

# Reinforcing Mesh Product Guide

Super Ductile 500E &  
Hard Drawn  
**South Island**

# Mesh

Fletcher Reinforcing supplies the reinforcing steel and mesh that provides the strength to New Zealand's buildings and infrastructure.

Mesh is available from national Building Merchants or our branch network to construction sites and builders throughout New Zealand.

Fletcher Reinforcing offer a range of New Zealand manufactured mesh. The range covers both Super Ductile mesh in grade 500E wire and a proven range of hard drawn mesh in the sizes required by builders and contractors throughout New Zealand.



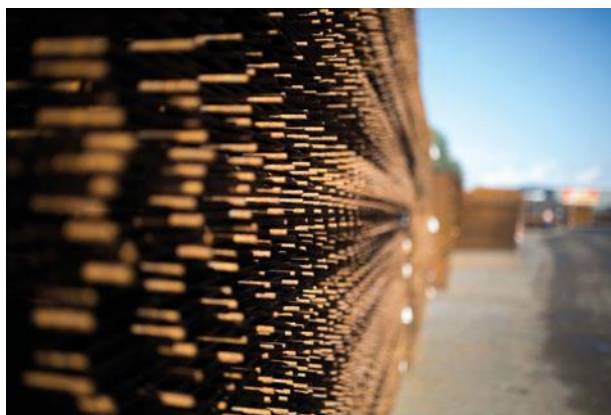
## Super Ductile 500E

**SUPER  
DUCTILE 500E™**

The Ministry of Building, Innovation & Employment (MBIE) requires that reinforcing for concrete slabs-on-ground buildings built in accordance with NZS 3604, have a minimum of 2.27 kg/m<sup>2</sup> of Grade 500E reinforcing mesh fabric which conforms with AS/NZS4671:2019.

Super Ductile 500E meets these requirements:

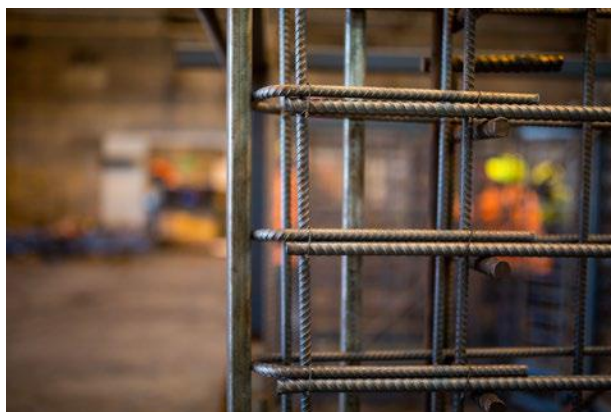
- Grade 500E (seismic) as per AS/NZS 4671:2019  
High tensile – grade 500 (500MPa)  
High ductility – class E (10% uniform elongation)
- Weight per m<sup>2</sup> complies with NZS 3604 (min 2.27kg/m<sup>2</sup>)



## Hard Drawn Mesh

Fletcher Reinforcing offers a range of mesh sheet sizes and centres to meet the needs of typical New Zealand non-ductile applications.

Our range covers standard sheet sizes of 4.65m x 1.97m through to our larger economical sheets which are 6.15m x 2.42m. Centres are either 150 x 150mm or the 'step through' option of 300 x 300mm.



# New Zealand Standards

Standards New Zealand controls the preparation and publishing of all national Standard Specifications and Codes of Practice in New Zealand.

They are developed by expert committees using a consensus-based process that facilitates public input.

The relevant Standards listed below, specify the mechanical properties of the steel used for concrete reinforcement, including welded fabric and methods of application in respect to concrete reinforcement.

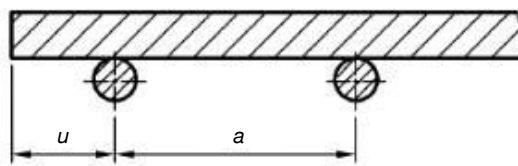
Visit [www.standards.govt.nz](http://www.standards.govt.nz) for more information.

## AS/NZS4671:2019

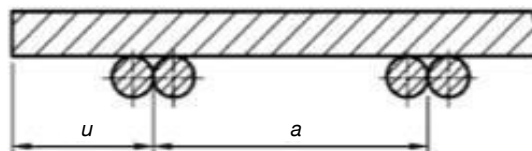
### Specification for steel for the reinforcement of concrete, including Welded Fabric (mesh)

The pitch ( $a$ ) of longitudinal bars and transverse bars shall not be less than 50 mm. The pitch shall be measured as

shown below. The tolerance of the pitch shall not be more than  $\pm 0.075$  times the specified value.



