

**NZ Metal Roofing Manufacturers Inc.**  
**Point Load test to AS4040**  
**Apdeck 700 using 0.48mm G550 steel and 0.42mm G550 steel**  
**Tested July 2011**

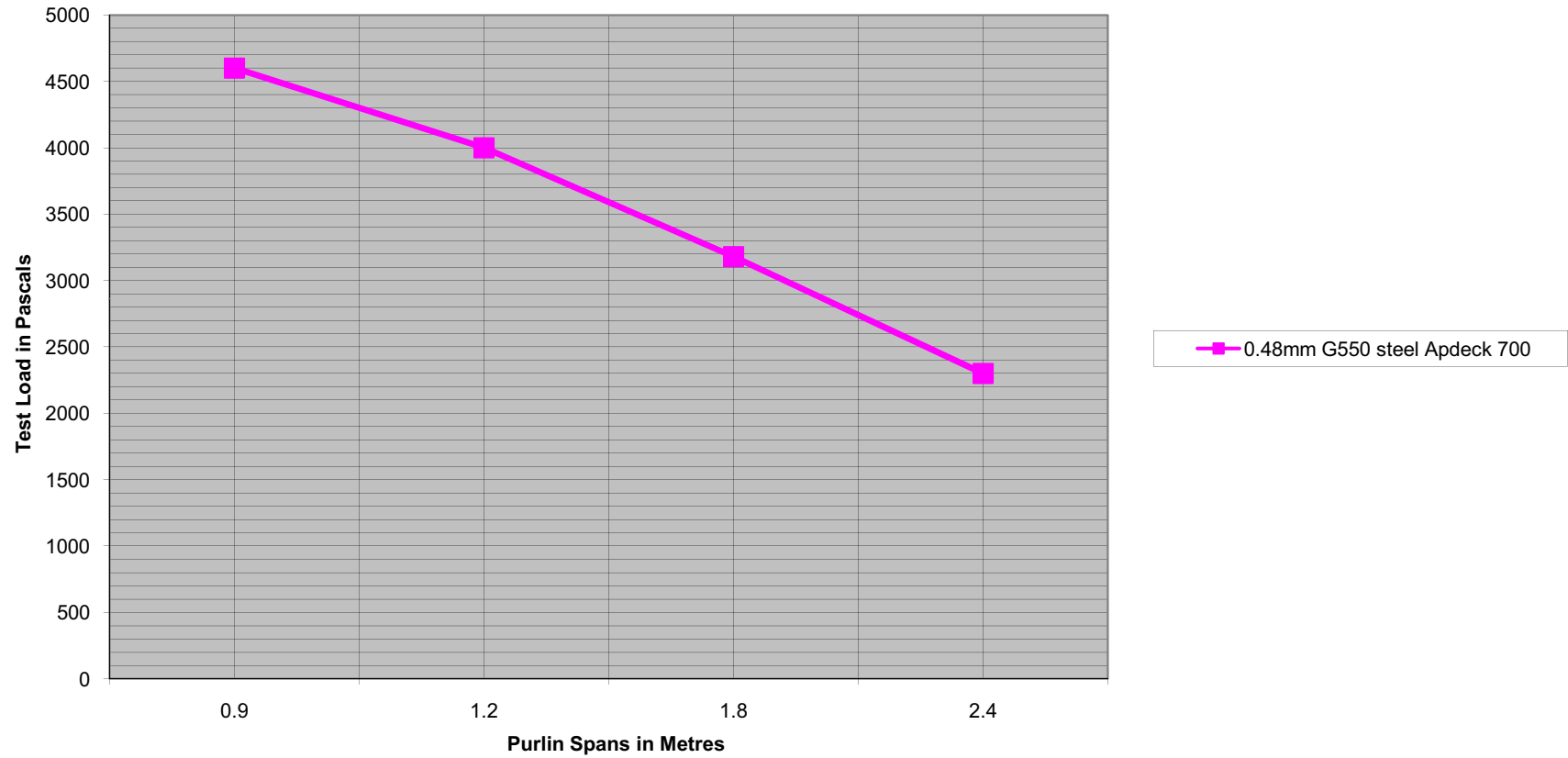
Point Load	SLS Serviceability			ULS Strength		Trafficability
	Gauge	Pan	Rib	Span mm	Pan	
0.48	Pass	Fail 1250n	2400	pass	pass	Semi
	Pass	Pass	2100	pass	pass	Full
0.42	pass	fail 950n	2400	pass	pass	Semi
	pass	fail 1100n	1800	pass	pass	Semi
		fail 1000n	1200			Semi
		pass	1000			Full
		pass	1100			Full

