

Reinforcing Mesh Product Guide

"Reinforcing New Zealand since 1954"

***Super Ductile 500E & Hard Drawn
NORTH ISLAND***

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™**

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/NZS4671:2001 and B1VM1 Paragraph 14. **Super Ductile 500E** meets these requirements:

- Grade 500E (seismic) as per AS/NZS 4671:2001
 - 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 x150mm or the 'step through' option of 300 x 300mm.

New Zealand Standards

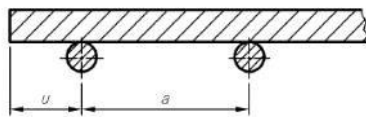
Standards New Zealand controls the preparation and publishing of all national Standard Specifications and Codes of Practice in New Zealand. They are developed by expert committees using a consensus-based process that facilitates public input. The relevant Standards listed below, specify the mechanical 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.

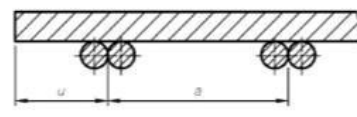
AS/NZS4671:2001

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 a 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.

Hard Drawn Mesh Load-bearing Equivalents

Conventional Designation	Centres	Wire Ø	Standard			
			Length (mm)	Width (mm)	Nett Cover (m ²)	Fletcher Reinforcing Item
668	150	4.0	4560	1980	7.525	668L
665	150	5.3	4560	1980	7.525	665L
663	150	6.3	4560	1980	7.525	663L
661	150	7.5	4560	1980	7.525	661L

Conventional Designation	Centres	Wire Ø	300 Centres			
			Length (mm)	Width (mm)	Nett Cover (m ²)	Fletcher Reinforcing Item
668	300	5.6	5000	2240	11.20	84/10
665	300	7.5	5000	2240	11.20	147/10

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 Load-bearing Equivalents

Conventional Designation	Centres	Wire Ø	Length	Width	Nett Cover	Fletcher Reinforcing Item
			(mm)	(mm)	(m ²)	
665	200	6.1	5050	2020	8.312	SE62Res
665	200	6.1	5850	2420	11.93	SE62
665	300	7.5	5000	2270	10.08	SE73DE
664	200	7.0	5650	2220	10.432	SE72
662	200	8.0	5650	2220	10.432	SE82
661	150	8.0	5650	2220	10.165	SE815

What does **SE62** mean?

AS/NZS 4671:2001 designates letters to be used to identify welded mesh products:

S = Square (shape of grid centres)
E = Seismic grade (**E**arthquake)

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												
Fletcher Reinforcing Item	Wire Diameter (mm)	Centres (mm)	Cross Section (mm² /m)	Mass per m² (kg/m²)	Nett Cover (m²)	Conventional Designation	Fletcher Reinforcing Item	Wire Diameter (mm)	Centres (m²)	Cross Section (mm² /m)	Mass per m² (kg/m²)	Nett Cover (m²)						
668L	4.0	150	83.8	1.315	7.525	668	SE62Res	6.1	200	146.1	2.294	8.312						
84/10	5.6	300	82.1	1.289	11.20	668												
665L	5.3	150	147.1	2.309	7.525	665							SE62	6.1	200	146.1	2.294	11.93
147/10	7.5	300	147.3	2.312	11.20	665							SE73DE	7.5	300	147.3	2.312	10.08
663L	6.3	150	207.8	3.263	7.525	663	SE72	7.0	200	192.4	3.02	10.432						
						664												
						662												
						661	SE815	8.0	150	335.1	5.261	10.165						

