illierreinforcingltd

2026 EDITION

Reinforcing Handbook

Cut and bend, stirrups, prefabricated cages, reinforcing bar, ReidBar™, mesh and accessories: services and technical data from Millier Reinforcing, Auckland.

Phone 09 274 4999 Email millier@millierreinforcing.co.nz Web millierreinforcing.co.nz

PHOTO TO COME

Cover photo: Millier workshop, cut-and-bend or a finished cage (owner to supply)

About Millier Reinforcing

Since 1985 we have cut, bent, fabricated and supplied reinforcing steel from our East Tāmaki workshop. Builders, contractors and engineers come to us for cut-and-bent steel, stirrups and prefabricated cages made to their drawings, and for reinforcing bar in stock lengths, ReidBar™, mesh and site accessories.

We keep things simple: one team for your steel, fabrication, delivery and fixing, and a quick, flexible response. Urgent orders can often be turned around fast; call us to discuss your timing.

Since 1985
More than 40 years of reinforcing

In-house
Cut and bend, stirrups, spirals and cages

6 m and 12 m
Stock lengths of common bar

1 working day
We reply to price requests within one working day

North Island
Delivery across Auckland and the North Island

One contact
Supply, fabrication, delivery and fixing

Part of United Industries

Millier Reinforcing is part of United Industries, a wider New Zealand manufacturing and building-products group. Group companies include:

- Metalcraft Roofing
- Metalcraft Insulated Panels
- Metecno NZ
- Pipes NZ
- Akarana Timbers
- Styrobeck Plastics
- Zeta Window & Door
- KnK

CONTACT US

PHONE	09 274 4999
EMAIL	millier@millierreinforcing.co.nz
WEB	millierreinforcing.co.nz
PRICE REQUEST	millierreinforcing.co.nz/quick-quote
WORKSHOP	51a Allens Road, East Tāmaki, Auckland 2016
HOURS	Monday to Friday 7:00am to 4:30pm; Saturdays by appointment Office, yard and collection

WHO THIS HANDBOOK IS FOR

Builders and building contractors, construction companies, civil and structural engineers, designers, developers and building supply merchants. It brings our services and the technical data for the products we supply into one place.

PHOTO TO COME
Team or workshop photo (owner to supply)

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SECTION 01

Made in our workshop

Cutting, bending, stirrups, spirals and cages are made in-house in East Tāmaki, to your drawings and bar schedules.

Send us a schedule, a drawing or a list. We price it and agree a time that suits your job.

PHOTO TO COME
Cut-and-bend machine in the East Tāmaki workshop

Cut and bend

We cut reinforcing bar to any length and bend it to your drawings and bar schedules, ready for site.

- Cutting to length from stock bar
- Bending to drawings and bar schedules
- Custom reinforcing components
- Residential, commercial and civil projects

Stirrups, links and starters

Standard stirrups, links and starters in stock sizes, and custom shapes made to your specifications. Making them ourselves means they match your cages and the rest of your order.

Spirals

Made in-house in Grade 500E plain round bar:

HR6	HR10	HR12	HR16

Tell us the diameter, pitch, number of turns and quantity.

WHAT TO SEND US FOR A PRICE

Your schedule or drawings
Bar schedules, engineer's drawings or a written list. PDF, DWG, DXF, JPG, PNG or ZIP.

Sizes, shapes and quantities
Bar size and grade, shape and dimensions, and how many of each.

Where and when
Site address and the date you need it, or collection from our yard.

Prefabricated cages

Cages built from our own cut-and-bent bar and stirrups, ready to place, so less tying happens on site.

- Pile cages
- Column cages
- Beam cages
- Footing and ground beam cages
- Custom cages and assemblies to drawings

Detailing and estimating

Our in-house detailer prepares reinforcing details and bar schedules from your engineer's drawings. Our estimator takes off the quantities to price your job.

