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

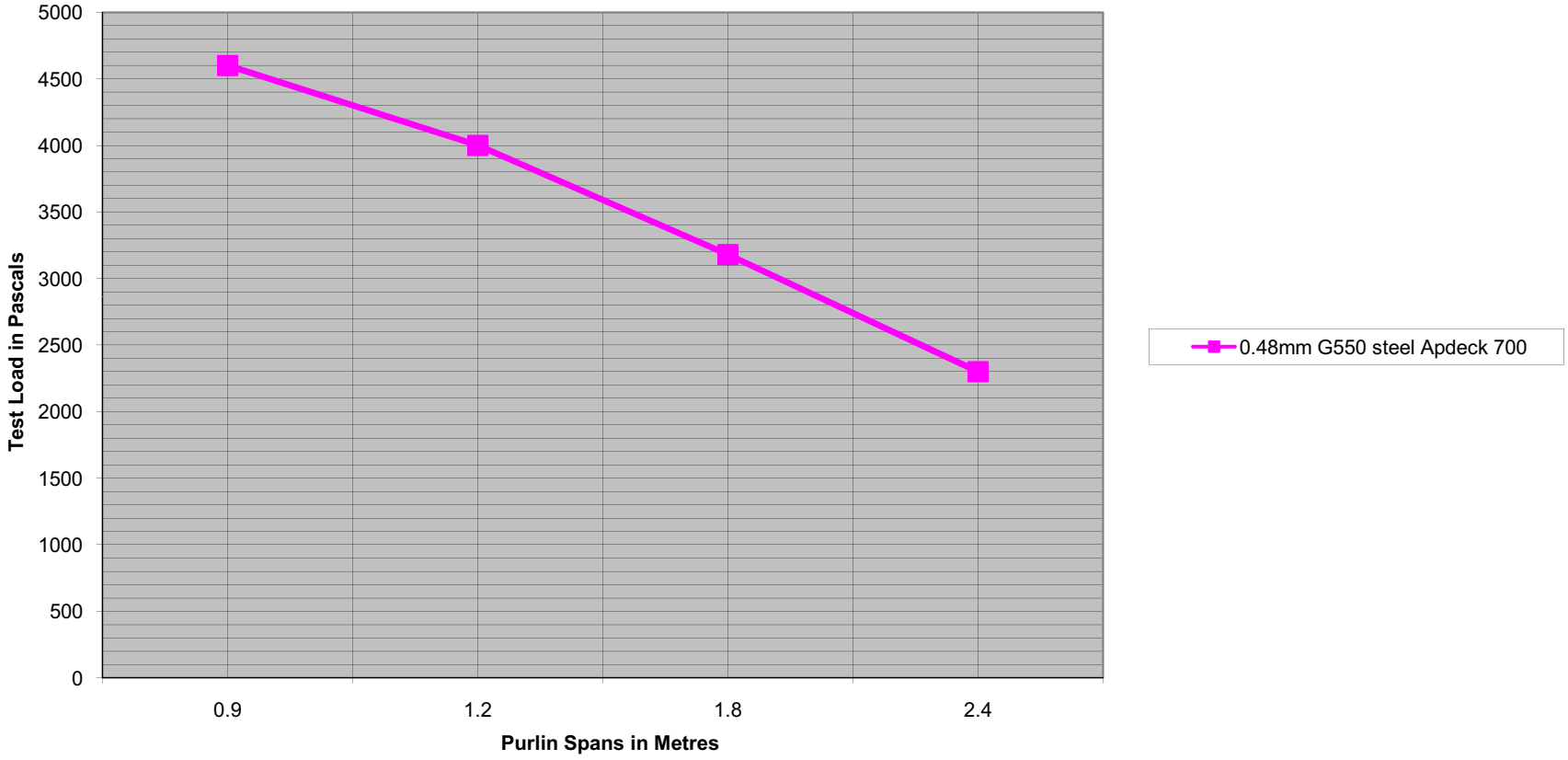
Point Load	SLS Serviceabilty			ULS Strength		Trafficability
Gauge	**Pan**	**Rib**	**Span mm**	**Pan**	**Rib**	
0.48	Pass	Fail 1250n	2400	pass	pass	Semi
	Pass	Pass	2100	pass	pass	Full
0.42	pass	fail 950n	2400	pass	pass	Semi
	pass	fail1100n	1800	pass	pass	Semi
		fail1000n	1200			Semi
		pass	1000			Full
		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