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

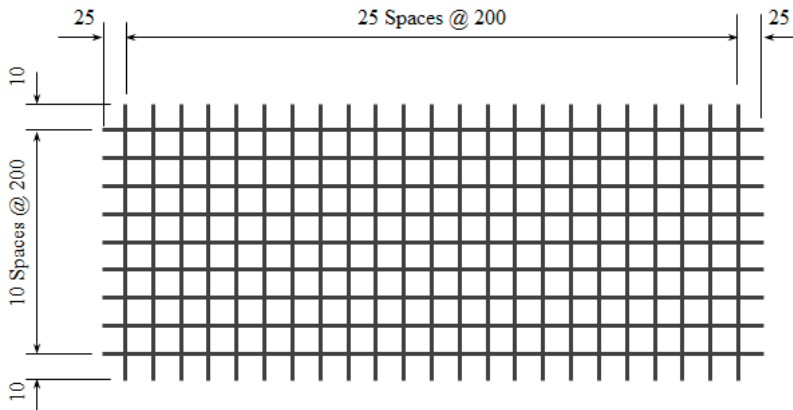
SE62 Res NI

Mesh Specification

Product Description: 5.05m x 2.02m — 200 x 200 Grid R6.1 Line Wire, R6.1 Cross Wire

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)		mm ² /m	Wire kg/m	Weight (kg)
Longitudinal Wire	6.1 R	200	5050	11	25	25	146.1	0.2294	12.74
Cross Wire	6.1 R	200	2020	26	10	10	146.1	0.2294	12.05
GROSS SHEET WEIGHT (Kg):									24.79
MASS PER SQ METER (Kg/m²):									2.294

Mesh Sketch (not to scale)



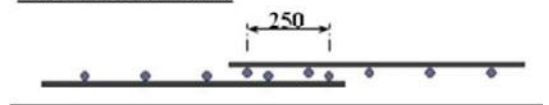
GROSS SHEET AREA (m ²)	10.201
NETT COVER (m ²)	8.312
Ratio STACK & TURNED (Y/N):	Y
No. OF SHEETS / BUNDLE: 2	25
ESTIMATED CUBIC (m ³)	0.0933
BUNDLE WEIGHT (Tonnes):	0.6198

Mechanical Properties (characteristic values)

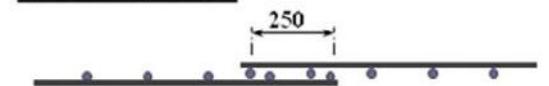
Uniform Elongation %	Yield Strength		Tensile Ratio	
	Min	Max	Min	Max
≥ 10 %	500MPa	600MPa	1.15	1.4

Minimum weld shear strength 7.3kN

LAPPING ON ENDS



LAPPING ON SIDES



Product is fully tested for conformance to AS/NZS 4671:2001 and B1/VM1 paragraph 14-.

*All measurements/weights approximate.

Mesh App:

Download our free smart-phone app by visiting the Apple or Google stores. Alternatively, scan the QR code from your phone to download directly.



Seismic Grade Reinforcing Mesh

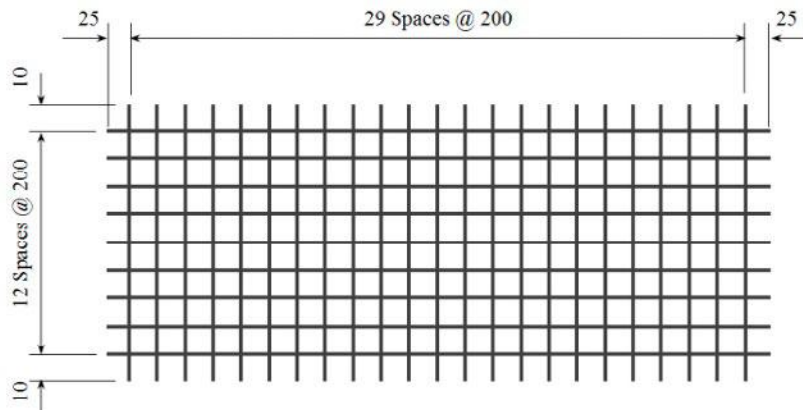
SE62 NI

Mesh Specification

Product Description: 5.85m x 2.42m — 200 x 200 Grid R6.1 Line Wire, R6.1 Cross Wire

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)		mm ² /m	Wire kg/m	Weight (kg)
Longitudinal Wire	6.1 R	200	5850	13	25	25	146.1	0.2294	17.45
Cross Wire	6.1 R	200	2420	30	10	10	146.1	0.2294	16.65
GROSS SHEET WEIGHT (Kg):									34.10
MASS PER SQ METER (Kg/m²):									2.294

Mesh Sketch (not to scale)



