

**Leviat**<sup>®</sup>  
A CRH COMPANY

New Zealand Edition



**Ancon**<sup>®</sup>  
**Stainless Steel  
Reinforcement**

for the Construction Industry

December 2021



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Under the Leviat brand, we have united the expertise, skills and resources of Ancon and its sister companies to create a world leader in fixing, connecting and anchoring technology.

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# Stainless Steel Reinforcement

A comprehensive range of stainless steel reinforcing bar is available from Leviat. In New Zealand, we hold stock of duplex stainless steel reinforcing bar in selected sizes and quantities. Contact us for details of other grades and steel types, including round bar.

Stainless steel offers many advantages to the specifier and its use in the Construction Industry continues to increase. Stainless steel reinforcement ensures a high degree of corrosion resistance without requiring additional protection.



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### Ancon Stairib 2304 (1.4362)

A duplex stainless steel reinforcement with a minimum 0.2% proof stress of 500MPa and conforming to BS6744:2016. As per Australian Stainless Steel Development Association (ASSDA), grade 2304 stainless steel provides similar corrosion resistance properties to Grade 316 stainless steel. It is best used in applications requiring a combination of high strength and corrosion resistance or where maintenance or inspection is impractical. All bars are hot rolled and cold or warm worked to provide the stated mechanical properties and chemical composition as shown below.

### Chemical Composition (% by mass)

BS-EN 10088-1 Steel Designation Number	Ancon Stairib 2304 (1.4362)	
	Min	Max
Carbon	-	0.03
Silicon	-	1.0
Manganese	-	2.0
Nickel	3.5	5.5
Chromium	22.0	24.0
Molybdenum	0.10	0.60
Sulphur	-	0.015
Phosphorous	-	0.035
Nitrogen	0.05	0.20



### Ancon Stairib 2304 (1.4362) - Strength and ductility properties

0.2% Proof Stress	Minimum value of stress ratio	Percentage Total Elongation at maximum force, A <sub>gt</sub>	Percentage elongation after fracture, A <sub>5</sub>
500 min.	≥1.08	≥5.0	≥14.0

### Nominal cross-sectional area and mass per metre run length as per AS/NZS 4671:2019

Nominal diameter mm	Cross-sectional area mm <sup>2</sup>	Mass per metre length kg/m	Strength grade and ductility class
12	113	0.89	500E
16	201	1.58	
20	314	2.47	
25	491	3.85	
32	804	6.31	

**Notes:** The values for the mass per unit length have been calculated from the values for the nominal diameter using a density value of 7850 kg/m<sup>3</sup>. The equivalent diameter is the same as the nominal diameter for all bars listed above. For information on other sizes, please contact Leviat.



### Availability

In New Zealand, we stock limited quantities of Ancon Stairib 2304 bar. Please contact us on 03 376 5205 or [info.nz@leviat.com](mailto:info.nz@leviat.com) regarding the availability of other grades of stainless steel reinforcing bar.

# Stainless Steel Reinforcement

## Physical Properties

### Extended Temperature Performance

Stainless Steels are high temperature alloys that have excellent mechanical performance at elevated temperature. Austenitic stainless steels do not undergo the ductile to brittle condition change of conventional carbon steel as temperature falls.

Austenitic stainless steel bars are therefore suitable for use in cryogenic and high temperature applications.

### Low Magnetic Permeability

Austenitic grades of stainless steel have extremely low magnetic permeability characteristics and are virtually non-magnetic.

This property can be very helpful to the designer of structures housing equipment such as electric arc furnaces, magnetic resonance imaging (MRI) units or other sensitive electronic equipment where a neutral magnetic environment is a requirement.

### Tying Wire

Tying wire 1.27mm in diameter is available in grade 2304 (1.4362) stainless steel.



## Other Products

### Reinforcing Bar Couplers and Anchors

Ancon Reinforcing Bar Couplers and Anchors are used in building and civil engineering projects worldwide.

The Ancon RT system is among the smallest and the most cost-effective in our range, when used on large scale, high volume projects. The RT range requires a parallel thread to be rolled onto the end of the reinforcing bar to be coupled prior to placement and fitting of the coupler. Ancon RT threaded couplers and anchors are supplied in plain carbon steel as standard.

Ancon MBT Mechanically Bolted Couplers and Anchors are suitable where it is not convenient to have the bar ends prepared for the Ancon RT system. The bars are supported within the coupler or anchor on two serrated saddles. Bars are locked in place by a series of special lockshear bolts, the heads of which shear off when the predetermined tightening torque is reached, providing a visual check of correct installation.

In New Zealand, couplers and anchors are available either direct from Leviat or through leading reinforcing bar suppliers. Threading of bar for use with Ancon threaded couplers is conducted in our factory.



### Reinforcement Continuity Systems

Reinforcement Continuity Systems are an increasingly popular means of maintaining continuity of reinforcement at construction joints in concrete. The Ancon Keybox system eliminates the need to drill shuttering and can simplify formwork design, thereby accelerating the construction process. It is available in both standard units and special configurations. Ancon KSN Anchors eliminate the need for on-site bar straightening and are available as standard in 12mm, 16mm and 20mm diameters. The system is also available with a re-useable rebate former.

### Shear Load Connectors

Ancon DSD and ESD Shear Load Connectors are used to transfer shear across expansion and contraction joints in concrete. They are more effective at transferring load and allowing movement to take place than standard dowels, and can be used to eliminate double columns at structural movement joints in buildings. A 'Lockable' dowel is also available for temporary movement joints in post-tensioned concrete frames.

### Punching Shear Reinforcement

Ancon Shearfix is used within a slab to provide additional reinforcement from punching shear around columns. The system consists of double-headed steel studs welded to flat rails and is designed to suit the load conditions and slab depth at each column using our free calculation software.

### Masonry Support Systems

Masonry cladding on concrete or steel frames is normally supported from stainless steel support systems. Ancon MDC Systems create a continuous angle to support the outer leaf of masonry. Ancon Individual Brackets support masonry features such as curves and arches.

### Special Fabrications

Leviat is an ASSDA accredited specialist fabricator and has a wealth of experience in working with a variety of material grades. High integrity steel components are supplied to a wide range of industries including Civil Engineering, Building, Infrastructure, Water Treatment, Nuclear and Mining.



Design Program Available



Design Program Available



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#### Notes regarding this catalogue

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