(a) Single-bar meshes



(b) Twin-bar meshes

**Legend:**

$u$  = edge overhang of a bar in mesh (mm)

$a$  = pitch of bars in a mesh (mm)

## NZS3101:2006

### Standard for The Design of Concrete Structures

This Standard lays out the development length and lap-splice requirements for plain wire mesh and deformed

wire mesh, and is the basis of any pertinent calculations or recommendations given in this Product Guide.

# Load-Bearing Equivalents

## Hard Drawn Mesh

Conventional Designation	Wire Diameter	Centres	Standard			
			Length (mm)	Width (mm)	Nett Cover (m <sup>2</sup> )	Fletcher Reinforcing Item
668	4.0	150	4650	1970	7.525	668L
665	5.3	150	4650	1970	7.525	665L
663	6.3	150	4650	1970	7.525	663L
662	7.1	150				
661	7.5	150				

Equivalents are based on load-bearing capacity i.e. the nominal sectional area of steel per metre width.

**Note:** Additional meshes are available as a special order. Minimum order quantities will apply. Please contact your local Fletcher Reinforcing Branch for further details.

## Super Ductile 500E Mesh

Conventional Designation	Wire Diameter (mm)	Centres	Length (mm)	Width (mm)	Nett Cover (m <sup>2</sup> )	Fletcher Reinforcing Item
665	6.1	200	5050	2050	8.64	SE62Res*
665	6.1	200	5050	2020	8.6	SE62*
664	7.0	200	6400	2370	13.6	SE72
662	8.0	200	6400	2370	13.6	SE82
661	9.0	200	6410	2380	13.6	SE92

**\*What does SE62 mean?** AS/NZS 4671:2019 designates letters to be used to identify welded mesh products:

**S** = Square (shape of grid centres)

**E** = Seismic grade (earthquake)

**6** = 6mm wire

**2** = 200mm centres

Equivalents are based on load-bearing capacity i.e. the nominal sectional area of steel per metre width.

## Hard Drawn Wire Mesh

## Super Ductile Wire Mesh

485 Mpa						Min: 500 MPa Max: 600MPa						
Wire Diameter (mm)	Centres (mm)	Cross Section (mm² /m)	Mass per m² (kg/m²)	Nett Cover (m²)	Fletcher Reinforcing Item	Conventional Designation	Wire Diameter (mm)	Centres (m²)	Cross Section (mm² /m)	Mass per m² (kg/m²)	Nett Cover (m²)	Fletcher Reinforcing Item
4.0	150	83.8	1.315	7.525	668L	668						
5.3	150	147.1	2.309	7.525	665L	665	6.1	200	146.1	2.294	8.64	SE62Res
						665	6.1	200	146.1	2.294	8.6	SE62
						665	7.5	300	147.3	2.312		SE73DE
						664						
6.3	150	207.8	3.263	7.525	663L	663						
						663						
						662						
						661						

Equivalents are based on load-bearing capacity i.e. the nominal sectional area of steel per metre width.

**Note:** Additional meshes are available as a special order. Minimum order quantities will apply. Please contact your local Fletcher Reinforcing Branch for further details.

# Seismic Grade Reinforcing Mesh SE62 Res SI



## Mesh Specification

**Product Description:** 5.05m x 2.02m – 200 x 200 Grid R6.1 Line Wire, R6.1 Cross Wire.  
Product is fully tested for conformance to AS/NZS 4671:2019.

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm <sup>2</sup> /m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	6.1 R	200	5050	11	25	146.1	0.2294	12.77
Cross Wire	6.1 R	200	2020	26	10	146.1	0.2294	12.07

Gross Sheet Weight (kg):	24.84
Mass Per Square Meter (kg/m <sup>2</sup> ):	2.294
Gross Sheet Area (m <sup>2</sup> )	10.201
Nett Cover (m <sup>2</sup> )	8.64