Steel fixing

We coordinate supply, fabrication and installation. Fixing is carried out by our own experienced staff and by established specialist steel-fixing contractors, matched to the size of the job.

Delivery and collection

We deliver across Auckland and the North Island, including mesh direct to site. Or collect from our East Tāmaki yard.

Yard **51a Allens Road, East Tāmaki, Auckland 2016**

Hours **Mon–Fri 7:00am–4:30pm**
Saturdays by appointment

PHOTO TO COME
Finished reinforcing cage in the workshop or on the truck

PHOTO TO COME
Delivery to site or steel fixing in progress (with permission)

SECTION 02

Reinforcing bar

Grade 300E and 500E bar, plain and deformed, from 6 mm to 32 mm. Straight in stock lengths, or cut and bent to your schedule.

Reinforcing bar on Pacific Steel's range is 100% New Zealand made.

PHOTO TO COME
Bundles of HD bar in the yard

Stock lengths

Common bar held in stock for quick supply. Any size can be cut to length.

6 m stock lengths

HD10 HD12 HD16 HD20 D10 D12 D16 HR6 HR10 HR12 HR16

12 m lengths

HD10 HD12 HD16 HD20 HD25 HD32

Understanding the codes

Code	Grade	Profile	Example
R	300E	Plain round	R12 = 12 mm plain, Grade 300E
D	300E	Deformed	D16 = 16 mm deformed, Grade 300E
HR	500E	Plain round	HR10 = 10 mm plain, Grade 500E
HD	500E	Deformed	HD12 = 12 mm deformed, Grade 500E

HD bar is often written H, for example H12. ReidBar™ threaded bar is coded RB (section 03).

Grades

300 or **500** is the minimum yield strength in MPa. **E** is the earthquake ductility class. Grade 300E is lower strength but more ductile than 500E.

Reinforcing bar is made to **AS/NZS 4671:2019**. The number after the letters is the diameter in millimetres.

Cut to length. We cut any bar to the length you need.
On request (not stock): 9 m and 18 m lengths in some sizes, bar in coil, HD12 merchant packs and hot-dip galvanised bar.

Bar range and lengths

HD Grade 500E, deformed

Code	Ø mm	Millier stock held for quick supply	On request not stock
HD10	10	**6 m, 12 m**	9 m
HD12	12	**6 m, 12 m**	9 m
HD16	16	**6 m, 12 m**	9 m
HD20	20	**6 m, 12 m**	9 m
HD25	25	**12 m**	6, 9 m
HD32	32	**12 m**	6, 9 m

D Grade 300E, deformed

Code	Ø mm	Millier stock held for quick supply	On request not stock
D10	10	**6 m**	-
D12	12	**6 m**	9, 12 m
D16	16	**6 m**	9, 12 m
D20	20	-	6, 9, 12 m
D25	25	-	6, 9, 12 m
D32	32	-	6, 9, 12 m

HR Grade 500E, plain round

Code	Ø mm	Millier stock held for quick supply	On request not stock
HR6	6	**6 m**	-
HR8	8	-	6 m
HR10	10	**6 m**	9, 12 m
HR12	12	**6 m**	9, 12 m
HR16	16	**6 m**	9, 12 m
HR20	20	-	9, 12, 18 m

R Grade 300E, plain round

Code	Ø mm	Millier stock held for quick supply	On request not stock
R6	6	-	To order
R10	10	-	To order
R12	12	-	6, 9, 12 m
R16	16	-	6, 9, 12 m
R20	20	-	To order

Millier stock: lengths we hold in our yard. **On request**: lengths we supply on request; they are not held in stock. **To order**: supplied to order. Any bar can be cut to length. HD40 is not part of our normal range; please ask.

