InfraBuild

Building futures through sustainable steel

Product and Availability Guide

Low Relaxation (LR) Wire

APRIL 2022

www.infrabuild.com

AUSTRALIAN MADE

InfraBuild Wire is Australia's leading manufacturer of wire products. InfraBuild Wire produces a range of wires for use in the construction and mining industries.

All LR wire manufactured by InfraBuild Wire complies with Australian Standard AS/NZS 4672 "Steel Prestressing Materials" and is Proudly Australian Made.

The product is hard-drawn, high tensile steel wire intended for the prestressing of concrete. The various applications for Low Relaxation Wire include concrete railway sleepers, railway turnouts, concrete poles and fence posts.

1.0 Introduction

This Guide details the product specifications for the core range of Australian Made LR Wire supplied by InfraBuild Wire.

1.1 Terms of Payment

InfraBuild Wire standard Payment Terms are nett 30 days from end of month of invoice. InfraBuild's Standard Terms and Conditions of Sale, as amended from time to time, apply to the sale of goods and services by InfraBuild. InfraBuild's Standard Terms and Conditions of Sale are available at https://www.infrabuild.com/resources/legal/infrabuild-standard-terms-and-conditions-of-sale/.

InfraBuild may amend the Standard Terms and Conditions of Sale at any time. Please check InfraBuild's website or contact the InfraBuild Wire business for a copy of the current Standard Terms and Conditions of Sale prior to placement of an order. The placing of an order constitutes an acknowledgement that you have read, and agreed to be bound by, InfraBuild's Standard Terms and Conditions of Sale.

InfraBuild Wire reserves the right to change the details of an order in the case of circumstances or events not foreseen by InfraBuild Wire at the time of order placement. InfraBuild Wire will endeavour to minimise the extent of any changes to an order and will notify you in writing of any such changes. You will have no claim against InfraBuild Wire in respect of any changes to an order.

2.0 Product Availability / LR Wire Specifications

InfraBuild Wire Australian Made LR Wire is typically available ex-stock, however requested forward orders are appreciated to ensure quantities and delivery dates are able to be met.

Table 1. LR Wire Specifications

Property	Specification
Material Number	268955
Material Description	WLR-05.03-LR 1700*1950-AS4672-C1500-I-TC
Nominal Wire Diameter – mm	5.03
Indent Pattern	Chevron Indent
Indent Depth – mm	0.12mm +/- 0.02mm
Tensile Strength – MPa	1700MPa minimum and not greater than 1950MPa
Minimum Breaking Load – kN	34.2
Min 0.1 % Proof Load – kN	28.1
Nominal Cross Sectional Area – mm^2	19.9
Nominal Mass/length – g/m (+ 3.1 %)	156
Nominal Length – m/1000kg	6416
Max Relaxation (@ 80 % load) - %	3.0
Min Elongation (@ 100 % load) (Agt) - %	3.5
Nominal Modulus of Elasticity – GPa	205 - +5, -10
∑e – mm	Not >4.9mm

NOTE: LR Wire is manufactured and stocked in Newcastle, New South Wales.

3.0 Packaging

Packaged Wire is supplied as strapped coils unwrapped.

Coil Weight	1.5 tonne nominal - Weld Free
Coil Inside Diameter	1470mm nominal
Coil Outside Diameter	2200mm nominal
Coil Width	250mm nominal

4.0 Minimum Order Quantity (MOQ)

For ex-stock sizes (5.03mm) the Minimum Order Quantity is 24 tonnes. Quantities less than the Minimum Order Quantity may be agreed to however, additional surcharges for freight and other costs may apply.

The minimum order quantity for made to order sizes to be agreed at time of enquiry.

5.0 Certification And Compliance

A test certificate will be supplied with each coil. All InfraBuild mills are certified to ISO9001 and all testing is done in NATA certified laboratories. Low Relaxation Wire is made in accordance with AS 4672.

5.1 Mill Quality Certification

Our Newcastle Wire Mill has a quality system in place which conforms to and is accredited by SAI Global to AS/NZS ISO 9001:2000 - Quality Management Systems - Requirements. Our Certification Number is QEC0087.

All products manufactured are tested for conformance to appropriate Product Standards in our NATA registered laboratories. Our laboratories operate in accordance to ISO/IEC 17025 (1999). Our accreditation number is 821. Product testing is accredited by the Australian Certification Authority for Reinforcing Steels Ltd (ACRS). Our Certification Number is 71001.

6.0 Delivery Capability

InfraBuild Wire will deliver to your manufacturing facility or construction site. Due to the variety of trailer types used for delivery, please specify if you require crane only offload at time of order placement. New sites will also need an authorised InfraBuild Wire site inspection form completed prior to any deliveries – this is conducted by InfraBuild Wire Sales and Service.

6.1 Delivery lead times

The delivery lead times for InfraBuild LR Wire are set out in the table below. Please contact InfraBuild Wire Sales & Service for delivery lead times to other destinations.

The delivery tolerance is +0/-5 days. All days refer to working days and public holidays during the lead time need to be added.

Location	Lead Time
Adelaide	5 days
Brisbane	5 days
Melbourne	5 days
Perth	20 days
Sydney	3 days
Other Locations	On Request

Example: For a Melbourne order
Delivery Day 5
Order placed on Day 0
Order normally delivered by or before Working Day 5

7.0 Product Details

LR Wire is made from hard drawn high tensile steel. InfraBuild LR Wire is drawn through a set of indent rollers and these form the indent pattern on the wire.

Close up of InfraBuild Wire LR Wire showing indent pattern

Indent Rollers

InfraBuild Wire gives special emphasis to quality control in the production of LR Wire, not only of the final product but throughout processing to ensure compliance with the appropriate standard or other specification nominated by the user.

8.0 Other Information

8.1 Cutting of LR Wire

LR Wire can be cut using bolt cutters, disc cutters or oxyacetylene. Always ensure that appropriate personal protective safety equipment is used.

8.2 Safety

Certain precautions and procedures must be adopted when using LR Wire to ensure a safe environment for persons handling this product. When handling and storing LR Wire, it is very important to avoid abrasion damage, kinks, nicks and corrosion damage, all of which may lead to sudden and unexpected failure of the LR Wire before or during stressing.

8.3 Mechanical Damage

- All coils should be lifted vertically from the delivery vehicle and should not be dragged across the tray of vehicle or be allowed to contact the coaming or side rails.
- Care should be taken during handling to and from storage areas to ensure coils are not damaged by such practices as dragging across concrete floors.
- Ensure that all stressing equipment is properly assembled, clean and in good condition. Sand or dirt on equipment can cause slippage and failure.
- Coils should be placed on rubber matting, dry untreated timber or similar material to prevent abrasion damage.
- Where slings are used for lifting coils of strand, they should be inspected for damage prior to lifting coils (ref AS 2759-1985 Section 12).

8.4 Corrosion

Several forms of corrosion exist which are particularly harmful to LR Wire:

- Severe electrochemical attack when LR Wire is permitted to lie partially immersed in water even for short periods of time. This particularly aggressive form of corrosion can cause severe localised pitting.
- LR Wire coils should be stored above ground, preferably in an enclosed building away from moisture and other corrosive influences.
- During design of pre-stressed products, ensure that adequate concrete cover is provided for the embedded LR Wire.
- Avoid all chlorides (ref AS 3600).

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