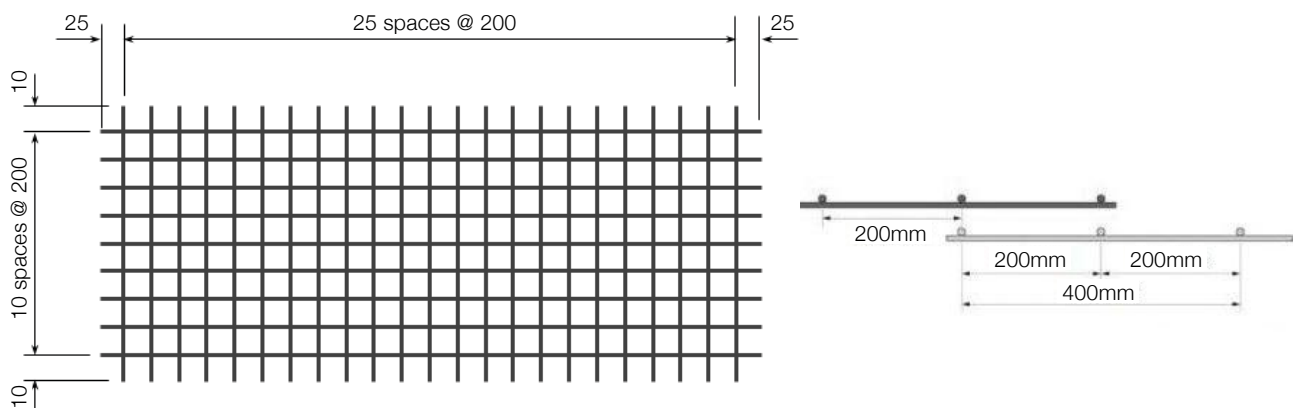
Ratio Stack & Turned (Y/N):	Y
No. of Sheets / Bundle:	25
Estimated Cubic (m <sup>3</sup> )	0.0933
Bundle Weight (Tonnes):	0.6211

## Mechanical Properties (characteristic values)

Uniform Elongation %	Yield Strength		Tensile Ratio	
	Min	Max	Min	Max
≥ 10 %	500MPa	600MPa	1.15	1.4

Minimum weld shear strength 7.3kN

## Mesh Sketch (not to scale)



\*All measurements/weights approximate.

# Seismic Grade Reinforcing Mesh

## SE62 SI



### Mesh Specification

**Product Description:** 6.05m x 2.42m – 200 x 200 Grid R6.1 Line Wire, R6.1 Cross Wire.

Product is fully tested for conformance to AS/NZS 4671:2019.

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm <sup>2</sup> /m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	6.1 R	200	6050	13	25	146.1	0.2294	18.08
Cross Wire	6.1 R	200	2420	31	10	146.1	0.2294	17.25

Gross Sheet Weight (kg):	35.33
Mass Per Square Meter (kg/m <sup>2</sup> ):	2.294
Gross Sheet Area (m <sup>2</sup> )	14.641
Nett Cover (m <sup>2</sup> )	12.76

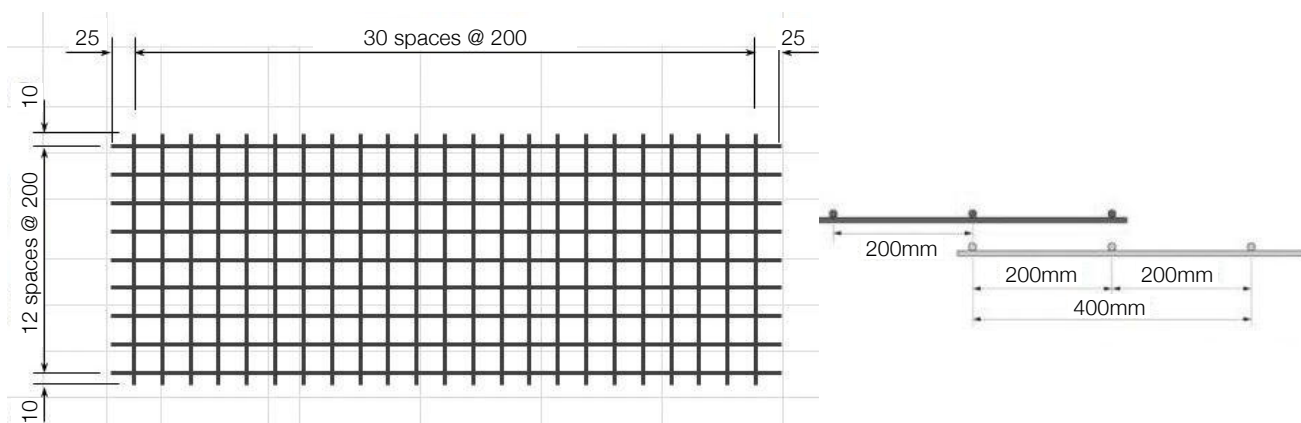
Ratio Stack & Turned (Y/N):	Y
No. of Sheets / Bundle: 2	25
Estimated Cubic (m <sup>3</sup> )	2.3221
Bundle Weight (Tonnes):	0.8833