<p>Test to AS 4040</p> <p>Preload to 0.66Kn then release load.</p> <p>Load to 1.32 Kn and hold for 1 minute.</p> <p>Observe profile and note any permanent deformation</p> <p>If yes to above then fail. If no deformation continue test.</p> <p>Release load and measure residual deflection. (2-5 mins)</p> <p>If residual deflection is less than span/1000 then Pass</p>	<p>Apply load to 2.475Kn</p> <p>Observe deflection after 1 minute</p> <p>Profile is to hold the applied load. regardless of permanent deformation</p> <p>If held with no creep (2-5 minutes)</p> <p>Then record pass</p>
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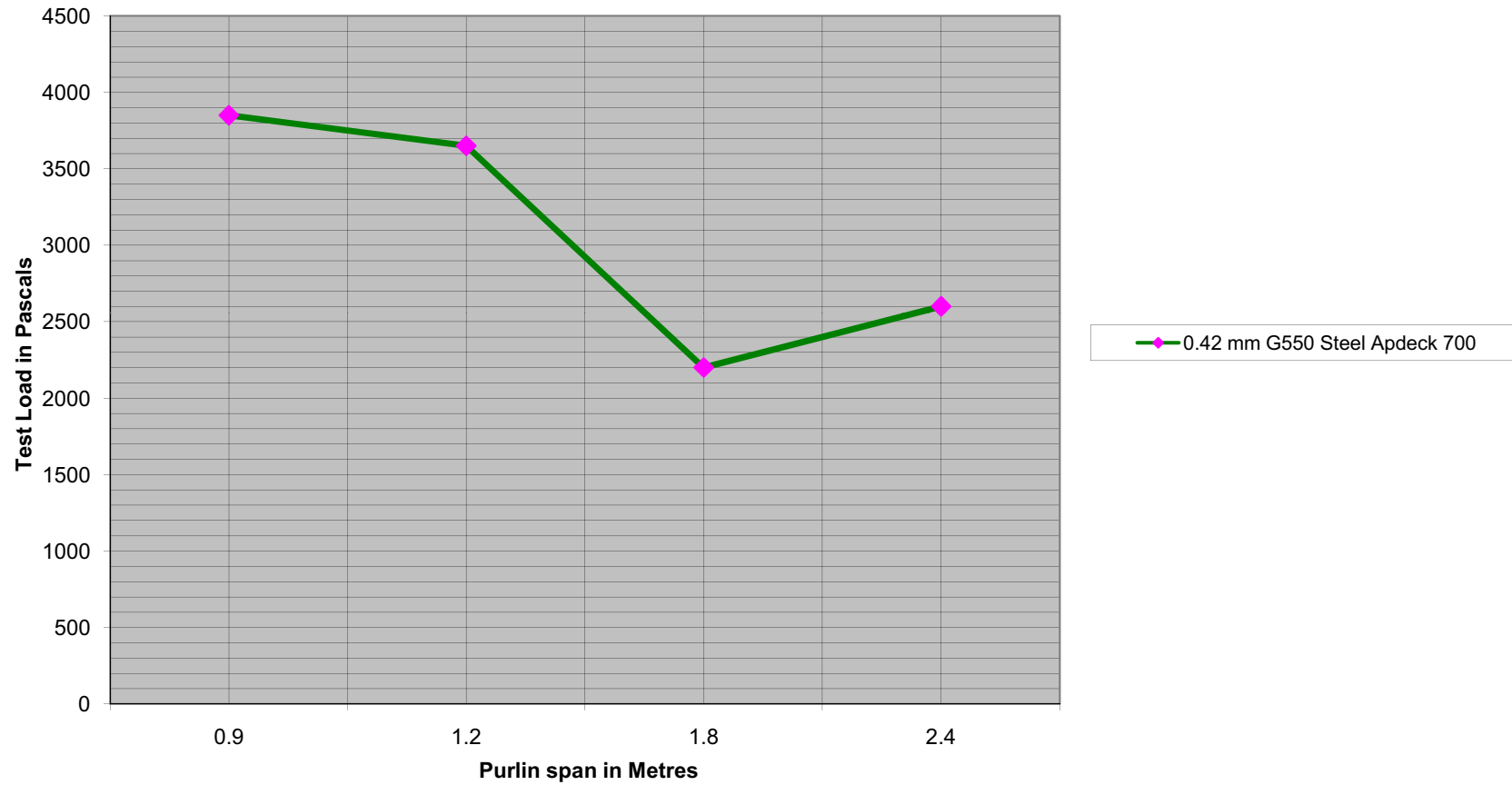
Fully trafficable roofs to be walked on anywhere on the profile

Semi trafficable roofs to be walked on anywhere in the Pan and within 300mm of Purlin on the ribs

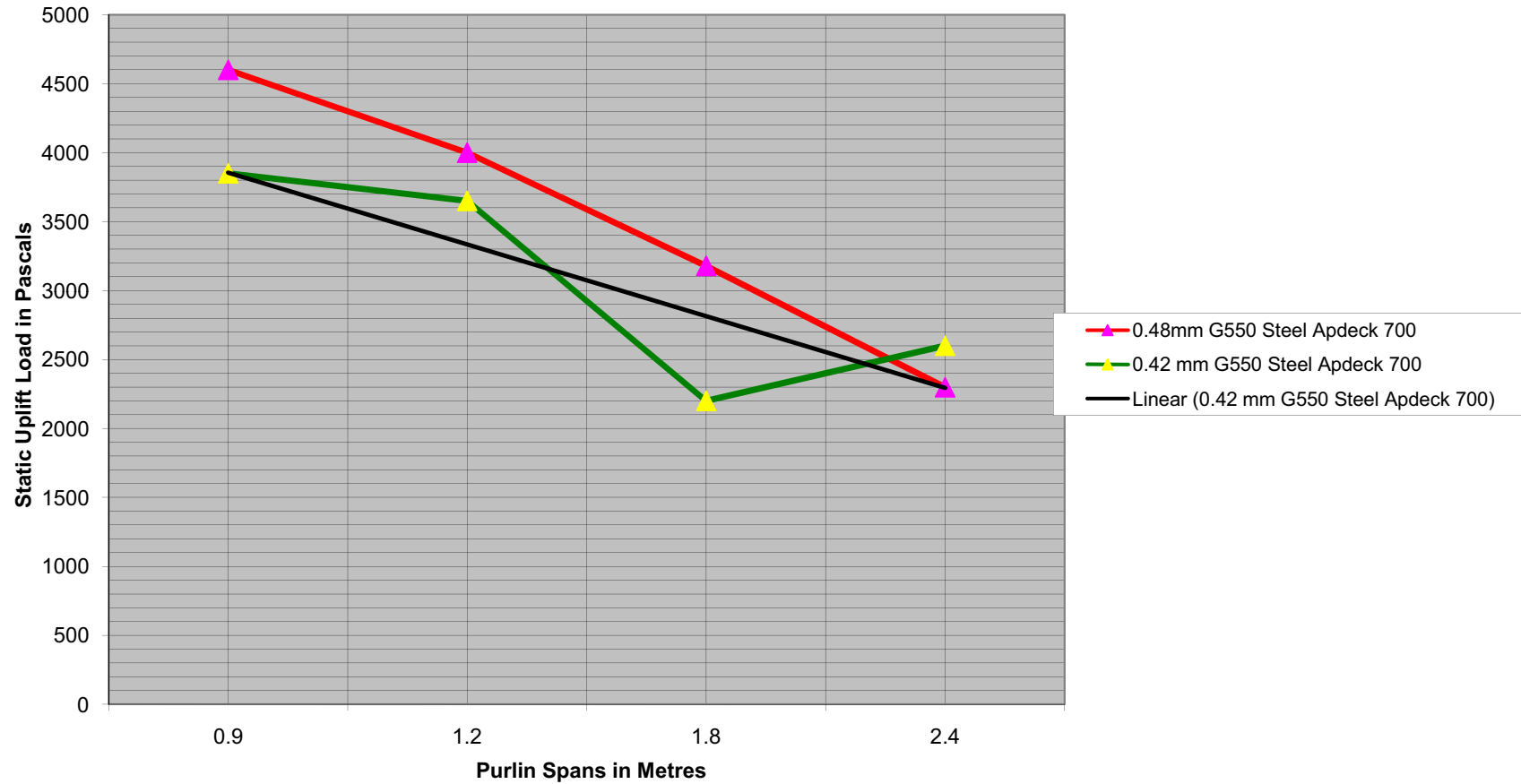
**NZ Metal Roofing Manufacturers Inc.**  
**Actual Static uplift test Results on Apdeck 700 profile with 0.48 mm G550 Steel substrate.**  
**Tested to AS4040 July 2011**    **(Not to be used as design load)**