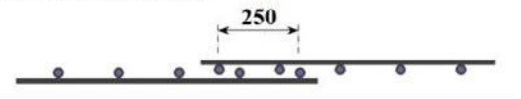
GROSS SHEET AREA (m ²)	14.157
NETT COVER (m ²)	11.932
Ratio STACK & TURNED (Y/N):	Y
No. OF SHEETS / BUNDLE: 2	25
ESTIMATED CUBIC (m ³)	2.2453
BUNDLE WEIGHT (Tonnes):	0.8525

Mechanical Properties (characteristic values)

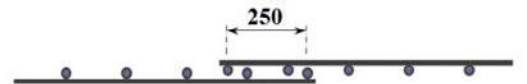
Uniform Elongation %	Yield Strength		Tensile Ratio	
	Min	Max	Min	Max
≥ 10 %	500MPa	600MPa	1.15	1.4

Minimum weld shear strength 7.3kN

LAPPING ON ENDS



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Seismic Grade Reinforcing Mesh

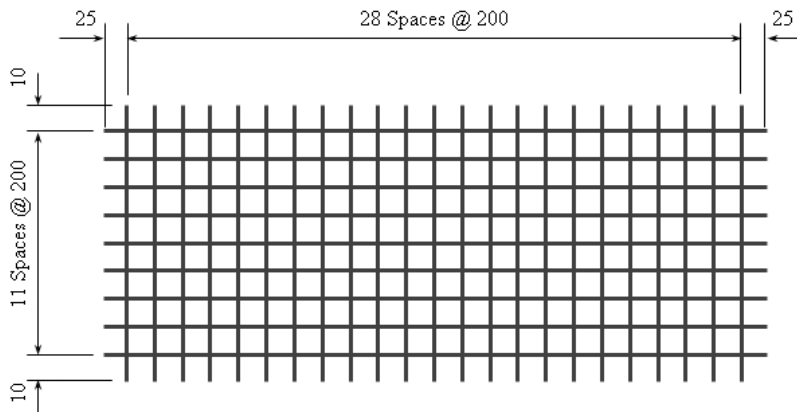
SE72 NI

Mesh Specification

Product Description: 5.65m x 2.22m — 200 x 200 Grid R7.0 Line Wire, R7.0 Cross Wire

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)		mm ² /m	Wire kg/m	Weight (kg)
Longitudinal Wire	7.0 R	200	5650	12	25	25	192.4	0.3021	20.48
Cross Wire	7.0 R	200	2220	29	10	10	192.4	0.3021	19.45
GROSS SHEET WEIGHT (Kg):									39.93
MASS PER SQ METER (Kg/m²):									3.021

Mesh Sketch (not to scale)



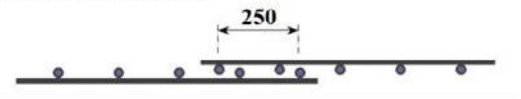
GROSS SHEET AREA (m ²)	12.543
NETT COVER (m ²)	10.432
Ratio STACK & TURNED (Y/N):	Y
No. OF SHEETS / BUNDLE: 2	25
ESTIMATED CUBIC (m ³)	2.2828
BUNDLE WEIGHT (Tonnes):	0.9983

Mechanical Properties (characteristic values)

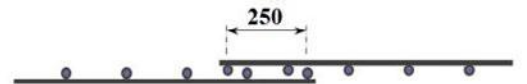
Uniform Elongation %	Yield Strength		Tensile Ratio	
	Min	Max	Min	Max
≥ 10 %	500MPa	600MPa	1.15	1.4

Minimum weld shear strength 9.6kN

LAPPING ON ENDS



LAPPING ON SIDES



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*All measurements/weights approximate.