Mass per metre

Bar Ø mm	kg/m	kg per 6 m bar	Bars per tonne (6 m)	Metres per tonne
10	0.617	3.70	270	1622
12	0.888	5.33	188	1126
16	1.578	9.47	106	634
20	2.466	14.80	68	405
25	3.853	23.12	43	260
32	6.313	37.88	26	158

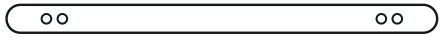
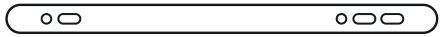
Nominal values for deformed and plain bar of the same diameter. Actual weights vary within the tolerances of AS/NZS 4671.

MERCHANT PACKS (ON REQUEST)

Grade 500 deformed bar, 12 mm diameter: 250 bars per pack, made up of 5 bundles of 50 bars.

Grades, forms and bar markings

Bar grade and type can be checked on site from the surface profile and the rolled-in identification marks. Always check the bundle tag and mill certificate as well.

Code	Grade	Profile	Bar diameters mm	Coil diameters mm, on request	Surface and marks schematic, not to scale
R	300E	Plain round	6, 10, 12, 16, 20	10, 16	
D	300E	Deformed	10, 12, 16, 20, 25, 32	10, 12, 16	
HR	500E	Plain round (micro-alloyed)	6, 8, 10, 12, 16, 20	6, 8, 10, 12, 16	
HD	500E	Deformed (micro-alloyed)	10, 12, 16, 20, 25, 32	10, 12, 16	
RB	500E	ReidBar™ threaded	12, 16, 20, 25, 32	-	

Grade 300E

Lower yield strength (300 MPa) and higher ductility than Grade 500E.

Grade 500E

Higher yield strength (500 MPa), earthquake ductility class E. The main structural grade for New Zealand construction.

Which grade for my job?

Use the grade, size and spacing on your engineer's drawings. If a substitution is proposed, check it with your engineer first.

PHOTO TO COME
Close-up of deformed bar ends showing the surface profile

PHOTO TO COME
Straight bar being loaded for delivery

SECTION 03

ReidBar™ and connections

Genuine ReidBar™ is a continuously threaded, hot-rolled Grade 500E reinforcing bar, made in New Zealand to AS/NZS 4671:2019.

We cut ReidBar™ to the lengths you need and supply the full range of accessories with the rest of your order.

PHOTO TO COME
ReidBar™ with couplers and nuts

Sizes and lengths

Size mm	Reid™ code	Grade	kg/m	Lengths
12	**RB12**	500E	0.888	6, 9 and 12 m
16	**RBA16**	500E	1.578	6, 9 and 12 m
20	**RB20**	500E	2.466	9, 12 and 18 m
25	**RB25**	500E	3.853	9, 12 and 18 m
32	**RB32**	500E	6.313	9, 12 and 18 m

ReidBar™ can also be cut to any length. Mass figures are nominal.

IMBMS couplers. We also supply IMBMS mechanical couplers and arrange bar threading for them. ReidBar™ and IMBMS use different thread systems: do not mix their bars and fittings.

Accessories

Accessory	Reid™ products	Sizes
Couplers	ReidBar™ Steel Coupler; ReidBar™ Ductile Cast Iron (DCI) Coupler	12-32 mm
Nuts	ReidBar™ Flange Nut, Half Nut and Full Nut	12-32 mm
Anchors	ReidBar™ iPort Flange Anchor	16-32 mm
Plates and washers	ReidBar™ Domed Base Plate and Spherical Washer	16-32 mm
Threaded inserts	ReidBar™ Threaded Insert; Steel Threaded Insert	12-20 mm
Grout sleeves	ReidBar™ Grout Sleeve	12-32 mm

Galvanised versions of some accessories can be ordered, often with longer lead times.

IMPORTANT: REIDBAR™ DCI COUPLER

Reid™ Construction Systems states that the ReidBar™ Ductile Cast Iron (DCI) Coupler is not compliant with NZS 3101 Amendment 3 or the NZTA Bridge Manual. It is intended for temporary threaded bar and other non-compliant uses. Where compliance is required, use the ReidBar™ Steel Coupler. Always follow Reid™'s current technical literature.