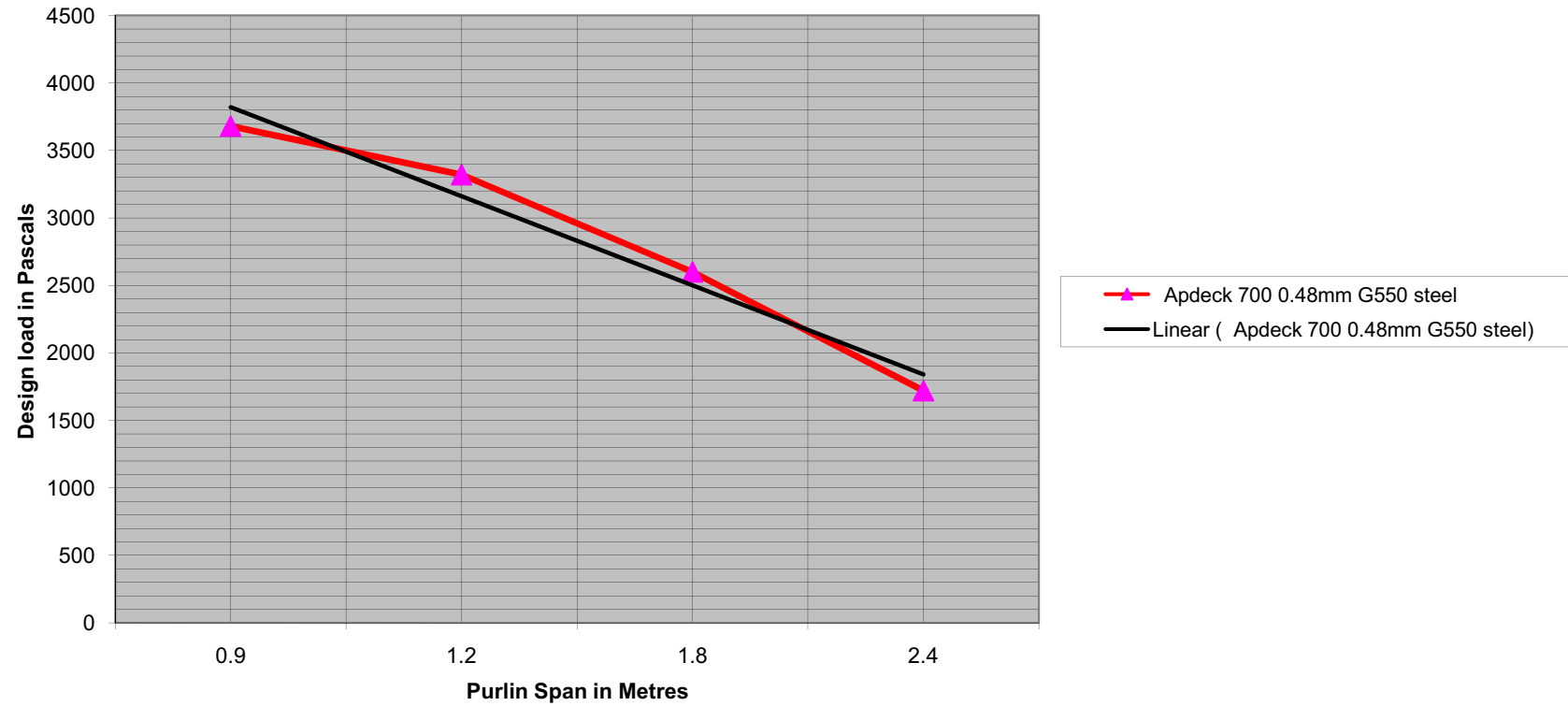
**NZ Metal Roofing Manufacturers Inc.**  
**Actual Static uplift test results on APdeck 700 profile with 0.42 mm G550 Steel substrate.**  
**Tested to AS4040 July 2011**    **(Not to be used as Design Load)**



