

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.



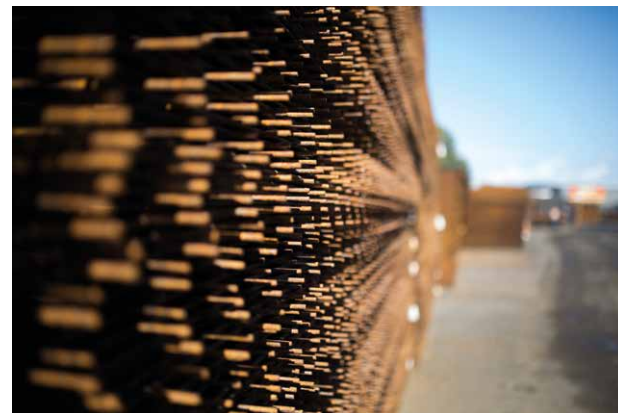
Super Ductile 500E

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/m² of Grade 500E reinforcing mesh fabric which conforms with AS/NZS4671:2019.

Super Ductile 500E meets these requirements:

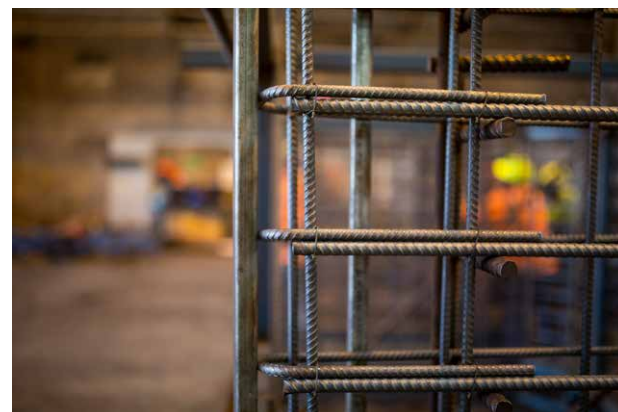
- Grade 500E (seismic) as per AS/NZS 4671:2019
High tensile – grade 500 (500MPa)
High ductility – class E (10% uniform elongation)
- Weight per m² complies with NZS 3604 (min 2.27kg/m²)



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.

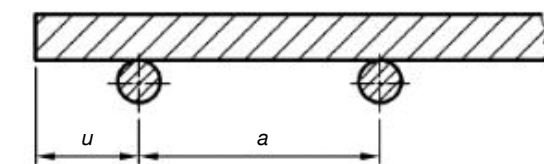
Visit www.standards.govt.nz for more information.

AS/NZS4671:2019

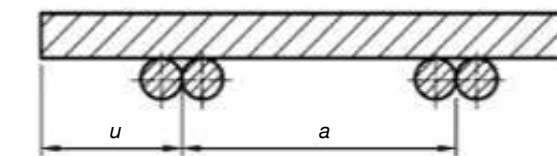
Specification for steel for the reinforcement of concrete, including Welded Fabric (mesh)

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 +/-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

			Standard			
Conventional Designation	Wire Diameter	Centres	Length (mm)	Width (mm)	Nett Cover (m²)	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 (m²)	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

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						

Super Ductile Wire Mesh

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

SUPER

DUCTILE

500E

TM

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)	mm²/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