SECTION 04

Reinforcing mesh

We supply Grade 500E ductile and Grade 500L hard-drawn mesh in standard sheet sizes, delivered direct to site with the rest of your order.

Custom sheet sizes and wire layouts are available on request.

PHOTO TO COME
Mesh sheets being delivered to site

New Zealand standards and compliance

AS/NZS 4671:2019 Steel for the reinforcement of concrete

Sets the material requirements for steel bar, wire and mesh used in reinforced concrete structures designed to NZS 3101.

NZS 3101.1:2006 Concrete structures standard

The design of concrete structures, including the development length and lap-splice requirements for plain and deformed wire mesh. It is the basis for lap calculations.

NZS 3604 Timber-framed buildings

Slabs-on-ground built to NZS 3604 need Grade 500E ductile mesh. Hard-drawn mesh does not meet this requirement.

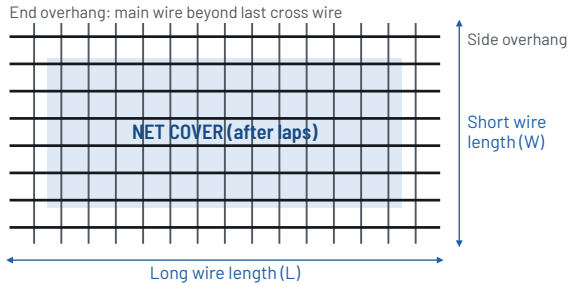
Standards are published by Standards New Zealand: standards.govt.nz

Grade properties

Property	500E ductile	500L hard-drawn
Ductility class	E (earthquake)	L (low)
Yield stress (Re)	500 to 600 MPa	at least 500 MPa
Tensile ratio (Rm/Re)	1.15 to 1.40	at least 1.03
Uniform elongation (Agt)	at least 10%	at least 1.5%

COMPLIANCE

Mesh supplied to AS/NZS 4671:2019. The standard requires batch testing of ductile mesh, including weld shear, tensile strength (Rm), yield stress (Re) and uniform elongation (Agt). Batch test certificates are available on request.



Mesh comparison chart

Mesh	Grade	Wire Ø mm	Spacing mm	Cross-section mm² per m width	Strength kN per m width
SE91	500E	9.0	100	636.2	318.1
5.3 @ 50*	500L	5.3	50	441.2	220.6†
SE102	500E	10.0 †	200	392.7	196.4
SE815*	500E	8.0	150	335.1	167.6
SE92	500E	9.0	200	318.1	159.0
661	500L	7.5	150	294.5	147.3†
662*	500L	7.1	150	263.9	132.0†
SE82	500E	8.0	200	251.3	125.7
SE93*	500E	9.0	300	212.1	106.0
663	500L	6.3	150	207.8	103.9†
SE72	500E	7.0	200	192.4	96.2
664	500L	6.0	150	188.5	94.2†
Double-edge 7.5/5.3	500L	7.5 (5.3 edge)	300 †	147.3	73.6†
665	500L	5.3	150	147.1	73.5†
SE62	500E	6.1	200	146.1	73.1
668	500L	4.0	150	83.8	41.9†
Double-edge 5.6/4.0	500L	5.6 (4.0 edge)	300	82.1	41.1†

Meshes are listed by strength per metre width, so you can compare ductile and hard-drawn options of similar strength.

500E ductile mesh
500L hard-drawn mesh

Strength = cross-sectional area per metre width x 500 MPa.

* Made to order: not usually held in stock.

† To be confirmed.

Double-edge sheets have lighter edge wires at 50 mm for laps; the figures shown are for the main wires.

Substitutions between grades or sizes must be approved by your engineer. Ductile 500E mesh is not interchangeable with 500L mesh of the same strength where ductility is required.

Grade 500E ductile mesh

Square mesh with main and cross wires of the same size. Sheet sizes include the end and side overhangs; net cover is the area each sheet covers once lapped.