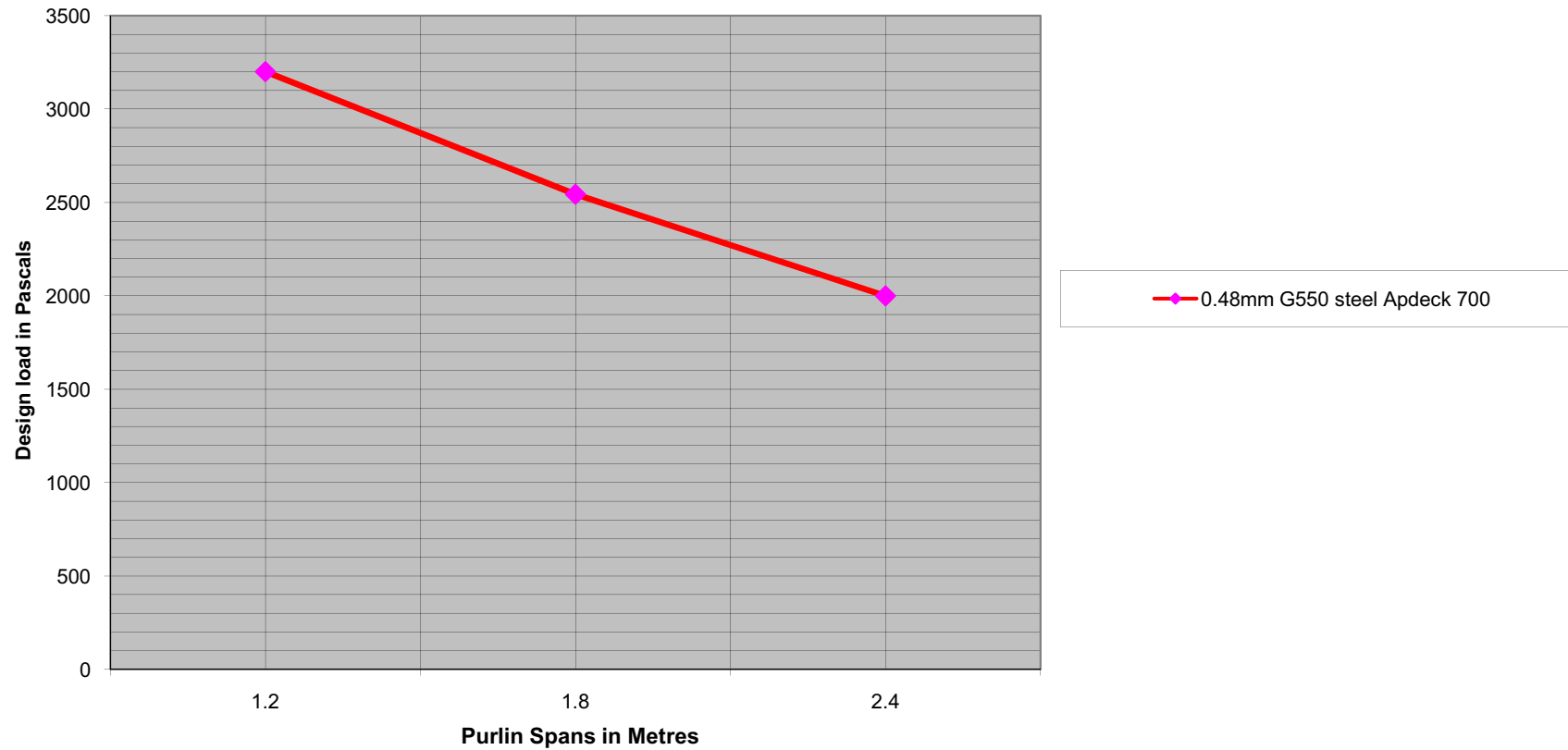
**NZMetal Roofing Manufacturers Inc.**  
**Actual Static uplift test results on Apdeck 700 profile using G550 steel substrate.**  
**Tested to AS4040 July 2011. (Not to be used as Design Load)**