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Seismic Grade Reinforcing Mesh

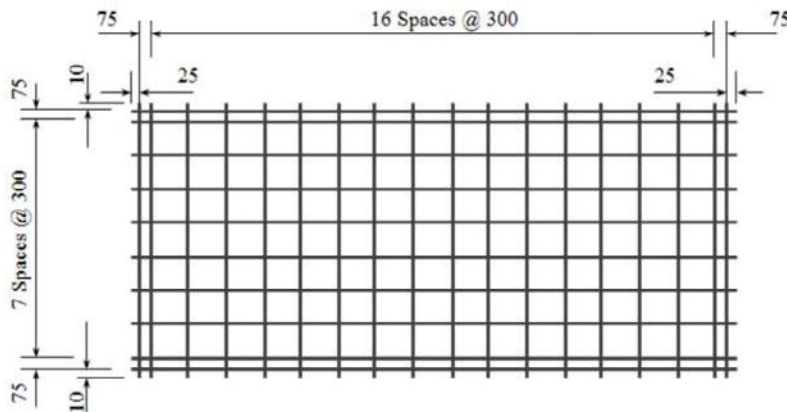
SE73DE NI

Mesh Specification

Product Description: 5.0m x 2.27m — 300 x 300 Grid R7.5 Line Wire, R7.5 Cross Wire

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)		mm ² /m	Wire kg/m	Weight (kg)
Longitudinal Wire	7.5 R	300	5000	8	25	25	147.3	0.3468	13.87
Edge Wire	5.5 R	75	5000	2	25	25		0.1865	1.87
Cross Wire	7.5 R	300	2270	19	10	10	147.3	0.3468	14.96
GROSS SHEET WEIGHT (Kg):									30.69
MASS PER SQ METER (Kg/m²):									2.312

Mesh Sketch (not to scale)



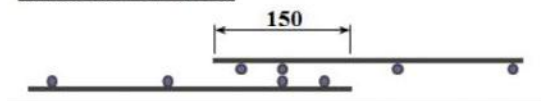
GROSS SHEET AREA (m ²)	11.35
NETT COVER (m ²)	10.08
Ratio STACK & TURNED (Y/N):	Y
No. OF SHEETS / BUNDLE: 2	20
ESTIMATED CUBIC (m ³)	0.1277
BUNDLE WEIGHT (Tonnes):	0.6139

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

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LAPPING ON SIDES



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Seismic Grade Reinforcing Mesh

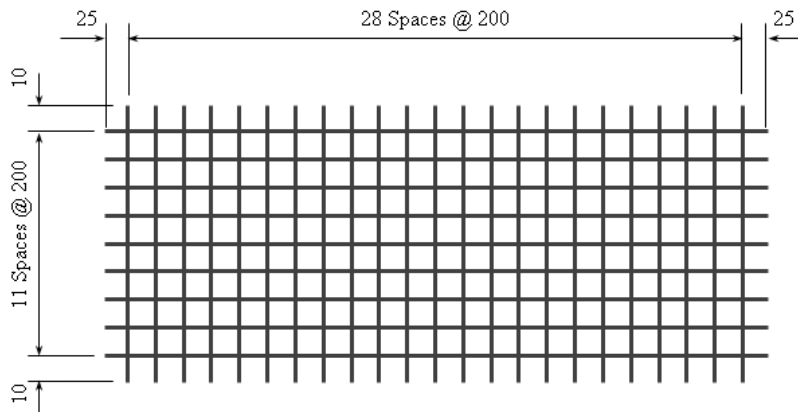
SE82 NI

Mesh Specification

Product Description: 5.65m x 2.22m — 200 x 200 Grid R8.0 Line Wire, R8.0 Cross Wire

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)		mm ² /m	Wire kg/m	Weight (kg)
Longitudinal Wire	8.0 R	200	5650	12	25	25	251.3	0.3946	26.75
Cross Wire	8.0 R	200	2220	29	10	10	251.3	0.3946	25.40
GROSS SHEET WEIGHT (Kg):									52.16
MASS PER SQ METER (Kg/m²):									3.946

Mesh Sketch (not to scale)



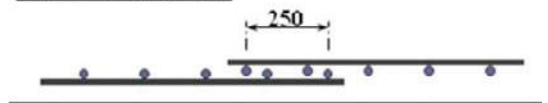
GROSS SHEET AREA (m ²)	12.543
NETT COVER (m ²)	10.432
Ratio STACK & TURNED (Y/N):	Y
No. OF SHEETS / BUNDLE: 2	25
ESTIMATED CUBIC (m ³)	2.6089
BUNDLE WEIGHT (Tonnes):	1.3040

Mechanical Properties (characteristic values)

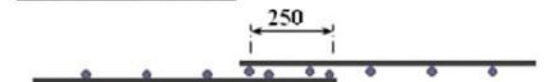
Uniform Elongation %	Yield Strength		Tensile Ratio	
	Min	Max	Min	Max
≥ 10 %	500MPa	600MPa	1.15	1.4

Minimum weld shear strength 12.6kN

LAPPING ON ENDS



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*All measurements/weights approximate.