Mesh	Sheet	Wire Ø mm	Spacing mm	Long wire L mm	Short wire W mm	Gross m^2	Net cover m^2	End o/h mm	Side o/h mm	Lap mm	Area mm^2/m	Strength kN/m	Mass kg/m^2	Sheet kg
RESIDENTIAL														
SE62	Small	6.1	200	4450	2020	8.99	7.56	25	10	200*	146.1	73.1	2.29	21.89 †
SE62	Standard	6.1	200	5050	2020	10.20	8.64	25	10	200*	146.1	73.1	2.29	24.78
SE62	Large	6.1	200	6050	2420	14.64	12.76	25	10	200*	146.1	73.1	2.29	35.25
CONSTRUCTION														
SE72	Standard	7.0	200	5060	2020	10.22	8.31	30	10	250	192.4	96.2	3.02	32.67
SE72	Large	7.0	200	6060	2430	14.73	12.36	30	15	250	192.4	96.2	3.02	46.55
SE82	Large	8.0	200	6060	2430	14.73	12.36	30	15	250	251.3	125.7	3.95	60.81
SE91	Standard	9.0	100	4560	1930	8.80	7.31 †	30	15	200	636.2	318.1	9.99	89.88
SE92	Large	9.0	200	6060	2430	14.73	12.36	30	15	250	318.1	159.0	4.99	76.96
SE102	Standard	10.0 †	200	5260	2430	12.78	10.64	30	15	250	392.7	196.4	6.17	82.60

Grade 500E to AS/NZS 4671:2019: yield stress 500 to 600 MPa, tensile ratio 1.15 to 1.40, uniform elongation at least 10%.

Laps follow NZS 3101.1:2006. * The 200 mm SE62 lap has been validated by the manufacturer's test programme and verified by an engineer. Confirm the lap for your project with your engineer.

Mass per m^2 is theoretical; sheet weight includes overhangs. Batch test certificates are available on request. † To be confirmed.

Long / short wire

Overall length of the main and cross wires: the sheet size.

Gross

Sheet area from the overall wire lengths.

Net cover

Area a sheet covers once lapped to the lap shown.

End and side overhang

Wire beyond the last cross wire at the ends and sides.

Strength

Cross-sectional area per metre width x 500 MPa.

Grade 500L hard-drawn mesh

Mesh	Sheet	Wire Ø mm	Spacing mm	Long wire L mm	Short wire W mm	Gross m²	Net cover m²	End o/h mm	Side o/h mm	Lap mm	Area mm²/m	Strength kN/m	Mass kg/m²	Sheet kg
668	Standard	4.0	150	4560	1970	8.98	7.53	25	10	200	83.8	41.9	1.32	12.32
665	Standard	5.3	150	4560	1970	8.98	7.53	30	10	200	147.1	73.5	2.31	21.63
665	Large	5.3	150	6060	2420	14.67	12.76	30	10	200	147.1	73.5	2.31	35.03
664	Standard	6.0	150	4560	1970	8.98	7.53	30	10	200	188.5	94.2	2.96	27.72
663	Large	6.3	150	6060	2420	14.67	12.76	30	10	200	207.8	103.9	3.26	49.49
661	Large	7.5	150	6060	2420	14.67	12.76	30	10	200	294.5	147.3	4.62	70.13 †

Double-edge mesh Grade 500L, 300 mm main spacing with lighter edge wires at 50 mm

Mesh	Main wire Ø mm	Edge wire Ø mm	Spacing mm	Edge spacing mm	Long wire L mm	Short wire W mm	Gross m²	Net cover m²	End o/h mm	Side o/h mm	Lap mm	Area mm²/m	Strength kN/m	Mass kg/m²	Sheet kg
Double-edge 5.6/4.0	5.6	4.0	300	50	4960	2220	11.01	10.10	30	10	100	82.1	41.1	1.29	15.87
Double-edge 7.5/5.3	7.5	5.3	300	50	4960	2220	11.01	10.10	30	10	100	147.3	73.6	2.31	28.38

Grade 500L to AS/NZS 4671:2019: yield stress at least 500 MPa (upper limit 750 MPa), tensile ratio at least 1.03, uniform elongation at least 1.5%. Not for NZS 3604 slabs-on-ground. † To be confirmed.