### Mechanical Properties (characteristic values)

Uniform Elongation %	Yield Strength		Tensile Ratio	
	Min	Max	Min	Max
≥ 10 %	500MPa	600MPa	1.15	1.4

Minimum weld shear strength 7.3kN

### Mesh Sketch (not to scale)



\*All measurements/weights approximate.

# Seismic Grade Reinforcing Mesh SE72DE SI



## Mesh Specification

**Product Description:** 6.425m x 2.37m – 200 x 200 Grid R7.0 Line Wire, R7.0 Cross Wire.  
Product is fully tested for conformance to AS/NZS 4671:2019.

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm <sup>2</sup> /m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	7.0 R	200	6425	10	37	192.4	0.3021	19.44
Edge Wire	5.5 R	75	6425	4	37		0.1865	4.81
Cross Wire	7.0 R	200	2370	34	10	192.4	0.3021	24.38

Gross Sheet Weight (kg):	48.63
Mass Per Square Meter (kg/m <sup>2</sup> ):	3.021
Gross Sheet Area (m <sup>2</sup> )	15.227
Nett Cover (m <sup>2</sup> )	13.642

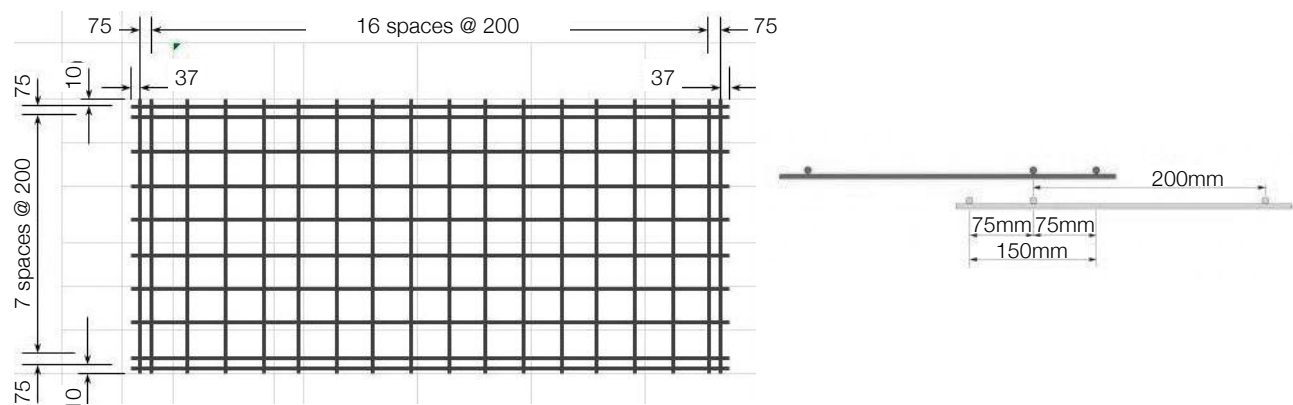
Ratio Stack & Turned (Y/N):	Y
No. of Sheets / Bundle:	25
Estimated Cubic (m <sup>3</sup> ):	0.1599
Bundle Weight (Tonnes):	1.2158

## Mechanical Properties (characteristic values)

Uniform Elongation %	Yield Strength		Tensile Ratio	
	Min	Max	Min	Max
≥ 10 %	500MPa	600MPa	1.15	1.4

Minimum weld shear strength 9.6kN

## Mesh Sketch (not to scale)



\*All measurements/weights approximate.

# Seismic Grade Reinforcing Mesh

## SE73DE SI



### Mesh Specification

**Product Description:** 5.025m x 2.27m – 300 x 300 Grid R7.5 Line Wire, R7.5 Cross Wire.  
Product is fully tested for conformance to AS/NZS 4671:2019.