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Seismic Grade Reinforcing Mesh

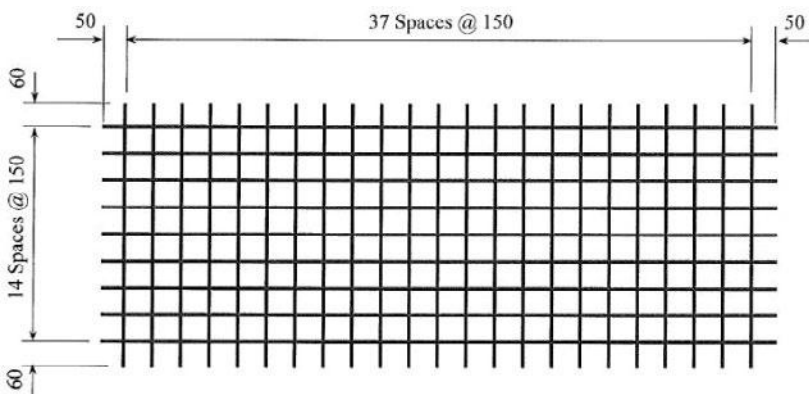
SE815 NI

Mesh Specification

Product Description: 5.65m x 2.22m — 150 x 150 Grid R8.0 Line Wire, R8.0 Cross Wire

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)		mm ² /m	Wire kg/m	Weight (kg)
Longitudinal Wire	8.0 R	150	5650	15	50	50	335.1	0.3946	33.44
Cross Wire	8.0 R	150	2220	38	60	60	335.1	0.3946	33.29
GROSS SHEET WEIGHT (Kg):									66.73
MASS PER SQ METER (Kg/m²):									5.261

Mesh Sketch (not to scale)



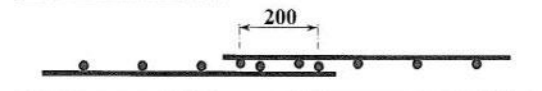
GROSS SHEET AREA (m ²)	12.543
NETT COVER (m ²)	10.165
Ratio STACK & TURNED (Y/N):	Y
No. OF SHEETS / BUNDLE: 2	25
ESTIMATED CUBIC (m ³)	2.6089
BUNDLE WEIGHT (Tonnes):	1.6683

Mechanical Properties (characteristic values)

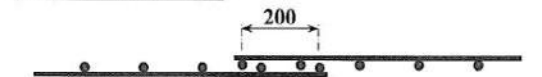
Uniform Elongation %	Yield Strength		Tensile Ratio	
	Min	Max	Min	Max
≥ 10 %	500MPa	600MPa	1.15	1.4

Minimum weld shear strength 12.6kN

LAPPING ON ENDS



LAPPING ON SIDES



Product is fully tested for conformance to AS/NZS 4671:2001 and B1/VM1 paragraph 14-.

*All measurements/weights approximate.