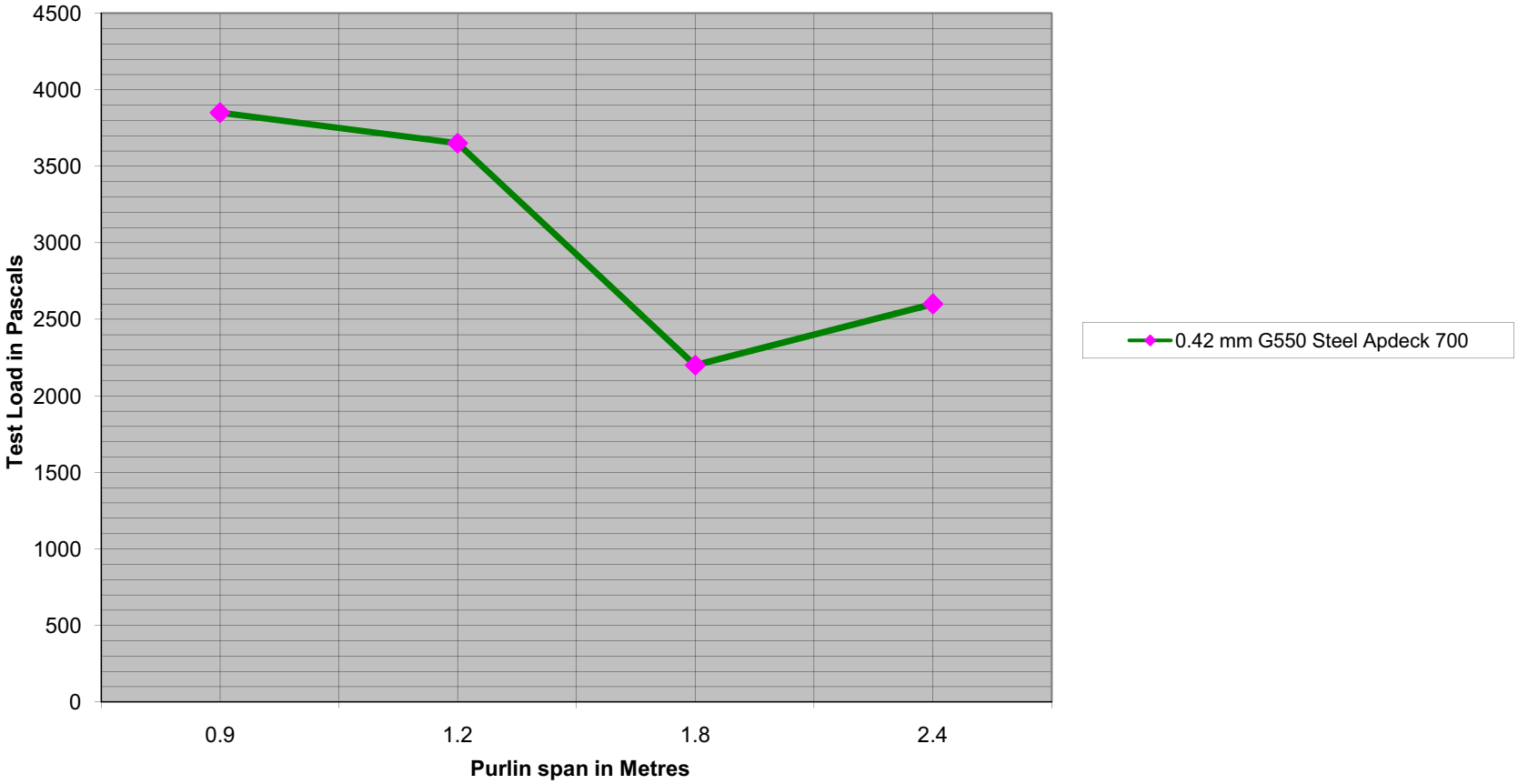
Apply load to 2.475Kn
Observe deflection after I minute
Profile is to hold the applied load.
regardless of permanent deformation
If held with no creep (2-5 minutes)
Then record pass

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

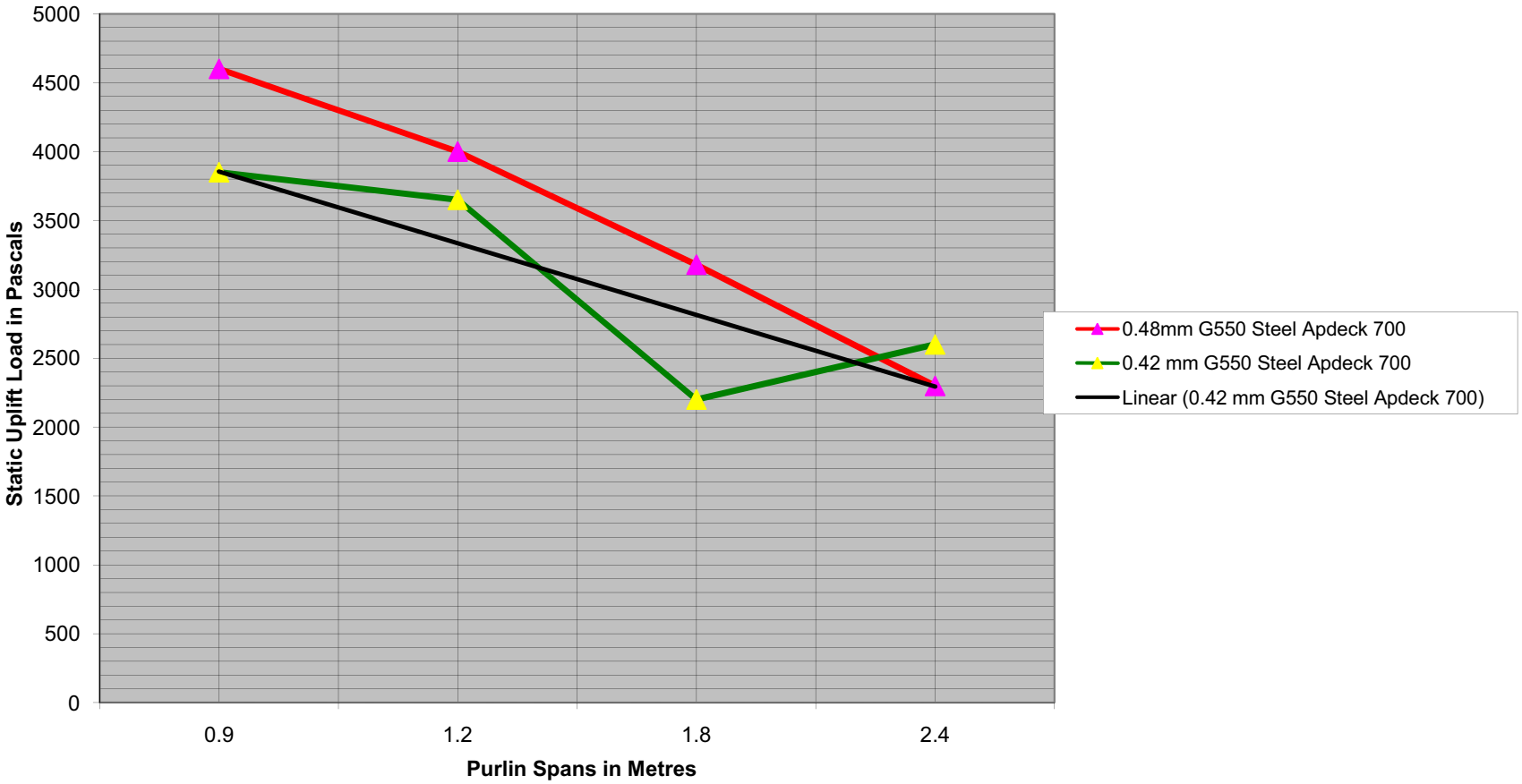
NZ Metal Roofing Manufacturers Inc.
Actual Static uplift test Results on Apdeck 700 profile with 0.48 mm G550 Steel substrate.
Tested to AS4040 July 2011 **(Not to be used as design load)**