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm <sup>2</sup> /m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	7.5 R	300	5000	6	37	147.3	0.3468	10.47
Edge Wire	5.5 R	75	5000	4	37		0.1865	3.76
Cross Wire	7.5 R	300	2270	19	10	147.3	0.3468	14.98

Gross Sheet Weight (kg):	29.21
Mass Per Square Meter (kg/m <sup>2</sup> ):	2.312
Gross Sheet Area (m <sup>2</sup> )	11.407
Nett Cover (m <sup>2</sup> )	10.082

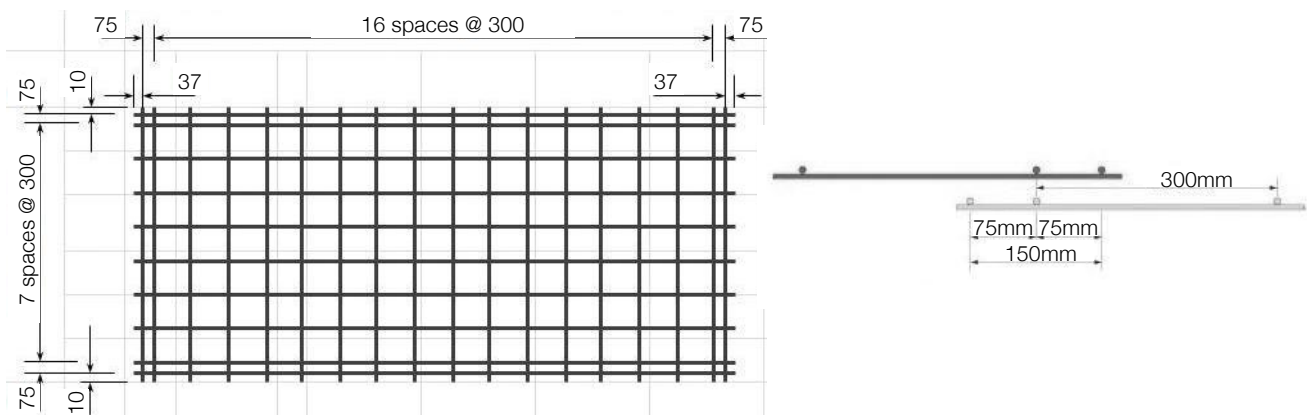
Ratio Stack & Turned (Y/N):	Y
No. of Sheets / Bundle: 2	25
Estimated Cubic (m <sup>3</sup> )	0.1283
Bundle Weight (Tonnes):	0.7302

### Mechanical Properties (characteristic values)

Uniform Elongation %	Yield Strength		Tensile Ratio	
	Min	Max	Min	Max
≥ 10 %	500MPa	600MPa	1.15	1.4

Minimum weld shear strength 11.1kN

### Mesh Sketch (not to scale)



\*All measurements/weights approximate.

# Seismic Grade Reinforcing Mesh SE82DE SI



## Mesh Specification

**Product Description:** 6.425m x 2.37m – 200 x 200 Grid R8.0 Line Wire, R8.0 Cross Wire.  
Product is fully tested for conformance to AS/NZS 4671:2019.

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm <sup>2</sup> /m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	8.0 R	200	6425	10	37	251.3	0.3946	25.38
Edge Wire	5.5 R	75	6425	4	37		0.1865	4.81
Cross Wire	8.0 R	200	2370	34	10	251.3	0.3946	31.84

Gross Sheet Weight (kg):	62.03
Mass Per Square Meter (kg/m <sup>2</sup> ):	3.946
Gross Sheet Area (m <sup>2</sup> )	15.227
Nett Cover (m <sup>2</sup> )	13.642

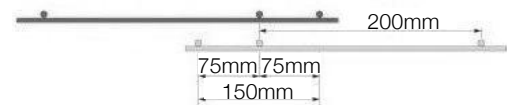
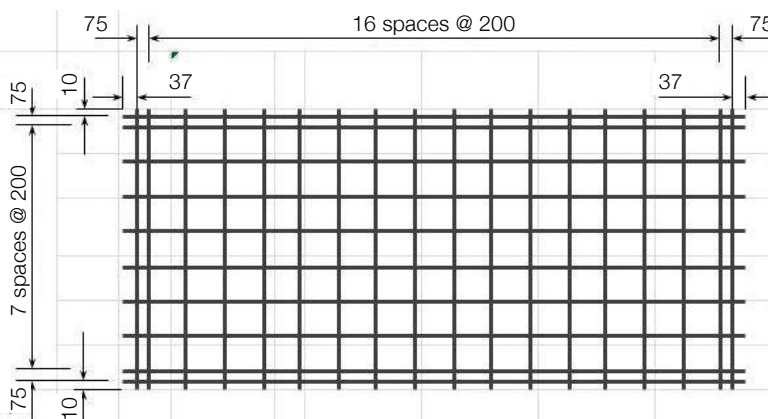
Ratio Stack & Turned (Y/N):	Y
No. of Sheets / Bundle: 2	25
Estimated Cubic (m <sup>3</sup> ):	0.1827
Bundle Weight (Tonnes):	1.5507