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Hard Drawn Reinforcing Mesh

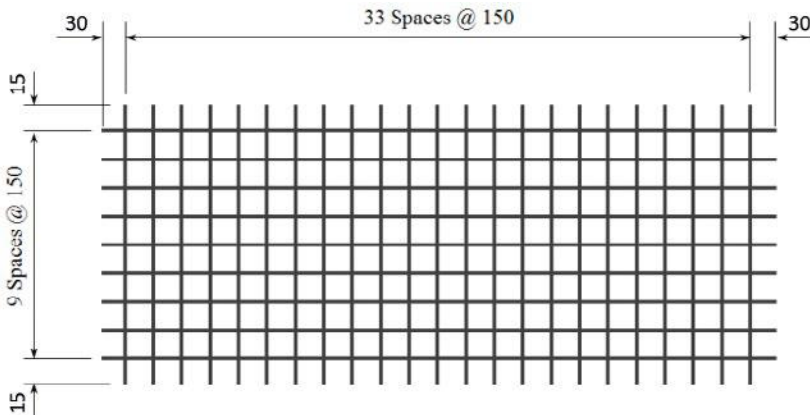
668L NI

Mesh Specification

Product Description: 4.56m x 1.98m — 150 x 150 Grid R4.0 Line Wire, R4.0 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 R	150	4560	14	30	30	83.8	0.0986	6.29
Cross Wire	4.0 R	150	1980	31	15	15	83.8	0.0986	6.05
GROSS SHEET WEIGHT (Kg):									12.34
MASS PER SQ METER (Kg/m²):									1.315

Mesh Sketch (not to scale)

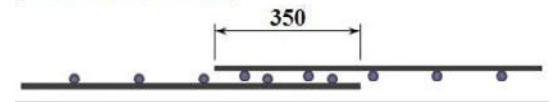


GROSS SHEET AREA (m ²)	9.029
NETT COVER (m ²)	7.525
Ratio STACK & TURNED (Y/N):	Y
No. OF SHEETS / BUNDLE: 2	25
ESTIMATED CUBIC (m ³) BUNDLE	0.90
BUNDLE WEIGHT (KG):	309

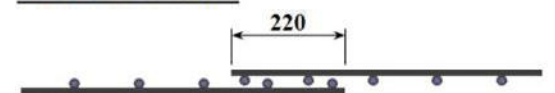
Mechanical Properties

Wire Diam	0.2% Proof Stress	
	Min	Max
4.0mm R	485MPa	750MPa

LAPPING ON ENDS



LAPPING ON SIDES



*All measurements/weights approximate.



Hard Drawn Reinforcing Mesh

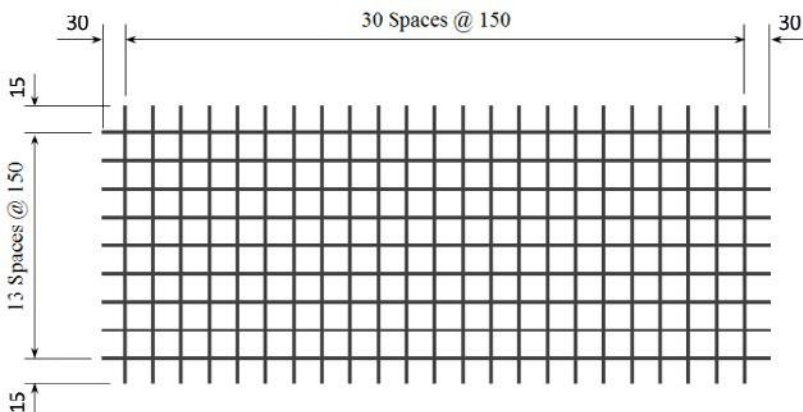
665L NI

Mesh Specification

Product Description: 4.56m x 1.98m — 150 x 150 Grid R5.3 Line Wire, R5.3 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 R	150	4560	14	30	30	147.1	0.1732	11.06
Cross Wire	5.3 R	150	1980	31	15	15	147.1	0.1732	10.63
GROSS SHEET WEIGHT (Kg):									21.69
MASS PER SQ METER (Kg/m²):									2.309

Mesh Sketch (not to scale)

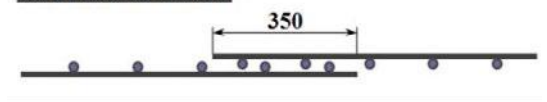


GROSS SHEET AREA (m ²)	9.029
NETT COVER (m ²)	7.525
Ratio STACK & TURNED (Y/N):	Y
No. OF SHEETS / BUNDLE:	25
ESTIMATED CUBIC (m ³) BUNDLE	1.26
BUNDLE WEIGHT (KG):	542

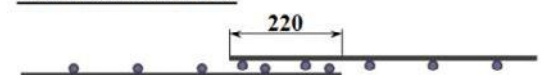
Mechanical Properties

Wire Diam	0.2% Proof Stress	
	Min	Max
5.3mm R	485MPa	750MPa

LAPPING ON ENDS



LAPPING ON SIDES



*All measurements/weights approximate.