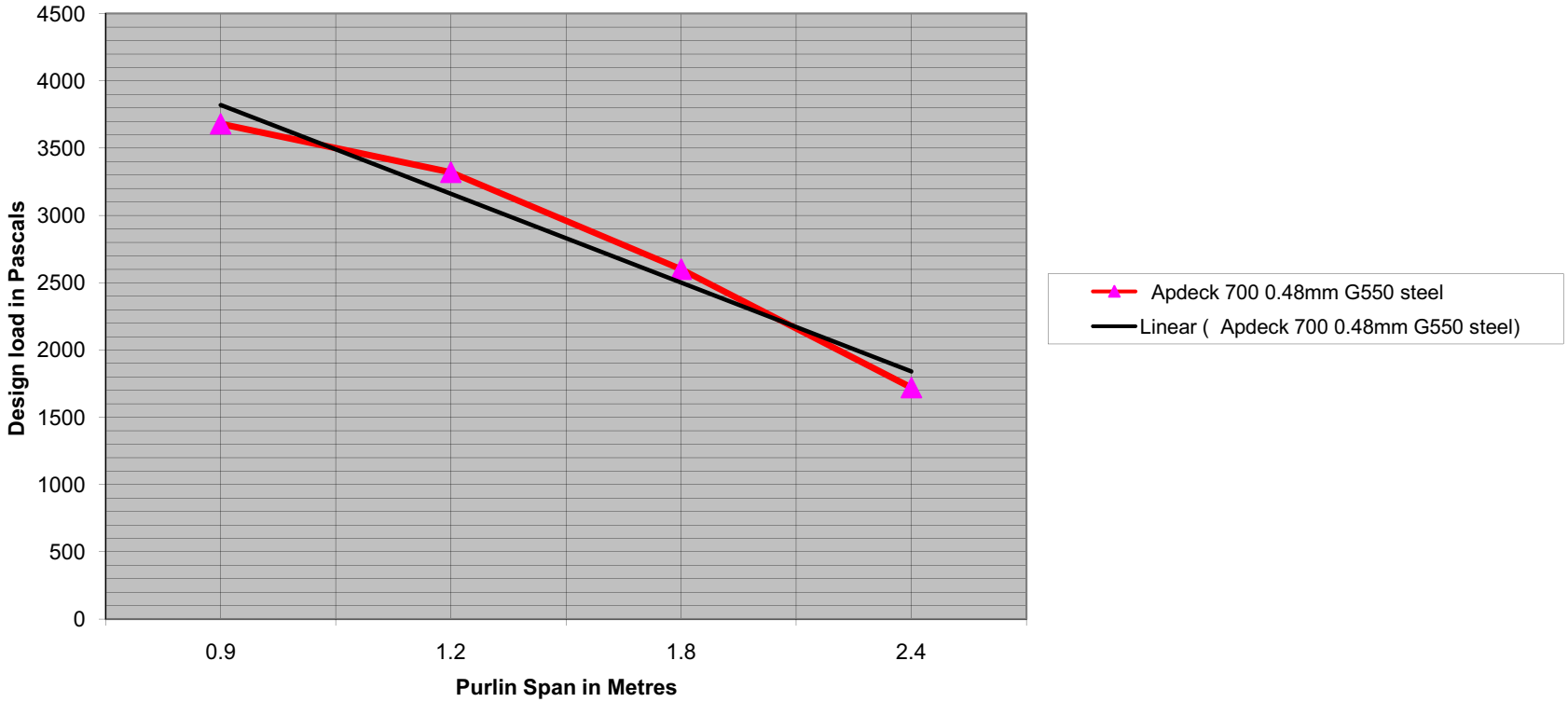
NZ Metal Roofing Manufacturers Inc.
Actual Static uplift test results on APdeck 700 profile with 0.42 mm G550 Steel substrate.
Tested to AS4040 July 2011 **(Not to be used as Design Load)**



