

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

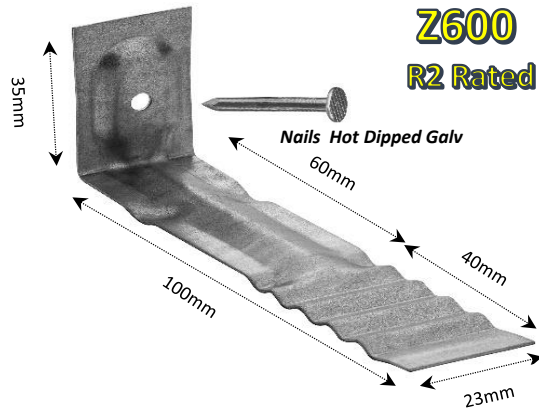
**CARLRAY STUBBY TIES FACE-FIXED LIGHT DUTY Z600 R2 RATED
COMPLY TO AS 2699.1:2020 & AS 3700:2018**

Manufactured By

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

Product: Code 83836

Type: A
Category of Tie: Veneer - Face Fixed
Classification: Light Duty
Rated Cavity Width: 50mm
Durability Category: R0 R1 R2 Mild
Fastening Requirements: 3.15 Galv Nail
Product Dimensions: 100mm x 23mm x .75mm



Test Results: Masonry Research Centre Deakin University

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
R2	Yellow	Z600

300gms/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 Z600 Galv		
Durability Class	Surf Coast	Sheltered Coast
R2	>10km	>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 by Deakin University Masonry Research Centre. Test reports and Material Certificate of Analysis for determining the coating thickness of galvanised wall ties are available on request.

The Australian Standard for Built-In Components For Masonry Construction AS 2699.1:2020 Requirements For Strenght Classification of Type A Ties:


Duty Classification	Mean Strength,kN - AS 2699.1:2020	
	Tension	Compression
Light Duty	0.30	0.36
Medium Duty	0.60	0.72
Heavy Duty	1.50	1.80

Carlray Face-Fixed Stubby Ties Strenght Test Results:

Strenght Test A	Mean Strength,kN	
	Tension	Compression
Test No. 1	0.43	1.23
Test No. 2	0.38	0.59
Test No. 3	0.48	0.62
Test No. 4	0.49	0.79
Test No. 5	0.34	0.82
Test No. 6	0.40	0.56
Test No. 7	0.47	0.61
Test No. 8	0.47	0.77
Test No. 9	0.35	0.68
Test No. 10	0.49	0.75
Mean	0.46	0.74

Carlray Face-Fixed Stubby Tie Material Analysis Test Report:

TEST CERTIFICATE




Page 1 of 1
Certificate No. : 01118SPH20
Transmission Date: 24/01/20

Customer: STHNSCLLTB
SOUTHERN SHEET & COIL P/L LLT
2 STEEL STREET
BANKSTOWN NSW 2200

Cust Order No: 22327

Supplier: BlueScope Steel Limited
PORT KEMBLA, NSW, AUSTRALIA
A.B.N. 16 000 011 058
218840

MOI No: Supplier MWS
Printed At: on: 28/11/2020



Accredited for compliance with ISO/IEC 17025 - Testing.

I certify that the original records of the company show that the item(s) referred to on this certificate conform to the specification as stated and that the product test results on this certificate supercede product test results on any other certificate.

R. MATHIESSEN - BLUESCOPE STEEL APPROVED SIGNATORY
Mechanical LAB 0631
M. GATRICK - BLUESCOPE STEEL APPROVED SIGNATORY
Chemical LAB 0632

PRODUCT: GALVABOND(R) G2 Z600 SPECIFICATION: AS 1397

CHEMICAL ANALYSIS (Chemical Analysis supplied by the Steelmaker. Basic Oxygen Steelmaking process.)

Item No	Dimensions (mm)	PACK No	NATA Lab	CHEMICAL COMPOSITION PERCENT														
				HEAT No	C	P	Mn	Si	S	Ni	Cr	Mo	Cu	Al-T	Ti	Nb	B-T	V
05	0.65 x 1245	G70118	0632	7706839	.064	.013	.19	<.005	.011	.017	.032	.005	.049	.037	<.002	.001	<.0003	<.003

Item No	Dimensions (mm)	PACK No	NATA Lab	CHEMICAL COMPOSITION PERCENT		
				HEAT No	Sn	N
05	0.65 x 1245	G70118	0632	7706839	.003	.0043

TENSILE TESTING

Item No	PACK No	Heat No	COIL/TEST No	NATA Lab	Thick mm	Tensile AS1391			
						ReL MPa	Rm MPa	ELONGATION	
								Lo(mm)	%
05	G70118	7706839	0118	0631	.65	379	412	80	32

COMMENTS
 This test certificate is issued subject to the Uncertainty of Results statement set out on BlueScope Steel's Website www.bluescopesteelconnect.com. In order to rely upon this certificate, you must read the Uncertainty of Results statement.
 SAMPLING AND CHEMICAL ANALYSIS ARE PERFORMED IN ACCORDANCE WITH BLUESCOPE STEEL PROCEDURE DH-LABS-QS-00 805.07C
 MECHANICAL TESTING HAS BEEN PERFORMED ON SAMPLES SUPPLIED BY THE RELEVANT PRODUCTION DEPARTMENTS