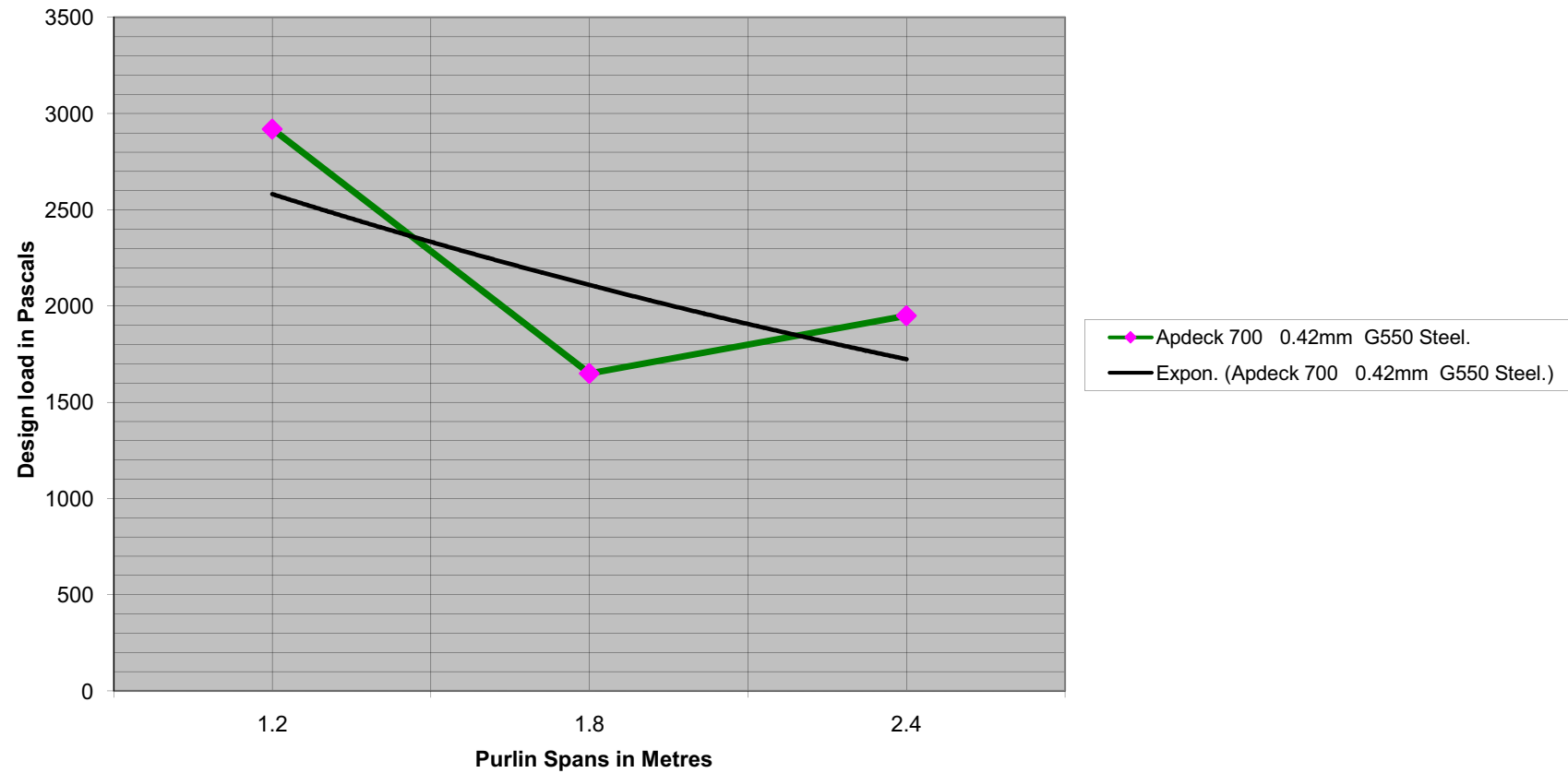
**NZ Metal Roofing Manufacturers Inc.**  
**Post cyclic tests to AS4040.**  
**Static blow off results for Apdeck 700 using 0.48mm G550 steel substrate factored by 0.8.**  
**Tested to AS4040 July 2011**



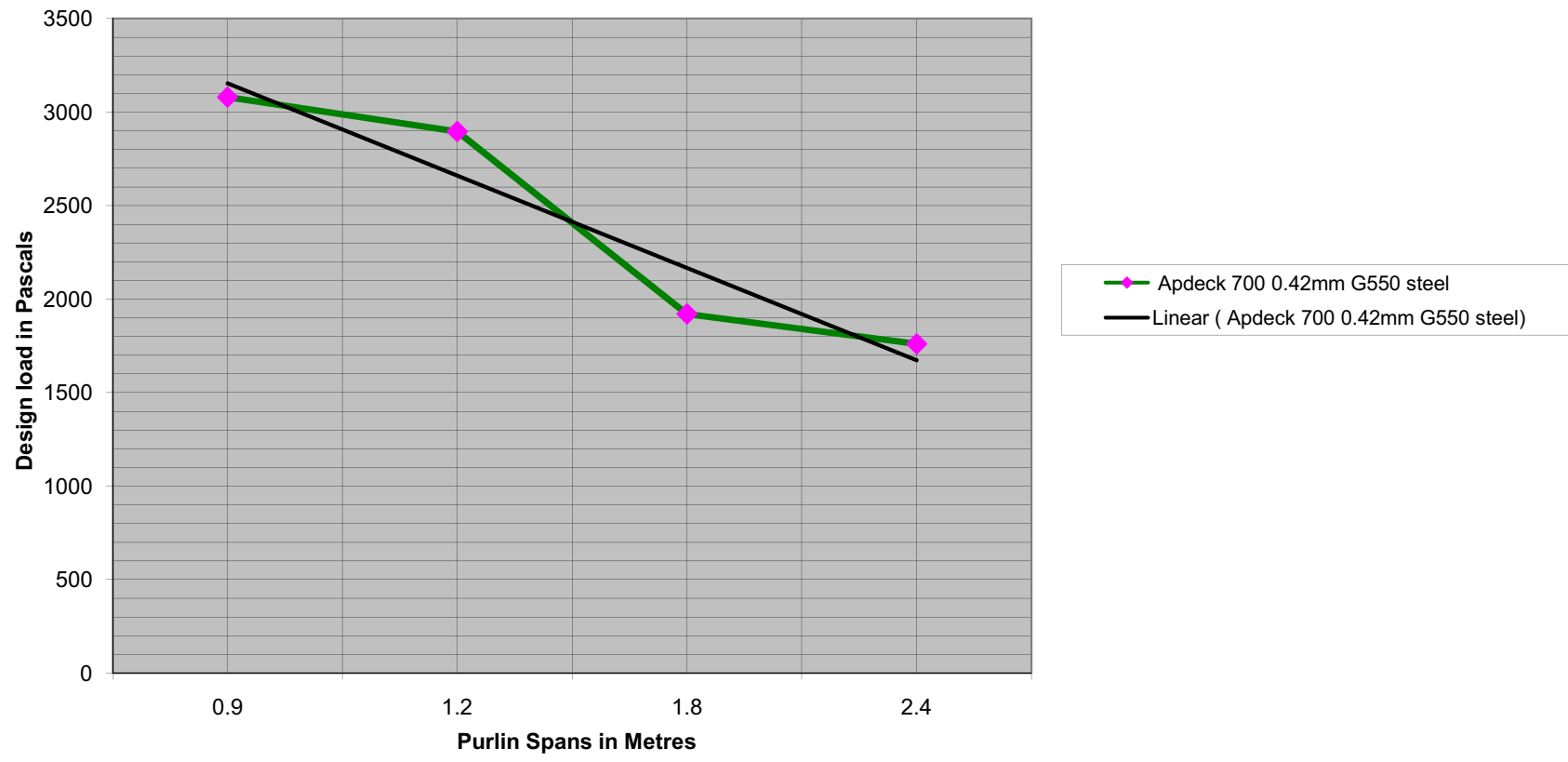
**NZ Metal Roofing Manufacturers Inc.**  
**Cyclic testing results of Apdeck 700 using 0.48mm G550 steel substrate .**  
**Cyclic tested to AS 4040 July 2011.**  
**Apdeck 700 DESIGN LOAD SPAN TABLE for 0.48mm G550 steel.**