## Mechanical Properties (characteristic values)

Uniform Elongation %	Yield Strength		Tensile Ratio	
	Min	Max	Min	Max
≥ 10 %	500MPa	600MPa	1.15	1.4

Minimum weld shear strength 12.6kN

## Mesh Sketch (not to scale)



\*All measurements/weights approximate.

# Seismic Grade Reinforcing Mesh

## SE92DE SI

**SUPER**  
**DUCTILE 500E<sup>™</sup>**

### Mesh Specification

**Product Description:** 6.435m x 2.38m – 200 x 200 Grid R9.0 Line Wire, R9.0 Cross Wire.  
Product is fully tested for conformance to AS/NZS 4671:2019

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm <sup>2</sup> /m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	9.0 R	200	6435	10	37	318.1	0.4994	32.17
Edge Wire	6.1 R	80	6435	4	37		0.2294	5.92
Cross Wire	9.0 R	200	2380	34	10	318.1	0.4994	40.45

Gross Sheet Weight (kg):	78.54
Mass Per Square Meter (kg/m <sup>2</sup> ):	4.994
Gross Sheet Area (m <sup>2</sup> )	15.315
Nett Cover (m <sup>2</sup> )	13.58

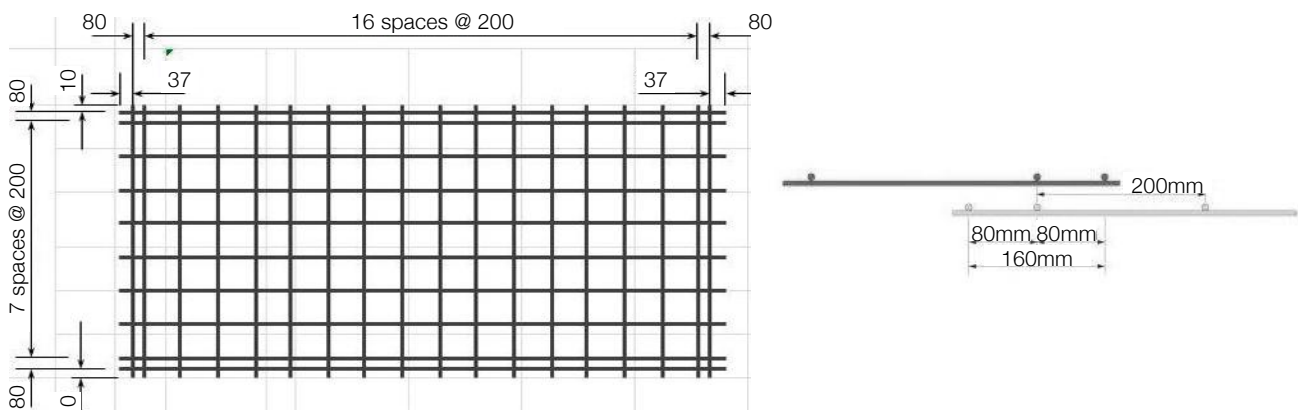
Ratio Stack & Turned (Y/N):	Y
No. of Sheets / Bundle: 2	25
Estimated Cubic (m <sup>3</sup> ):	0.2068
Bundle Weight (Tonnes):	1.9635

### Mechanical Properties (characteristic values)

Uniform Elongation %	Yield Strength		Tensile Ratio	
	Min	Max	Min	Max
≥ 10 %	500MPa	600MPa	1.15	1.4

Minimum weld shear strength 15.9kN

### Mesh Sketch (not to scale)



\*All measurements/weights approximate.