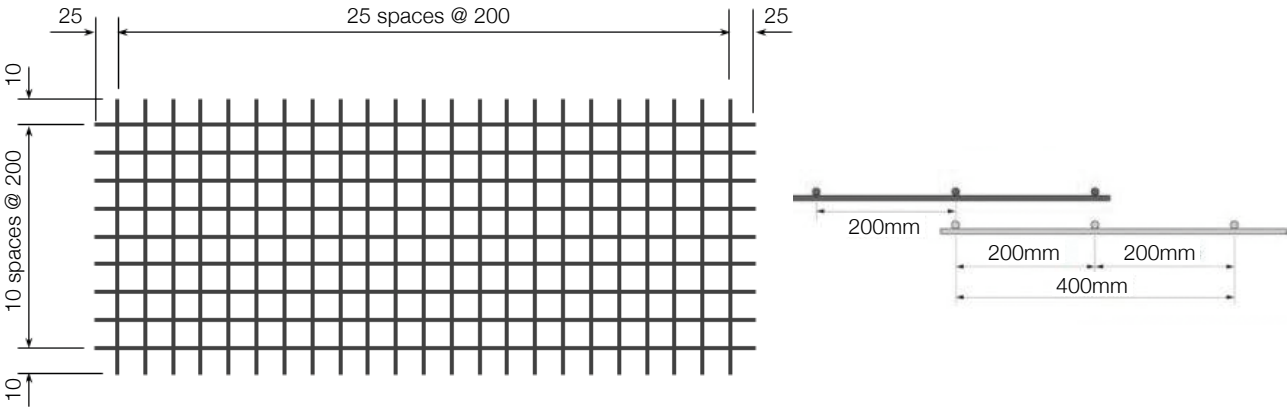
Gross Sheet Weight (kg):	24.84	Ratio Stack & Turned (Y/N):	Y
Mass Per Square Meter (kg/m²):	2.294	No. of Sheets / Bundle:	25
Gross Sheet Area (m²)	10.201	Estimated Cubic (m³)	0.0933
Nett Cover (m²)	8.64	Bundle Weight (Tonnes):	0.6211

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

SUPER

DUCTILE

500E

TM

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)	mm²/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

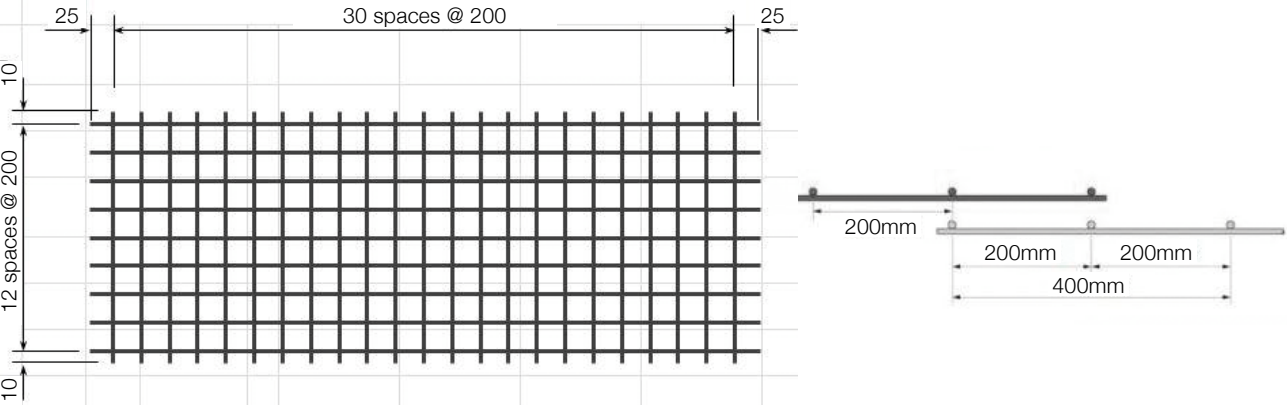
Gross Sheet Weight (kg):	35.33	Ratio Stack & Turned (Y/N):	Y
Mass Per Square Meter (kg/m²):	2.294	No. of Sheets / Bundle: 2	25
Gross Sheet Area (m²)	14.641	Estimated Cubic (m³)	2.3221
Nett Cover (m²)	12.76	Bundle Weight (Tonnes):	0.8833

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

SUPER

DUCTILE

500E™

I 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)	mm²/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