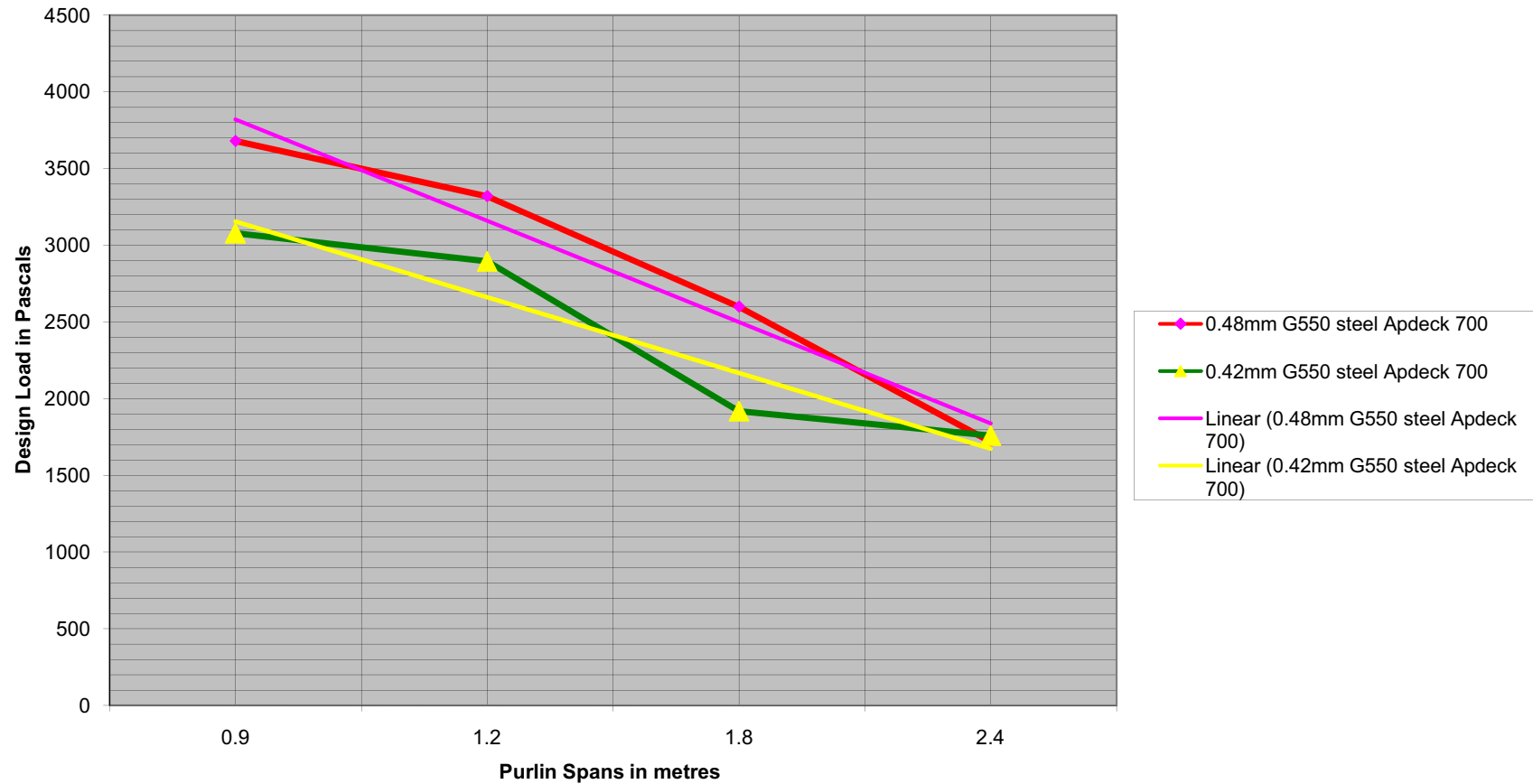
**NZ Metal Roofing Manufacturers Inc.**  
**Cyclic testing of Apdeck 700 using 0.42mm G550 steel substrate.**  
**Cyclic tested to AS 4040 July 2011**