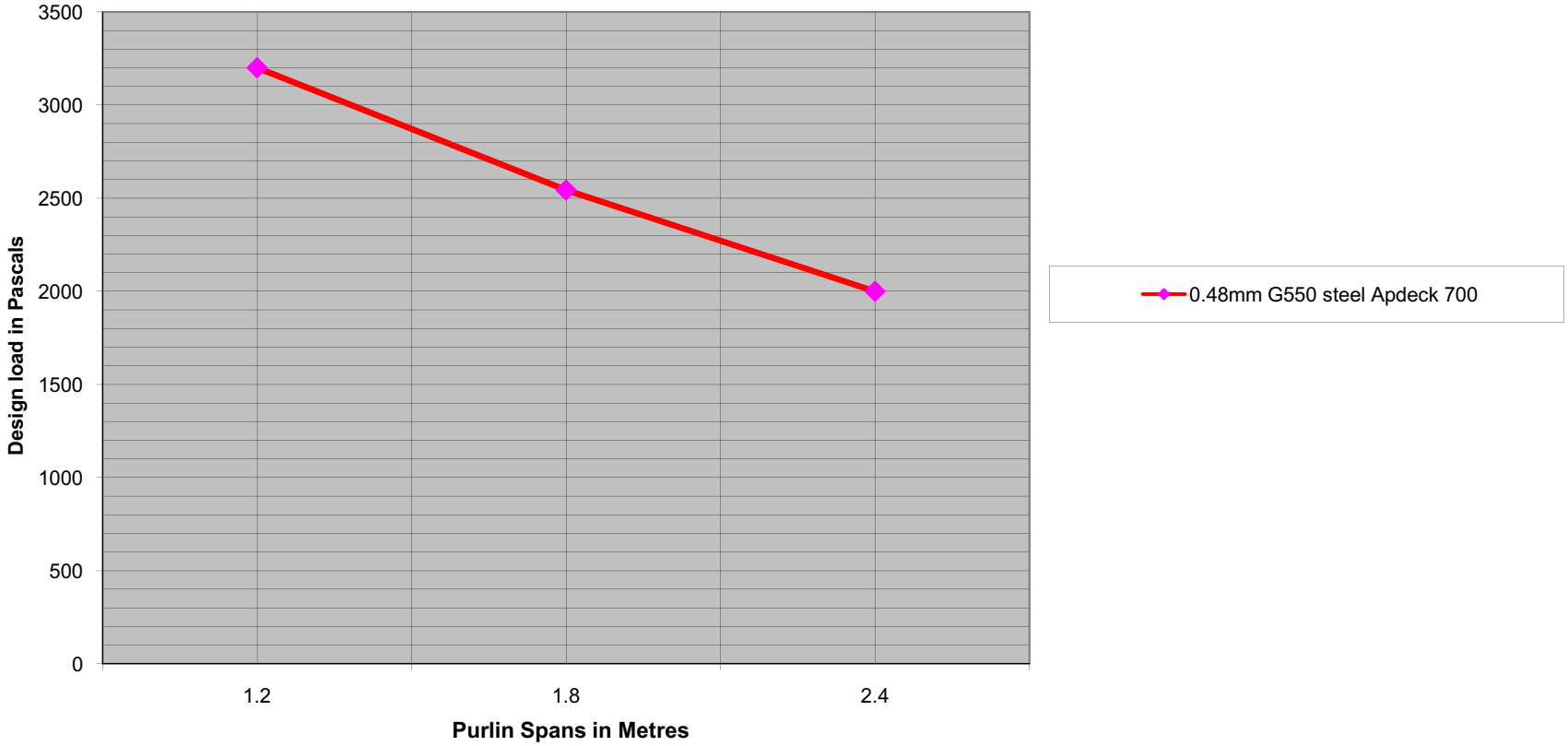
NZMetal Roofing Manufacturers Inc.
Actual Static uplift test results on Apdeck 700 profile using G550 steel substrate.
Tested to AS4040 July 2011. **(Not to be used as Design Load)**