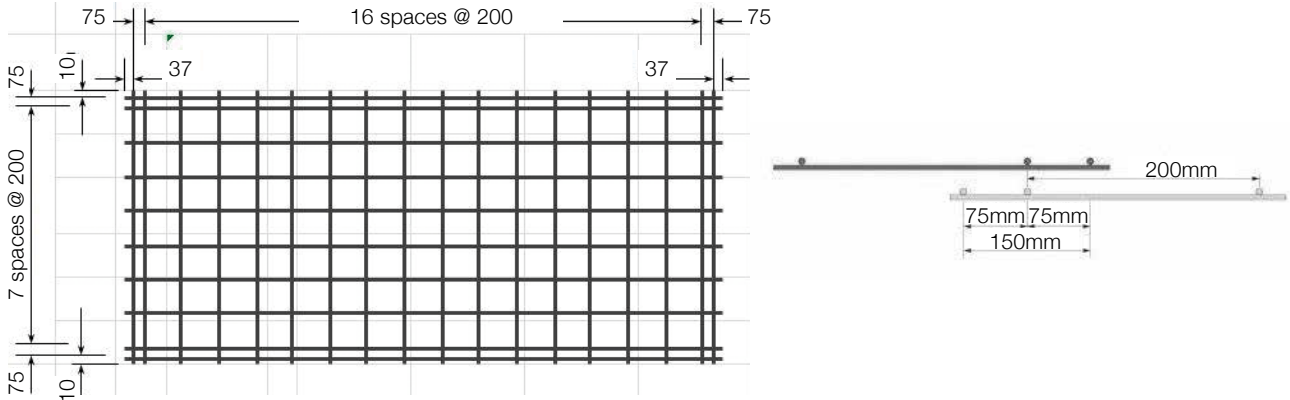
Gross Sheet Weight (kg):	48.63	Ratio Stack & Turned (Y/N):	Y
Mass Per Square Meter (kg/m²):	3.021	No. of Sheets / Bundle:	25
Gross Sheet Area (m²)	15.227	Estimated Cubic (m³):	0.1599
Nett Cover (m²)	13.642	Bundle Weight (Tonnes):	1.2158

I 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

I Mesh Sketch (not to scale)



*All measurements/weights approximate.

Seismic Grade Reinforcing Mesh

SE73DE SI

SUPER

DUCTILE

500E™

I 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)	mm²/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

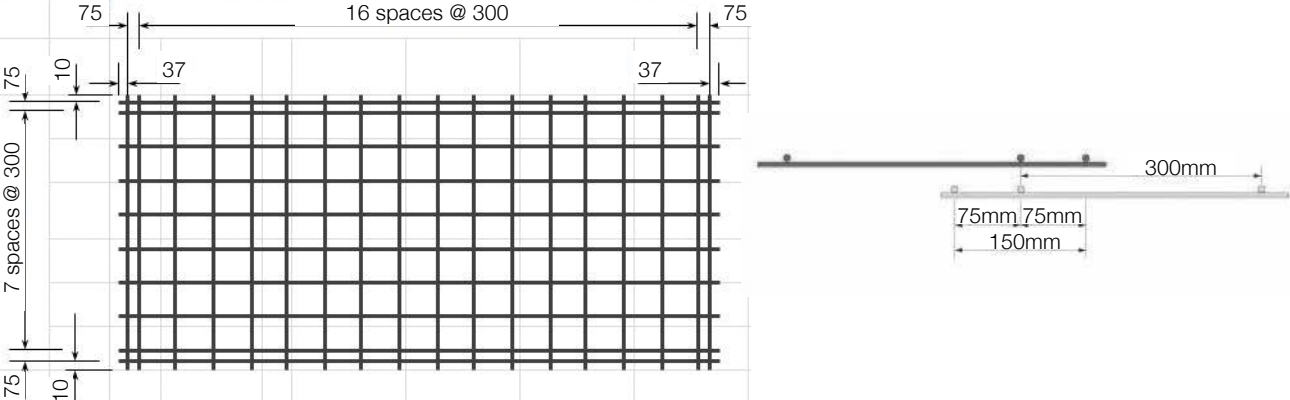
Gross Sheet Weight (kg):	29.21	Ratio Stack & Turned (Y/N):	Y
Mass Per Square Meter (kg/m²):	2.312	No. of Sheets / Bundle: 2	25
Gross Sheet Area (m²)	11.407	Estimated Cubic (m³)	0.1283
Nett Cover (m²)	10.082	Bundle Weight (Tonnes):	0.7302

I 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

I Mesh Sketch (not to scale)



*All measurements/weights approximate.

