

## COMPLIANCE SUMMARY REPORT / PRODUCT SPECIFICATIONS

### CARLRAY CAVITY RED WIRE WALL TIES COMPLY TO AS 2699.1:2019 & AS 3700:2018

#### Manufactured By Carlray

Used in the construction of double brick cavity walls and are Australian made from

Onesteel red wire with a guaranteed galvanised coating weight of 470/m<sup>2</sup> and comply to the Masonry Code AS 2699. The standard requires a design life of at least 50 years.



**Z950**  
**R3 Rated**

Code - Product Description	Duty Classification	Cavity
84432 Wall Tie 175mm x 3mm	Medium Duty	60mm
84467 Wall Tie 225mm x 3mm	Medium Duty	120mm
84415 Wall Tie 175mm x 4mm	Heavy Duty	60mm
84456 Wall Tie 225mm x 4mm	Heavy Duty	120mm

#### Durability Class & Corrosion Zones For Masonry Red Wire Wall Ties Galv 470g/m<sup>2</sup>

Durability Class	Surf Coast	Sheltered Coast
R3	1km to 10km	100m to 10km

### CARLRAY CAVITY STAINLESS STEEL 316G WIRE WALL TIES COMPLY TO AS 2699.1:2019 & AS 3700:2018

#### Manufactured By Carlray

Used in the construction of double brick walls and are Australian made from

Stainless Steel 316 grade for applications in severe marine environments in coastal areas.



**316G**  
**R4 Rated**

Code - Product Description	Duty Classification	Cavity
84398 Wall Tie 175mm x 3mm	Medium Duty	60mm
84408 Wall Tie 225mm x 3mm	Medium Duty	120mm

#### Durability Class & Corrosion Zones For Masonry SS Wire Wall Ties 316g

Durability Class	Surf Coast	Sheltered Coast
R4	0km to 1km	0m to 100m

Note: The ties used for brick cavity work must be of at least medium duty classification and have a corrosion resistance rating adequate for the environment in which it is to be used. Spacing of ties should be in accordance with design requirements of the structure and with relevant building regulation and codes such as environment classifications location, wind strength requirements for non-cyclonic and cyclonic areas. Carlray manufactures it's range only with materials that comply to meet the corrosivity categories & durability classes specified within the Australian Standard for Built-In Components for Masonry Construction A.S. 2699.

## SETTING THE STANDARD IN WALL TIES - GUARANTEED

OneSteel Wire guarantees that wall ties produced from its unique, purpose-specific wire will meet the durability criteria<sup>1</sup> specified in AS/NZS 2699.1<sup>2</sup> (or, for connectors and accessories, AS/NZS 2699.2) for all corrosion classifications from R3 down to R0.

### Lessons from the Newcastle earthquake

The poor performance of masonry in structures in the 1989 Newcastle earthquake dramatically illustrated the importance of correct construction techniques and component serviceability.

The cost to the nation of the earthquake was well over \$1 billion, with most of the structural damage being to masonry - in both old and recently constructed buildings. Investigators attributed much of the masonry damage to either inadequate or completely missing wall ties. In many cases the original steel wall ties were found to have totally corroded away, due to inadequate zinc coatings.

### The Masonry Code

The Masonry Code (AS 3700:2001, Masonry structures) specifies performance requirements for work falling within the scope of the Building Code of Australia.

It takes into account the need for improved construction practice, plus important recent developments in masonry design. The current Masonry Code calls up AS/NZS 2699 and this Standard requires a design life of at least 50 years for all in-built steel components.

### The wall tie Standard

AS/NZS 2699:2000, In-built components for masonry construction, is a new and comprehensive product manufacturing Standard. Part 1 relates to wall ties, and Part 2 to connectors and accessories.

The Code divides, and defines, application environments into five general corrosion classifications, from R4 (within 1km of a surf beach) down to R0 (arid areas).

For all corrosion classifications from R3<sup>3</sup> through to R0<sup>4</sup> the Standard deems satisfactory only one galvanised wire tie material, carrying a minimum 470g/m<sup>2</sup> of zinc. Wall ties made from this material must also be coloured a distinctive red.



<sup>1</sup> Provided the zinc coating is not materially damaged.

<sup>2</sup> Tie manufacturers should be aware that AS/NZS2699.1 contains requirements on the structural performance of ties, relating to their design. This aspect is beyond the control of OneSteel Wire.

<sup>3</sup> More than 1km from a surf beach.

<sup>4</sup> Arid areas.