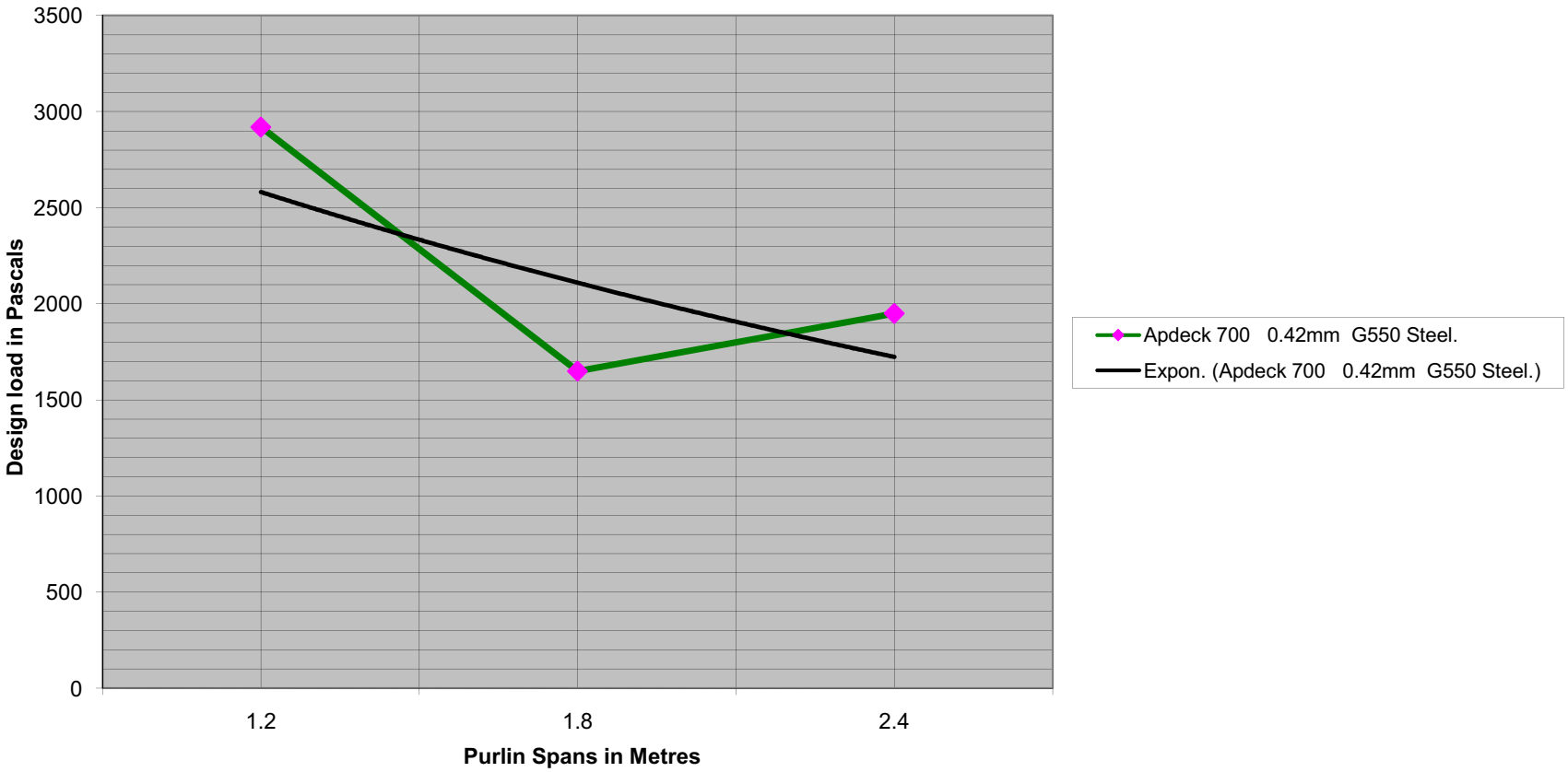
NZ Metal Roofing Manufacturers Inc.
Post cyclic tests to AS4040.
Static blow off results for Apdeck 700 using 0.48mm G550 steel substrate factored by 0.8.
Tested to AS4040 July 2011



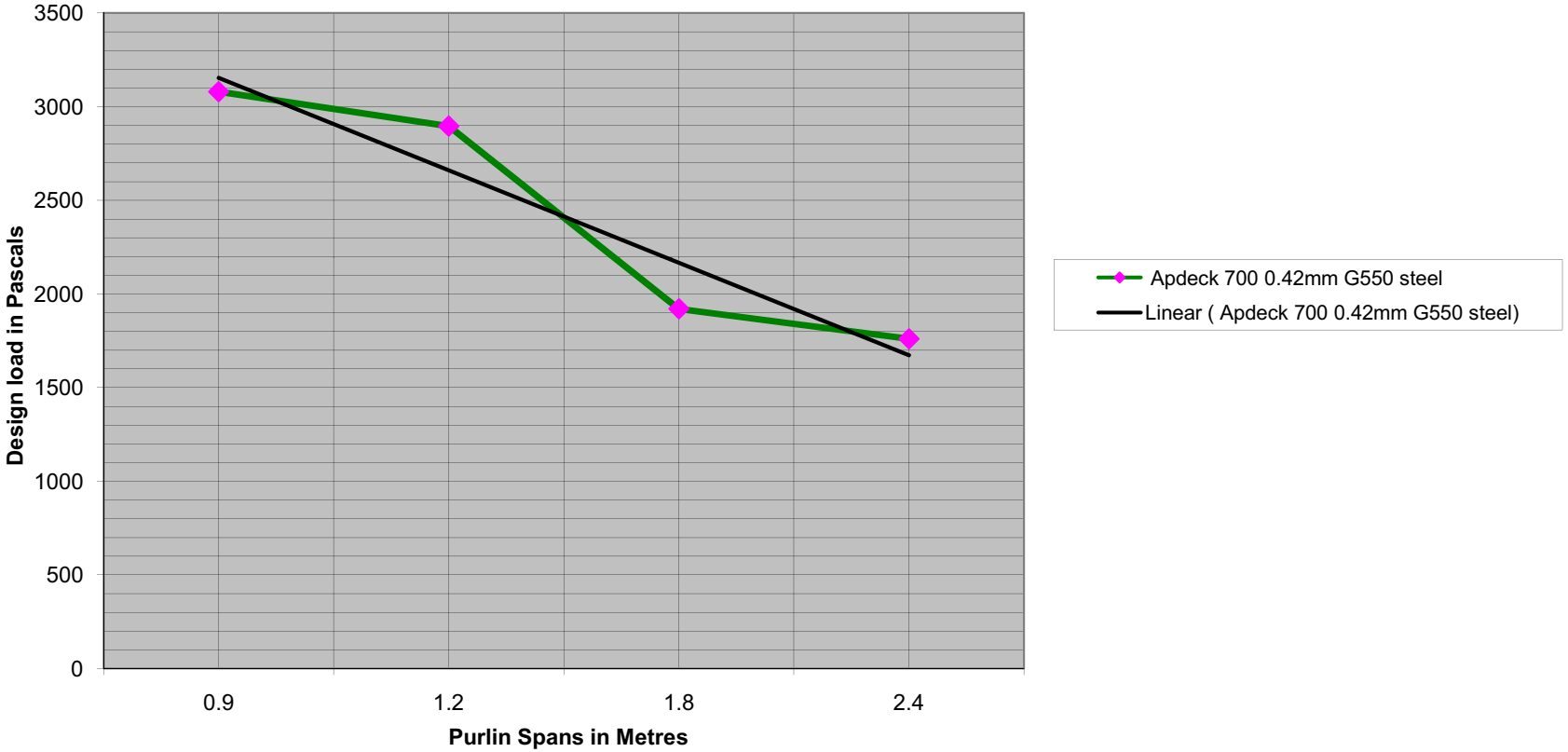
NZ Metal Roofing Manufacturers Inc.
Cyclic testing results of Apdeck 700 using 0.48mm G550 steel substrate .
Cyclic tested to AS 4040 July 2011.
Apdeck 700 DESIGN LOAD SPAN TABLE for 0.48mm G550 steel.