Seismic Grade Reinforcing Mesh

SE82DE SI

SUPER

DUCTILE

500E

TM

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)	mm²/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

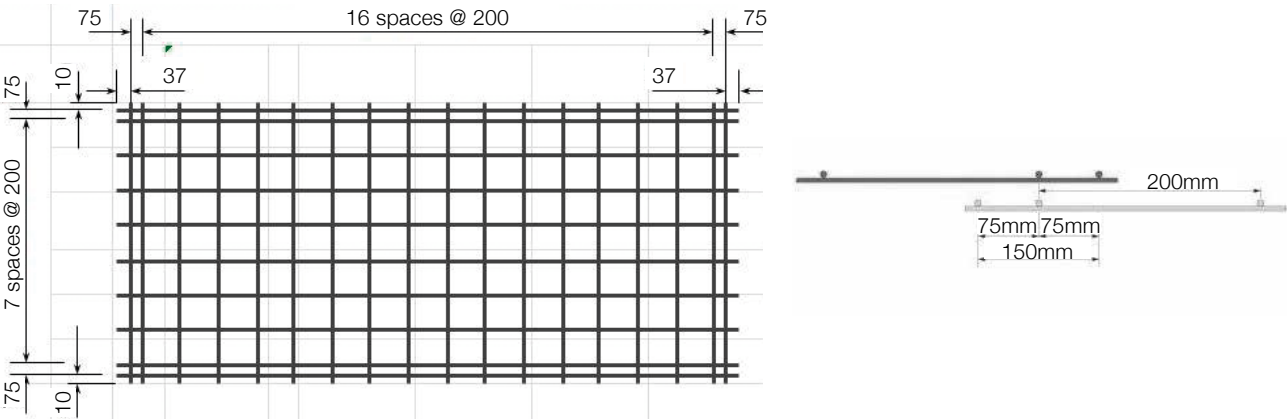
Gross Sheet Weight (kg):	62.03	Ratio Stack & Turned (Y/N):	Y
Mass Per Square Meter (kg/m²):	3.946	No. of Sheets / Bundle: 2	25
Gross Sheet Area (m²)	15.227	Estimated Cubic (m³):	0.1827
Nett Cover (m²)	13.642	Bundle Weight (Tonnes):	1.5507

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 United Steel / WirePlus

Grade Reinforcing Mesh

SE92

SUPER

DUCTILE

500E

TM

Mesh Specification

Product Description: 5.65m x 2.22m – 150 x 150 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)	mm²/m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	9.0 R	200	5650	12	25	318.1	0.4994	33.86
Cross Wire	9.0 R	200	2220	29	10	318.1	0.4994	32.15

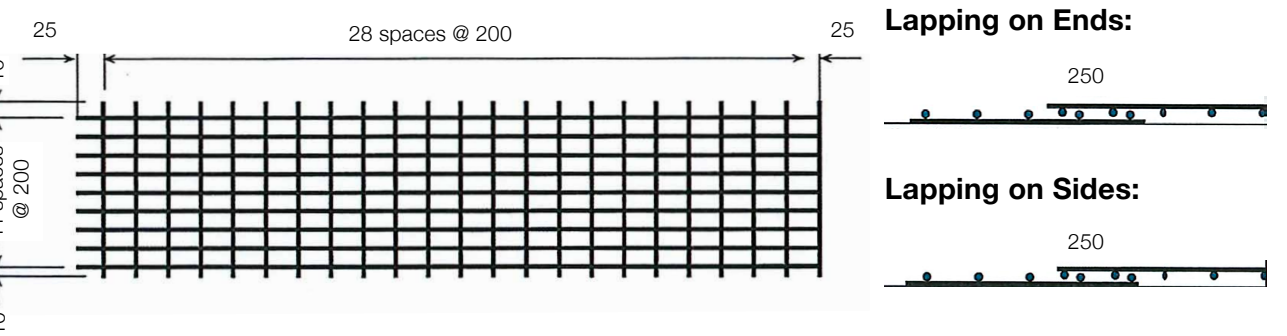
Gross Sheet Weight (kg):	66.01	Ratio Stack & Turned (Y/N):	Y
Mass Per Square Meter (kg/m²):	4.994	No. of Sheets / Bundle: 2	15
Gross Sheet Area (m²)	12.543	Estimated Cubic (m³)	1.8062
Nett Cover (m²)	10.432	Bundle Weight (Tonnes):	0.9902