# Hard Drawn Reinforcing Mesh 668L SI

## Mesh Specification

**Product Description:** 4.65m x 1.97m – 150 x 150 Grid D4.0 Line Wire, D4.0 Cross Wire.

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm <sup>2</sup> /m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	4.0 D	150	4650	14	75	83.8	0.0986	6.42
Cross Wire	4.0 D	150	1970	31	10	83.8	0.0986	6.02

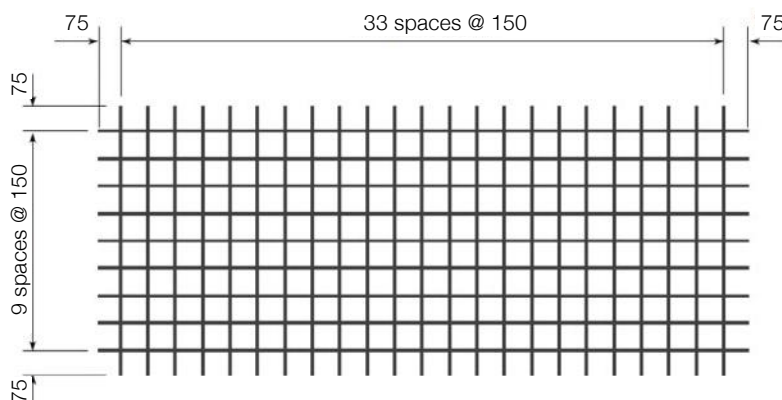
Gross Sheet Weight (kg):	12.44
Mass Per Square Meter (kg/m <sup>2</sup> ):	1.315
Gross Sheet Area (m <sup>2</sup> )	9.161
Nett Cover (m <sup>2</sup> )	7.525

Ratio Stack & Turned (Y/N):	Y
No. of Sheets / Bundle: 2	25
Estimated Cubic (m <sup>3</sup> ):	0.0550
Bundle Weight (Tonnes):	0.3110

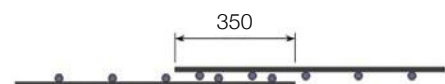
## Mechanical Properties (characteristic values)

Wire Diameter	0.2% Proof Stress	
	Min	Max
< 5.0mm	485MPa	
≥ 5.0mm	485MPa	750MPa

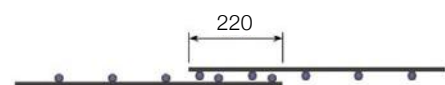
## Mesh Sketch (not to scale)



### Lapping on Ends:



### Lapping on Sides:



\*All measurements/weights approximate.

# Hard Drawn Reinforcing Mesh

## 665L SI

### Mesh Specification

**Product Description:** 4.65m x 1.97m – 150 x 150 Grid D5.3 Line Wire, D5.3 Cross Wire.

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm <sup>2</sup> /m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	5.3 D	150	4650	14	75	147.1	0.1732	11.28
Cross Wire	5.3 D	150	1970	31	10	147.1	0.1732	10.58

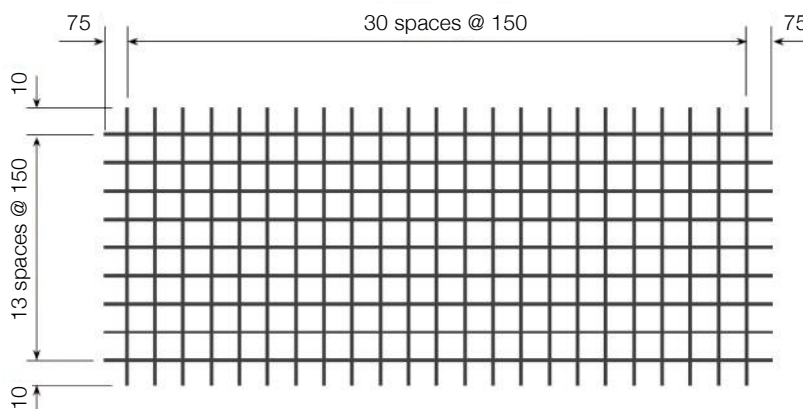
Gross Sheet Weight (kg):	21.85
Mass Per Square Meter (kg/m <sup>2</sup> ):	2.309
Gross Sheet Area (m <sup>2</sup> )	9.161
Nett Cover (m <sup>2</sup> )	7.525

Ratio Stack & Turned (Y/N):	Y
No. of Sheets / Bundle: 2	25
Estimated Cubic (m <sup>3</sup> ):	0.0728
Bundle Weight (Tonnes):	0.5463

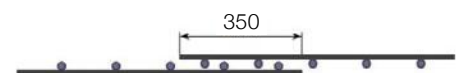
### Mechanical Properties (characteristic values)

Wire Diameter	0.2% Proof Stress	
	Min	Max
< 5.0mm	485MPa	
≥ 5.0mm	485MPa	750MPa

### Mesh Sketch (not to scale)



#### Lapping on Ends:



#### Lapping on Sides:



\*All measurements/weights approximate.

