

Comply with the Australian Standards for Built-in Components for Masonry Construction A.S. 2699.1:2020 & Masonry Structures A.S. 3700:2018.

**COMPLIANCE SUMMARY REPORT / PRODUCT SPECIFICATIONS**

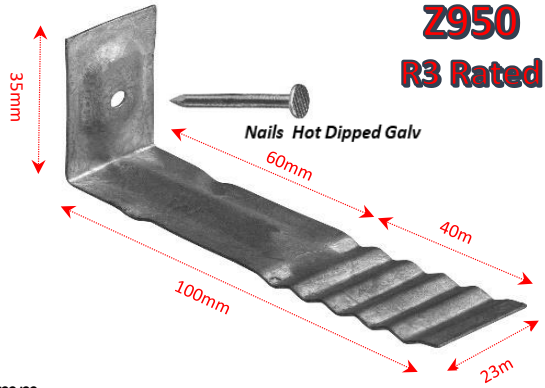
**CARLRAY STUBBY TIES FACE-FIXED LIGHT DUTY Z950 R3 RATED  
COMPLY TO AS 2699.1:2020 & AS 3700:2018**

**Manufactured By**

Carlray Pty Ltd  
448 The Boulevard  
Kirrawee N.S.W. 2232

**Product: Code 84071**

Type: A  
Category of Tie: Veneer - Face Fixed  
Classification: Light Duty  
Rated Cavity Width: 50mm  
Durability Category: R3 Marine  
Fastening Requirements: 3.15 Galv Nail  
Product Dimensions: 100mm x 23mm x .75mm



**Test Results: Specimens Tested 10 - Category (a) Face Fixed**

Duty Classification	Mean Strength Kn	
	Tension	Compression
Light Duty	0.46	0.74

Light Duty Face-Fixed Ties nail fixed from ground up to 3mtrs. From above 3mtrs a Medium Duty strength classification is required by screw fixed.

Durability Class	Colour Code	Material
R3	RED	Z950

475gms/m<sup>2</sup> on each surface

Water Transfer Test	Vertical Offset = 0	Vertical Offset = 20mm
Up Position	Pass	Pass

Note: Ties must be installed in the up position, as per image.

Corrosion Zones for Masonry Strip Steel Veneer Ties - Material Z950 Galv		
Durability Class	Surf Coast	Sheltered Coast
R3	1km to 10km	100m to 1km

Note: The closer the construction is located to the sea the higher corrosive environment.

Installation and Spacings Requirements For Masonry Veneer Ties		
450 Stud Walls	600 Stud Walls	Around Openings & Edges
600mm x 450mm	600mm x 600mm	300mm x 300mm

Note: Suitable for timber frames. The correct mortar mix is important to effectivity of strength in masonry construction.

**Assessment / Overview**

These ties comply, having been independently tested. Carlray manufactures only with materials compliant to corrosivity categories & durability classes specified in the Australian Standard for Built-In Components for Masonry Construction A.S. 2699.1.2020 & Masonry Structures A.S. 3700.2018. Test reports & Material Certificate of Analysis for determining the coating thickness are available on request.

## INDUSTRIAL GALVANIZERS (NSW)

A Division of Industrial Galvanizers Corporation Pty. Ltd. ACN 000 545 415 ABN 40 000 545 415 006



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### Port Kembla

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Port Kembla, NSW 2505  
Telephone: (02) 4275 8888  
Facsimile: (02) 4275 8800

## QUALITY ASSURANCE CERTIFICATE

**To:** Carlray Pty Ltd  
**Email:** [carlray@ozemail.com](mailto:carlray@ozemail.com)  
**Date:** 2/08/2019

Steelwork galvanized through our NSW plants is processed in accordance with the requirements of AS/NZS 4680:2006 and quality system ISO9001:2008. The work described below has had the coating thickness measured using the method described in AS 2331.1.3 - 2001, using a calibrated instrument; the results are attached.

Hot dip galvanized coatings as described by AS/NZS4680 is the process whereby the steel is immersed in a molten bath of zinc after fabrication resulting in a tough thick metallic envelope covering the entire steel surface.

The associated durability of this coating is dependent on the Atmospheric Corrosive Category of the application and reference should be made to AS/NZS2312 for clarification.

**Company:** Carlray Pty Ltd  
**Project Name:** Ties  
**Purchase Order:**  
**Factory Order:** 80529

Regards

Customer Service  
Industrial Galvanizers (NSW)



Quality  
ISO 9001



# Quality Assurance Checksheet Industrial Galvanizers

Customer: Cairray  
 Testing Authority: IG Sydney  
 Test Method Used: 65 Magnetic Induction  
 Factory Order: 80529

Date of Issue: 01.08.2019  
 Test Instrument ID: 774347  
 Test Instrument Calibration Date: 03.06.19 #2760

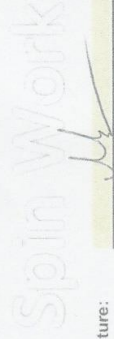


Item (Description) / ID / Batch	Article Thickness (mm)	Local Zinc Coating Thickness in $\mu\text{m}$ Random Readings in 20 sq.cm area										Avg ( $\mu\text{m}$ )	AS 4680 Expected Zinc Thickness ( $\mu\text{m}$ ) if Article Thickness (mm) is... <8 >8	Outcome Pass (P) Fail (F)
		Foil $\mu\text{m}$												
Stubby Tiles	A	112	136	96	108	114	122	138	124	116	98	116.4	Average to be within $\pm 1.5\%$ of the standard thickness foil chosen. Local Readings (average of 10) 25 40 Average Readings (Average of 30) 35	
	B	132	118	90	84	128	138	132	114	114	122	117.2		
	C	128	108	118	124	108	96	106	98	92	96	107.4		
	Navigation Reading											114		
	A											#DIV/0!	Local Readings (average of 10) 25 40 Average Readings (Average of 30) 35	
	B											#DIV/0!		
	C											#DIV/0!		
	Navigation Reading											#DIV/0!		
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	B											#DIV/0!		
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	B											#DIV/0!		
	C											#DIV/0!		
	Navigation Reading											#DIV/0!		

The coating thickness of this galvanized product has been tested according to the requirements of AS4680:2006 (Appendix G) and using methods described in AS2331.1.3-2001. The local and average coating thickness has been reported. If the 'Outcome' is 'Pass', the zinc thickness complies with the Standard. Retests are marked with an 'R'.

Tested by: Chris Lavopa  
 Position: Spin Plant Super-Intendent  
 Date: 01-08-2019

Signature: \_\_\_\_\_





Results:

A. Strength Tests

Type of Test	Strength kN			
	Tension		Compression	
	(a)	(b)	(a)	(b)
Test No. 1	.43	.77	1.23	.95
2	.38	.56	.59	.57
3	.48	.75	.62	.81
4	.49	.64	.79	.46
5	.34	.64	.82	.82
6	.40	.75	.56	.83
7	.47	.69	.61	.96
8	.47	.80	.77	.74
9	.35	.57	.68	.70
10	.49	-	.75	-
Mean	.46	.69	.74	.76
Characteristic	.25	.54	.42	.49

B. Water Transfer Tests

The face fixed tie was tested with the angled portion turned up.  
 The side fixed tie was tested with the central longitudinal groove turned down and then turned up.

Type of tie	Vertical offset = 0			Vertical offset = 20 mm		
	(a)	(b)		(a)	(b)	
		down	up		down	up
Water Transfer Result	pass	fail	pass	pass	fail	pass