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.

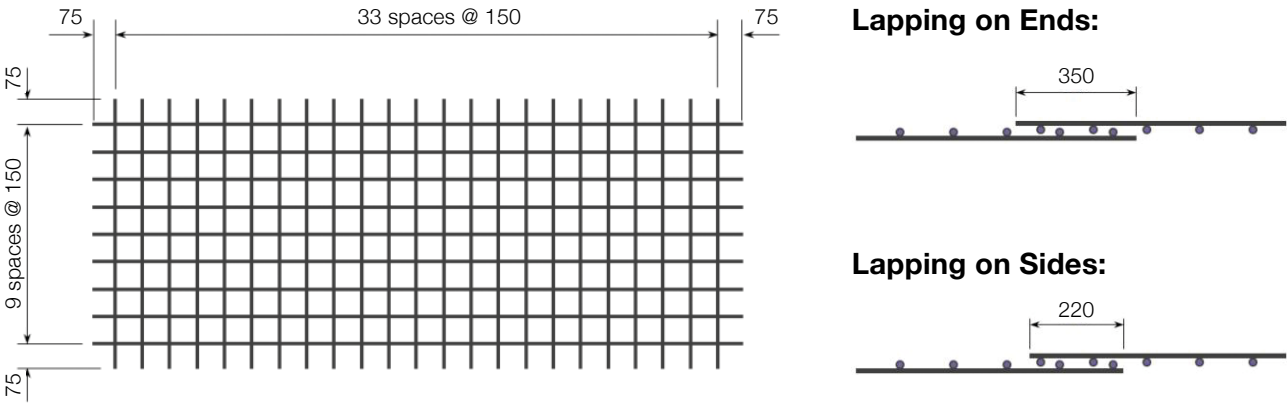
	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm ² /m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	4.0 D	150	4650	14	75	83.8	0.0986	6.42
Cross Wire	4.0 D	150	1970	31	10	83.8	0.0986	6.02

Gross Sheet Weight (kg):	12.44	Ratio Stack & Turned (Y/N):	Y
Mass Per Square Meter (kg/m ²):	1.315	No. of Sheets / Bundle: 2	25
Gross Sheet Area (m ²):	9.161	Estimated Cubic (m ³):	0.0550
Nett Cover (m ²)	7.525	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)



*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.