# Hard Drawn Reinforcing Mesh 663L SI

## Mesh Specification

**Product Description:** 4.65m x 1.97m — 150 x 150 Grid D6.3 Line Wire, D6.3 Cross Wire .

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm <sup>2</sup> /m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	6.3 R	150	4650	14	75	207.8	0.2447	15.93
Cross Wire	6.3 R	150	1970	31	10	207.8	0.2447	14.94

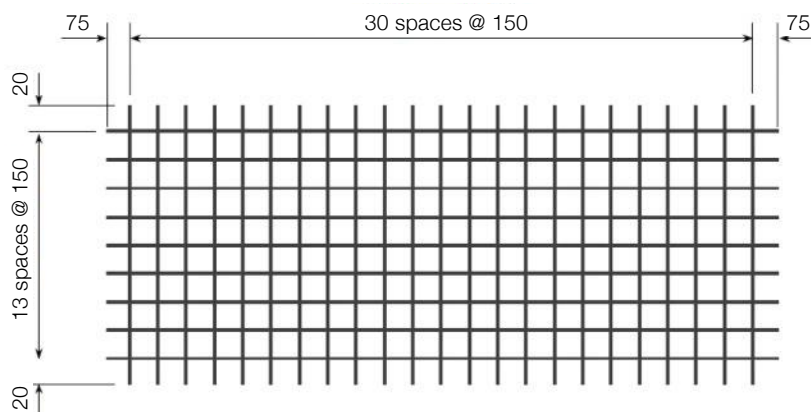
Gross Sheet Weight (kg):	30.87
Mass Per Square Meter (kg/m <sup>2</sup> ):	3.263
Gross Sheet Area (m <sup>2</sup> )	9.161
Nett Cover (m <sup>2</sup> )	7.525

Ratio Stack & Turned (Y/N):	Y
No. of Sheets / Bundle: 2	25
Estimated Cubic (m <sup>3</sup> ):	0.0866
Bundle Weight (Tonnes):	0.7719

## Mechanical Properties (characteristic values)

Wire Diameter	0.2% Proof Stress	
	Min	Max
< 5.0mm	485MPa	
≥ 5.0mm	485MPa	750MPa

## Mesh Sketch (not to scale)



### Lapping on Ends:



### Lapping on Sides:



\*All measurements/weights approximate.

## Notes

[illegible]

## North Island

### Whangarei (Easysteel)

33 Rewa Rewa Road,  
Whangarei 0110

P 09 470 2510  
F 09 438 4586

### Tauranga

99 Aviation Avenue,  
Mount Maunganui,  
Tauranga 3116

P 07 572 9708

### Palmerston North (Easysteel)

120 Kaimanawa Street, Kelvin  
Grove, Palmerston North 4414

P 06 354 2622  
F 06 354 2623

### Auckland

8 Gabador Place, Mount  
Wellington, Auckland 1060

P 09 270 4247  
F 09 270 0861

### Rotorua (Easysteel)

95 – 97 Tallyho Street,  
Mangakakahi, Rotorua 5013

P 07 348 3039  
F 07 347 7353

### Levin

43 South Road,  
Horowhenua, Levin 5510

P 06 949 1700  
F 06 367 0628

### Hamilton

31 Gallagher Drive,  
Melville, Hamilton 3206

P 07 843 0890  
F 07 843 6176

### Hawkes Bay (Easysteel)

1100 Omaha Road,  
Tyford, Hastings 4175

P 06 873 9036  
F 06 879 6880

### Wellington (Easysteel)

110 Hutt Park Road,  
Gracefield, Lower Hutt,  
Wellington 5010

P 04 570 8472  
F 04 570 8473

## South Island

### Nelson (Easysteel)

40 Beach Road,  
Richmond, Nelson 7020

P 03 543 8215  
F 03 544 0759

### Dunedin

14 Neville Street,  
Dunedin 9012

P 03 478 8105  
F 03 488 2052

### Invercargill (Easysteel)

54F Tweed Street,  
Invercargill 9810

P 03 214 9099  
F 03 214 9099

### Christchurch

240 Waltham Road,  
Waltham, Christchurch 8023

P 03 377 1190  
F 03 365 7510

[www.fletcherreinforcing.co.nz](http://www.fletcherreinforcing.co.nz)

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