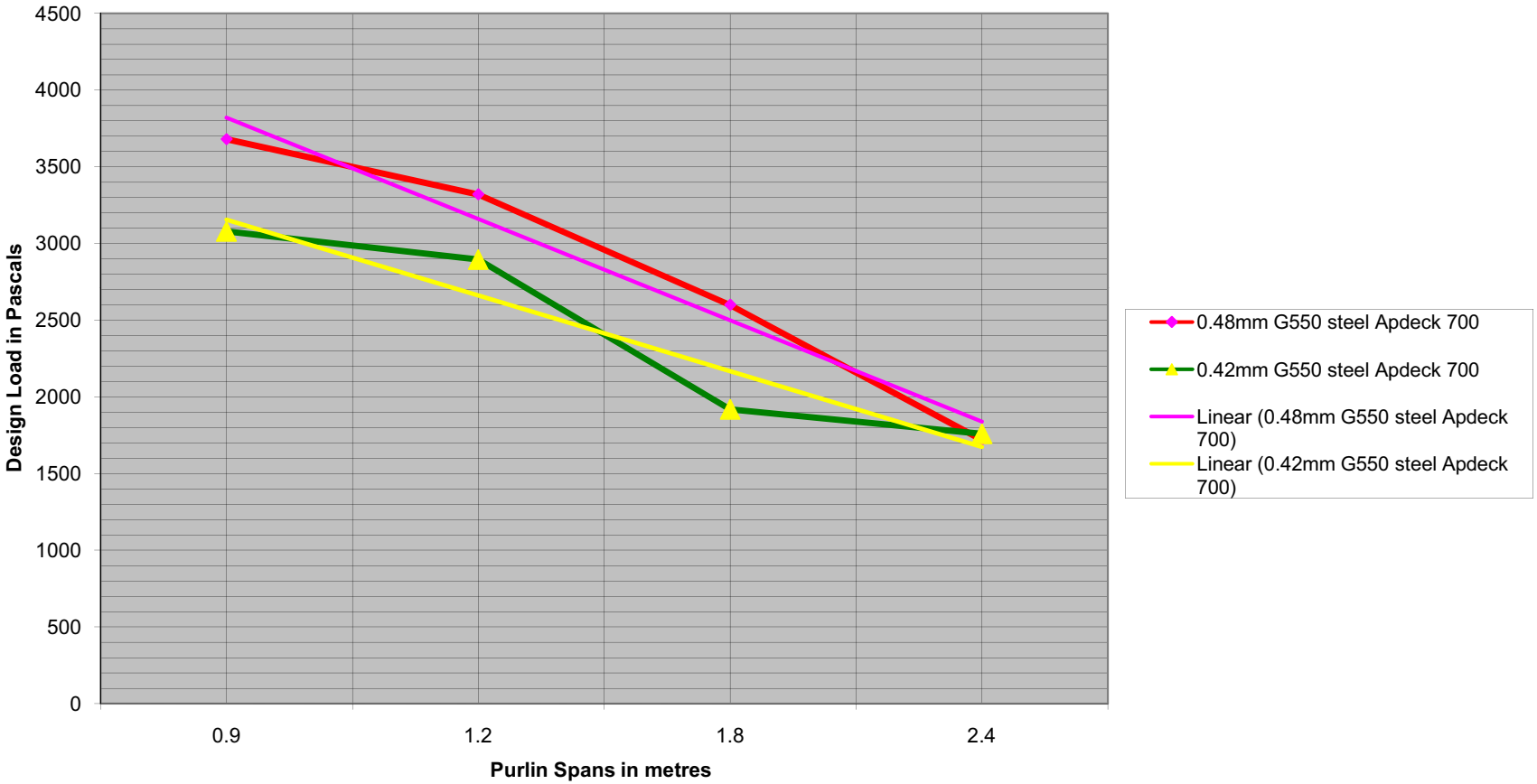
NZ Metal Roofing Manufacturers Inc.
Cyclic testing of Apdeck 700 using 0.42mm G550 steel substrate.
Cyclic tested to AS 4040 July 2011