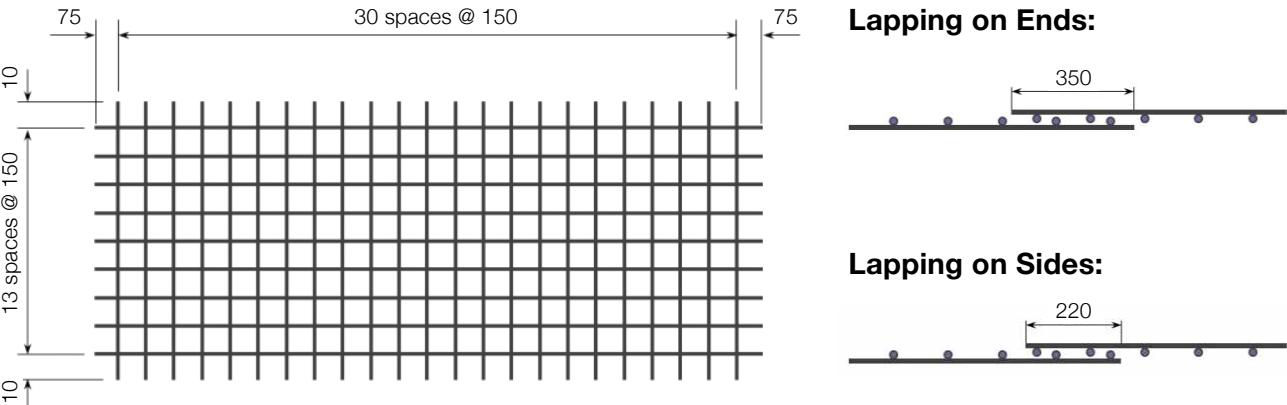
	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm ² /m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	5.3 D	150	4650	14	75	147.1	0.1732	11.28
Cross Wire	5.3 D	150	1970	31	10	147.1	0.1732	10.58

Gross Sheet Weight (kg):	21.85	Ratio Stack & Turned (Y/N):	Y
Mass Per Square Meter (kg/m ²):	2.309	No. of Sheets / Bundle: 2	25
Gross Sheet Area (m ²):	9.161	Estimated Cubic (m ³):	0.0728
Nett Cover (m ²)	7.525	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)



*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 .

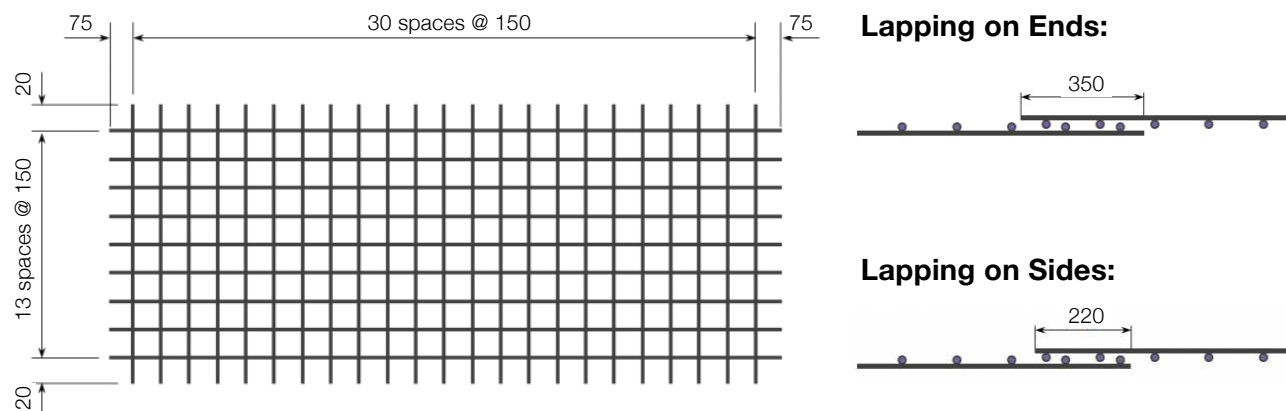
	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)	mm²/m	Wire (kg/m)	Weight (kg)
Longitudinal Wire	6.3 R	150	4650	14	75	207.8	0.2447	15.93
Cross Wire	6.3 R	150	1970	31	10	207.8	0.2447	14.94

Gross Sheet Weight (kg):	30.87	Ratio Stack & Turned (Y/N):	Y
Mass Per Square Meter (kg/m²):	3.263	No. of Sheets / Bundle: 2	25
Gross Sheet Area (m²)	9.161	Estimated Cubic (m³):	0.0866
Nett Cover (m²)	7.525	Bundle Weight (Tonnes):	0.7719

I Mechanical Properties (characteristic values)

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

Mesh Sketch (not to scale)



*All measurements/weights approximate.

Notes

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

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