Double-edge sheets lap on their edge wires, so laps are shorter (100 mm) and less steel is used in the lap zone. Laps follow NZS 3101.1:2006; confirm with your engineer.

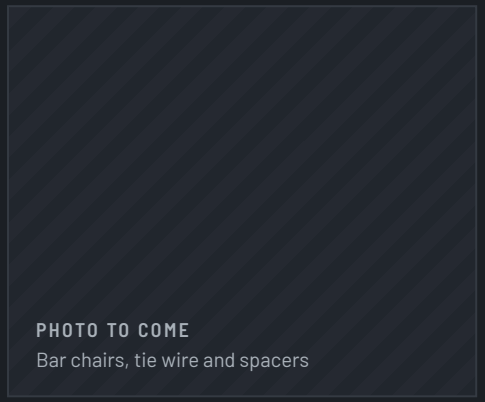
Custom mesh. Need a non-standard sheet size, wire size or layout? Tell us what you need and we will price it.

SECTION 05

Site accessories

Everything to place and tie your reinforcing, supplied with your bar, mesh, cut and bend and stirrups.

Ask us for anything else you need with your order.



Tie wire

Black or galvanised.

1 KG STRAIGHT BUNDLES

- 1.60 mm x 225 mm
- 1.60 mm x 300 mm
- 1.60 mm x 400 mm

25 KG COILS

1.60 mm | 2.00 mm | 2.50 mm | 3.15 mm | 4.00 mm

Bar chairs

Clip-on design. Sizes in mm of concrete cover.

COMBINATION CHAIRS

25/40 | 50/65 | 75/90 | 85/100

BOTTOM COVER CHAIRS

20 | 30 | 40 | 50 | 65

Spacers

WAGON WHEELS

- For 8-12 mm bar
- For 16-20 mm bar

SPACERS AND CONCRETE SPACER BLOCKS

To keep reinforcing at the right cover from formwork and ground. Ask us for the sizes that suit your job.

Polythene and tape

BLACK POLYTHENE UNDERLAY

- 100 m^2 rolls (4 m x 25 m)
- 200 m^2 rolls (4 m x 50 m)

POLYTHENE TAPE

- 48 mm x 30 m

Reo safety caps

Multi-size safety caps for exposed bar ends, to fit 12 to 35 mm.

Stirrups, links and starters

Standard stock sizes, or made to your specifications in our workshop (section 01).

Polystyrene pods

Polystyrene pods for pod (waffle) slab foundations, supplied with your mesh, bar and accessories.

Ask us for the sizes you need.

Request a price

Send us your drawings, bar schedules or a list of what you need. We reply to price requests within one working day.

Request a price online | **Call 09 274 4999** | **Email us**

PHONE	09 274 4999
EMAIL	millier@millierreinforcing.co.nz
WEB	millierreinforcing.co.nz
WORKSHOP	51a Allens Road, East Tāmaki, Auckland 2016
HOURS	Monday to Friday 7:00am to 4:30pm; Saturdays by appointment

Important information. This handbook gives general guidance on reinforcing products and services supplied by Millier Reinforcing Ltd. It is not a substitute for advice from a qualified engineer on any specific project: always follow the drawings and specifications for your job and check laps, cover and substitutions with your engineer.

Figures are nominal. Product ranges, sizes and specifications may change without notice, so please confirm current details and availability with us before ordering. To the extent permitted by law, Millier Reinforcing Ltd accepts no liability for loss or damage arising from the use of this information.

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