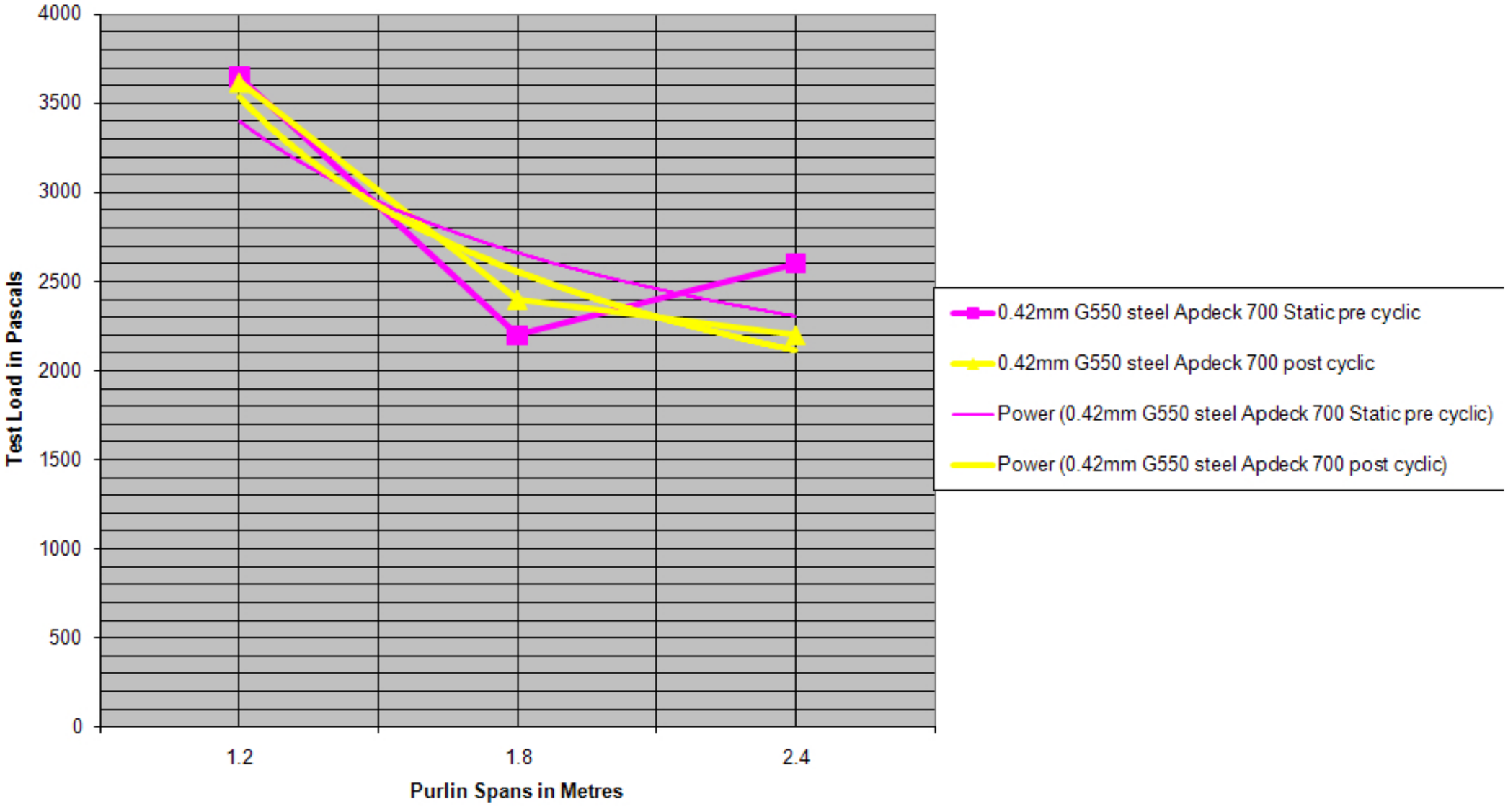


NZ Metal Roofing Manufacturers Inc.
Post cyclic tests to AS 4040.
Static blow off results for Apdeck 700 using 0.42mm G550 steel substrate factored by 0.8
Tested July 2011.