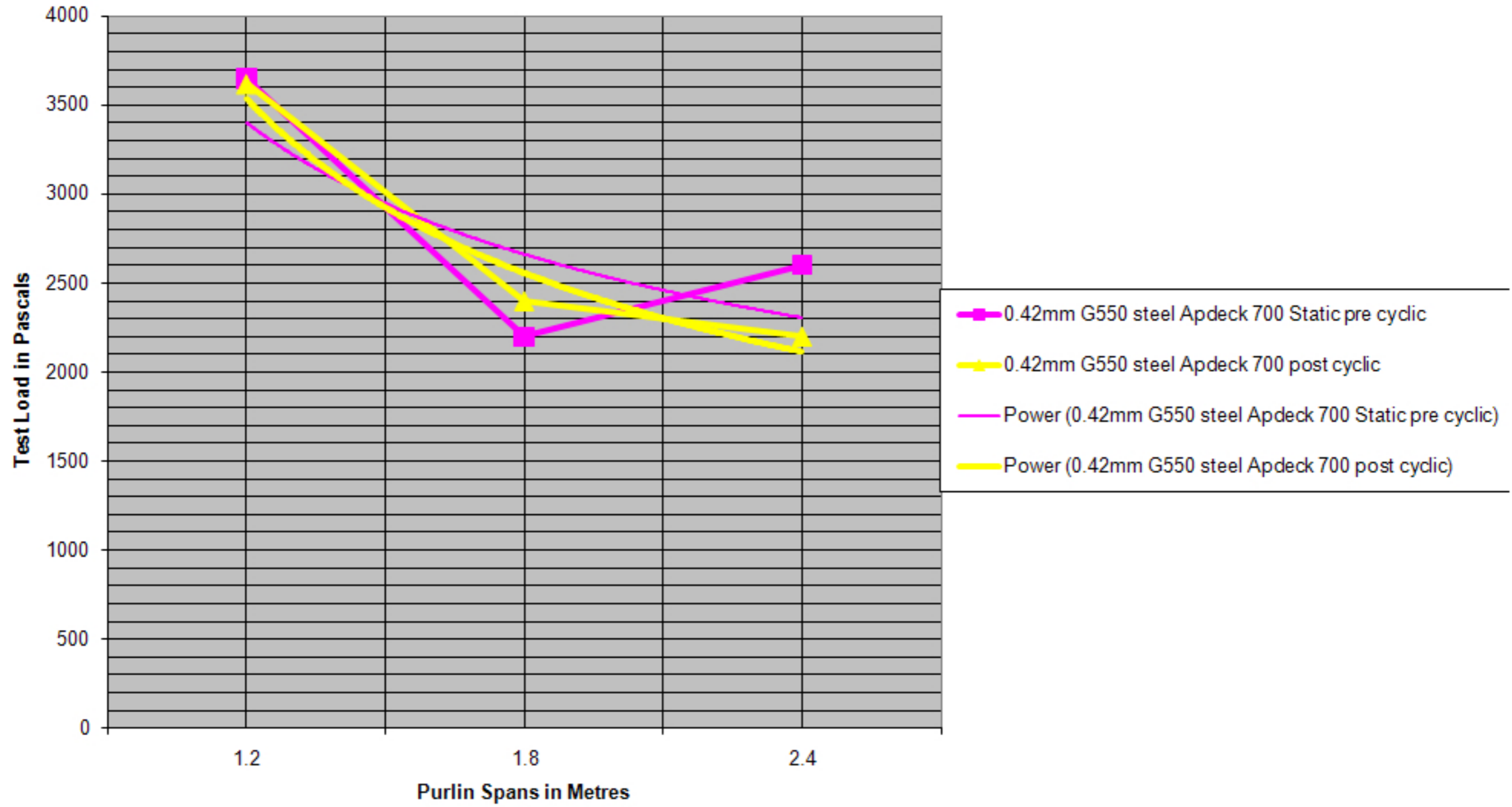
**NZ Metal Roofing Manufacturers Inc.**  
**Post cyclic tests to AS 4040.**  
**Static blow off results for Apdeck 700 using 0.42mm G550 steel substrate factored by 0.8**  
**Tested July 2011.**



