Comply with the Australian Standards for Built-In Components for Masonry Construction A.S. 2699.1:2019 & Masonry Structures A.S. 3700:2018.

COMPLIANCE SUMMARY REPORT / PRODUCT SPECIFICATIONS

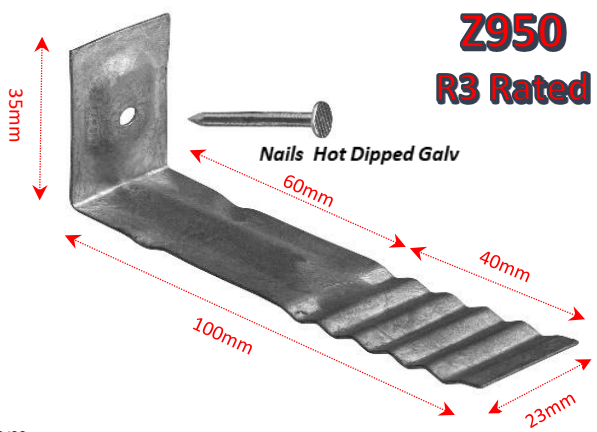
CARLRAY STUBBY TIES FACE-FIXED LIGHT DUTY Z950 R3 RATED
COMPLY TO AS 2699.1:2019 & AS 3700:2018

Manufactured By

Carlray Pty Ltd
448 The Boulevarde
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

Durability Class	Colour Code	Material
R3	RED	Z950

475gms/m² 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 & steel 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. 2699.1.2019 & Masonry Structures A.S. 3700.2018. Test reports & Material Certificate of Analysis for determining the coating thickness are available on request.

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QUALITY ASSURANCE CERTIFICATE

To: Carlray Pty Ltd

Email: 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)

Certified System
Quality
ISO 9001
SAI GLOBAL

Quality Assurance Checksheet
Industrial Galvanizers

Customer: Carlray
Testing Authority: IG Sydney
Test Method Used: G5 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 µm (10 Random Readings in 20 sq.cm area)										Avg (µm)	AS 4680 Expected Zinc Thickness (µm) if Article Thickness (mm) is... <8	>8	Outcome Pass (P) Fail (F)
CAL	Coating Thickness Standard Serial #	Foil µm												Average to be within ±1.5% of the standard thickness foil chosen.		
1	Stubby Ties	A	112	136	96	108	114	122	138	124	116	98	116.4	Local Readings (average of 10)		
		B	132	118	90	84	128	138	132	114	114	122	117.2	25	40	
		C	128	108	118	124	108	96	106	98	92	96	107.4	Average Readings (Average of 30)		P
	Navision Reading												**114**	35	55	
2		A											#DIV/0!	Local Readings (average of 10)		
		B											#DIV/0!	25	40	
		C											#DIV/0!	Average Readings (Average of 30)		
	Navision Reading												**#DIV/0!**	35	55	
3		A											#DIV/0!	Local Readings (average of 10)		
		B											#DIV/0!	25	40	
		C											#DIV/0!	Average Readings (Average of 30)		
	Navision Reading												**#DIV/0!**	35	55	
4		A											#DIV/0!	Local Readings (average of 10)		
		B											#DIV/0!	25	40	
		C											#DIV/0!	Average Readings (Average of 30)		
	Navision Reading												**#DIV/0!**	35	55	

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:

Spin Work

Certified System
Quality
ISO 9001
SAI GLOBAL

Results:

A. Strength Tests

Type of Test	Strength kN			
	Tension		Compression	
Type of Tie	(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.

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