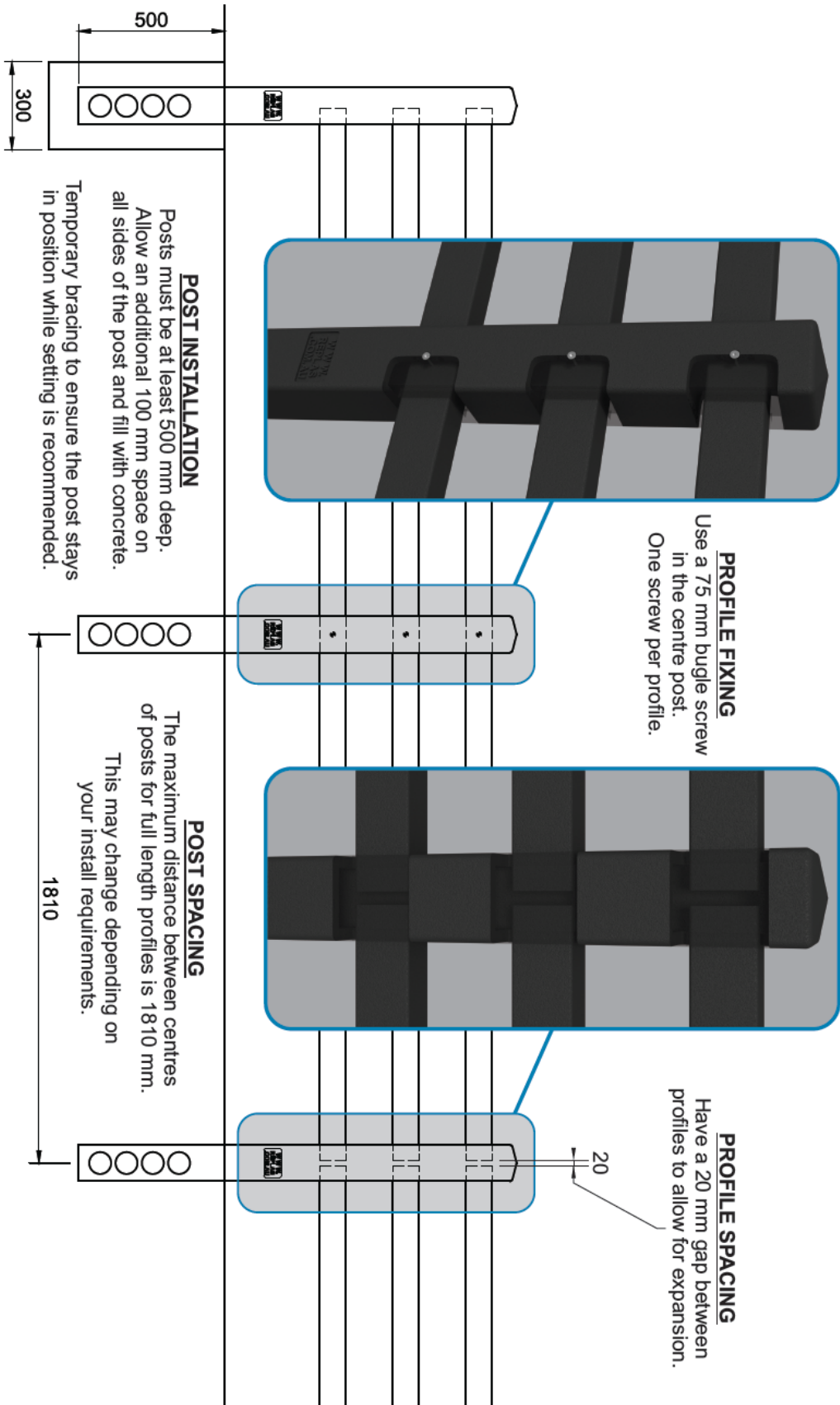


Post & Rail Installation

Recommended Installation

www.replas.com.au

1800 REPLAS



If you require further assistance, please contact your supplier. All dimensions are in millimetres (mm) unless specified.

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Report information

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The packagings tested in this report were prepared as if for transport. The results of the reported performance tests only relate to those packagings tested. Thus, the use of other packaging methods or components may render the testing in this report invalid.

The information and opinions in this report have been compiled by ACL and are believed to be accurate at the time of issue. However, this report may be changed with written notice.

* Indicates details that have been nominated by the client for which they are responsible for.

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ACL information

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Table of revisions

Report ID	Date issued	Details of the change
ACL1224	19/02/2021	Original issue.

End of report