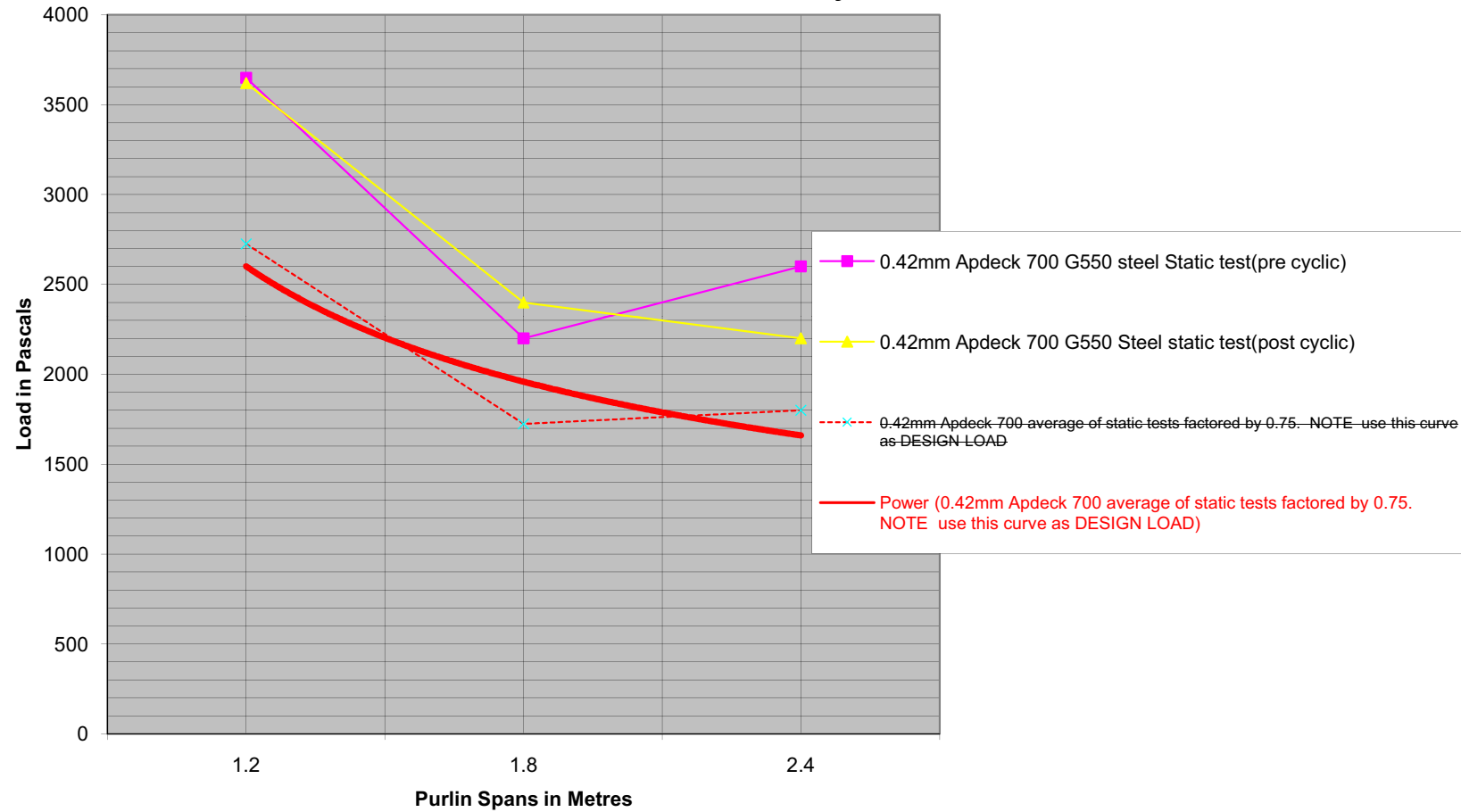
**NZ Metal Roofing Manufacturers Inc.**  
**Comparison of substrate thickness in post cyclic AS4040 test. Static test blow off factored by 0.8.**  
**Tested July 2011**



### NZ Metal Roofing Manufacturers Inc.



**NZ Metal Roofing manufacturers Inc.**  
**Static uplift test results for Apdeck 700 using 0.42mm G550 steel substrate.**  
**Tested to AS4040 July 2011**



MRM Testing		Clip Roof profile		Apex	Apdeck	Blow off				
Static Test	Gauge	Pascals	Clip 1	Pascals	Pascals	MM	Cyclic Target	20%	Pascals	
				Clip 1Mod	Clip New	Purlin span	Clip 1 13%			
1	0.48	2300	Clip 1	2200	1750	2400	2000	1840	2150	
				3100	3180	1800	2544	3250		
					0	1800				
					4000	1200	3200	4150		
					4600	900	3680	no cyclic		
2	0.42	2300	Clip 1	2600		2400	Fail 2150	2080	1950	2200
					2200	1800	1760	1650	2400	
				2500		1800				
					3650	1200	2920	2737	3620	
					3850	900	3080	2887	No Cyclic	

Point Load	SLS Serviceability			ULS Strength		Trafficability	
	Gauge	Pan	Rib	Span mm	Pan	Rib	
0.48	Pass	Fail 1250		2400	pass	pass	Semi
	Pass	Pass		2100	pass	pass	Full
0.42	pass	fail 0.950		2400	pass	pass	Semi
	pass	fail 1100		1800	pass	pass	Semi
		fail 1000		1200			Semi
		pass		1000			Full
		pass		1100			Full

Test to AS 4040  
Preload to 0.66Kn then release load.  
Load to 1.32 Kn and hold for 1 minute.  
Observe profile and note any permanent deformation  
If yes to above then fail. If no deformation continue test.  
Release load and measure residual deflection. (2-5 mins)  
If residual deflection is less than span/1000 then Pass

Apply load to 2.475Kn  
Observe deflection after 1 minute  
Profile is to hold the applied load.  
regardless of permanent deformation  
If held with no creep (2-5 minutes)  
Then record pass

Fully trafficable roofs to be walked on anywhere on the profile  
Semi trafficable roofs to be walked on anywhere in the Pan and within 300mm of Purlin on the ribs

Purlin Span	Test	Downgrade		0.8
		static Pa	Cyclic Pa	Blowoff Pa
0.48	2400	2300	2000	2150
	1800	3180	2544	3250
	1200	4000	3200	4150
	900	4600	3680	4600
0.42	2400	2600	1950	2200
	1800	2200	1650	2400
	1200	3650	2920	3620
	900	3850	3080	3850

Static tests			
		0.48	0.42
0.48	0.9	4600	3850
	1.2	4000	3650
	1.8	3180	2200
	2.4	2300	2600
0.42	0.9	3850	
	1.2	3650	
	1.8	2200	
	2.4	2600	

Cyclic tests			
		0.48	0.42
0.48	1.2	3200	2920
	1.8	2544	1650
	2.4	2000	1950
0.42	1.2	2920	
	1.8	1650	
	2.4	1950	

Static blow off tests					
			0.48	0.42	
0.48	0.9	4600	0.9	3680	3080
	1.2	4150	1.2	3320	2896
	1.8	3250	1.8	2600	1920
	2.4	2150	2.4	1720	1760
0.42		Raw test	Cyclic	80%	
	0.9	3850	0.9	3080	
	1.2	3620	2920	2896	
	1.8	2400	1650	1920	
	2.4	2200	1950	1760	

Purlin	Static Raw	Static/Cy	Ave *0.75	
0.42	0.9	3850	3850	2913
	1.2	3650	3620	2726
	1.8	2200	2400	1725
	2.4	2600	2200	1800