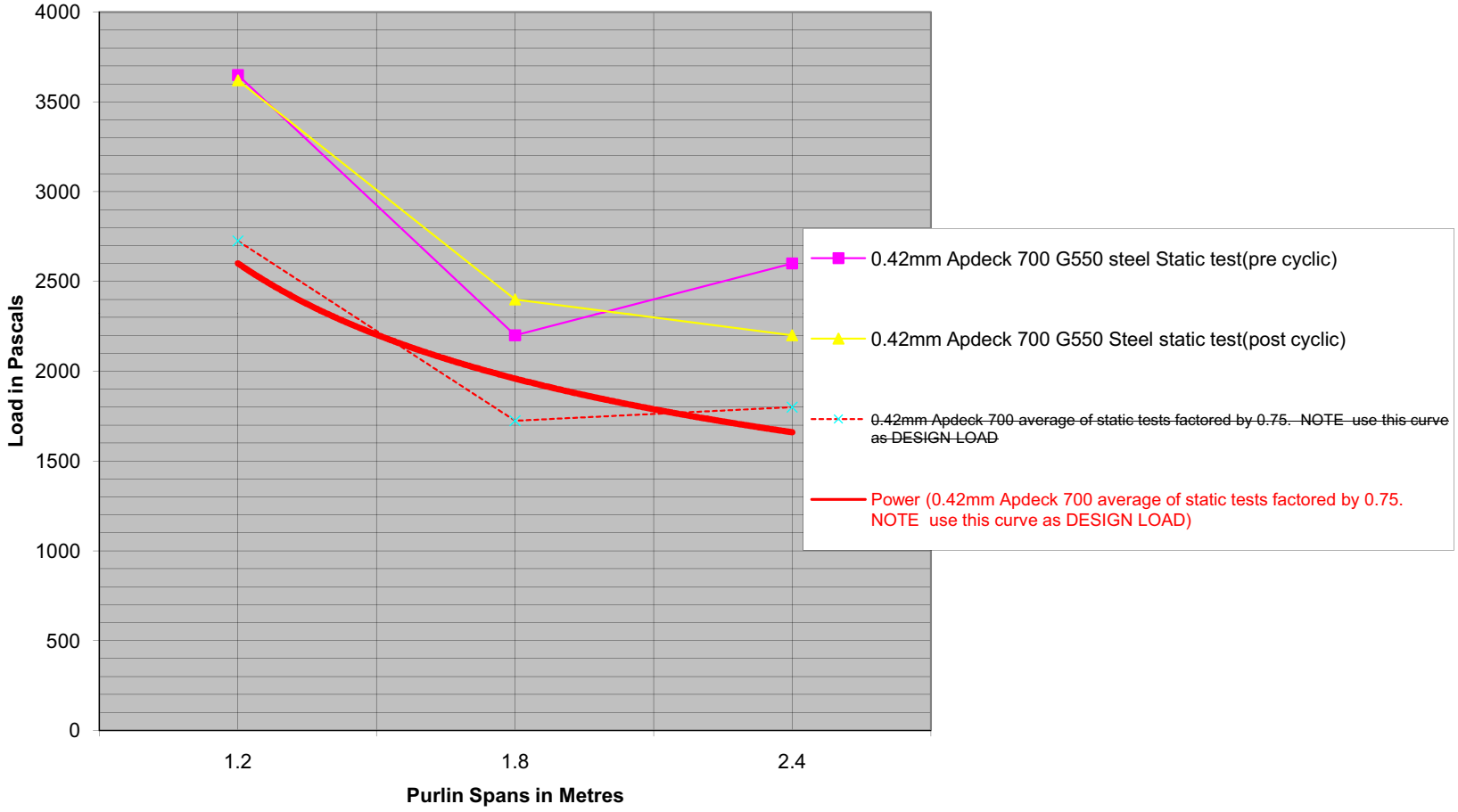


NZ Metal Roofing Manufacturers Inc.
Comparison of substrate thickess in post cyclic AS4040 test. Static test blow off factored by 0.8.
Tested July 2011




NZ Metal Roofing Manufacturers Inc.
Test Load in Pascals
4000
3500
3000
2500
2000
1500
1000
500
0
1.2
1.8
2.4
Purlin Spans in Metres
0.42mm G550 steel Apdeck 700 Static pre cyclic
0.42mm G550 steel Apdeck 700 post cyclic
Power (0.42mm G550 steel Apdeck 700 Static pre cyclic)
Power (0.42mm G550 steel Apdeck 700 post cyclic)

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	
									After cyclic	
Static		Pascals	Pascals	Pascals	MM	Cyclic Target	20%		Pascals	
Test	Gauge	Clip 1	Clip 1Mod	Clip New	Purlin span	Clip 1 13%				
1	0.48	**2300**	2200	1750	2400	**2000**	***1840***		2150	
0	0.48		3100	**3180**	1800		**2544**		3250	
	0.48			0	1800					
	0.48			4000	1200		**3200**		4150	
	0.48			4600	900		**3680**		no cyclic	
						17%	20%	25%		
2	0.42		**2600**		2400	Fail 2150	2080	**1950**	2200	
	0.42			2200	1800		1760	1650	2400	
	0.42		2500		1800					
	0.42			**3650**	1200		**2920**	**2737**	3620	
	0.42			3850	900		3080	2887	No Cyclic	

Point Load		**SLS Serviceabilty**			**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	fail1100	1800	pass	pass	Semi
			fail1000	1200			Semi
			pass	1000			Full
			pass	1100			Full

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

			Downgrade	0.8	
		Test	Test	After Test	
	Purlin Span	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
			0.8	0.8
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
		Raw test	Cyclic	80%	
0.42	0.9	3850	0.9	3080	
	1.2	3620	2920	2896	
	1.8	2400	1650	1920	
	2.4	2200	1950	1760	

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