Hard Drawn Reinforcing Mesh

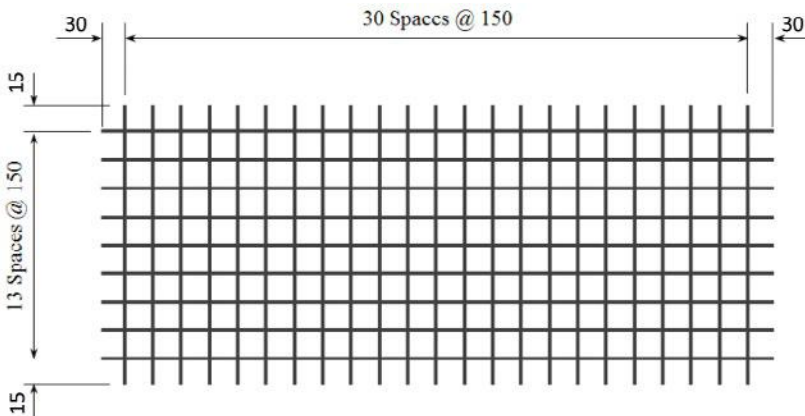
663L NI

Mesh Specification

Product Description: 4.56m x 1.98m — 150 x 150 Grid R6.3 Line Wire, R6.3 Cross Wire

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)		mm ² /m	Wire kg/m	Weight (kg)
Longitudinal Wire	6.3 R	150	4560	14	30	30	207.8	0.2447	15.62
Cross Wire	6.3 R	150	1980	31	15	15	207.8	0.2447	15.10
GROSS SHEET WEIGHT (Kg):									30.72
MASS PER SQ METER (Kg/m²):									3.263

Mesh Sketch (not to scale)

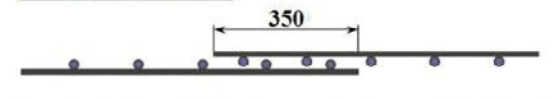


GROSS SHEET AREA (m ²)	9.029
NETT COVER (m ²)	7.525
Ratio STACK & TURNED (Y/N):	Y
No. OF SHEETS / BUNDLE: 2	25
ESTIMATED CUBIC (m ³) BUNDLE	1.94
BUNDLE WEIGHT (Kg):	766

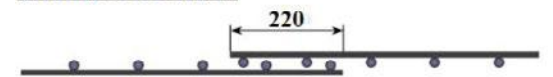
Mechanical Properties

Wire Diam	0.2% Proof Stress	
	Min	Max
6.3mm R	485MPa	750MPa

LAPPING ON ENDS



LAPPING ON SIDES



*All measurements/weights approximate.



Hard Drawn Reinforcing Mesh

84/10 NI

Mesh Specification

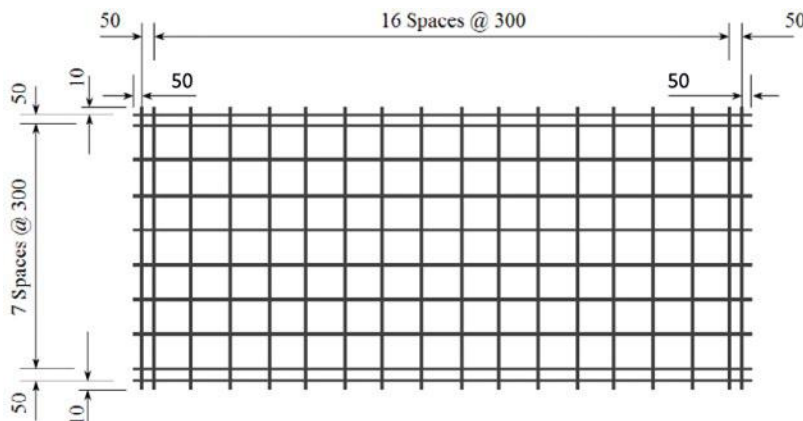
Product Description: 5.0m x 2.24m — 300 x 300 Grid D5.6 Line Wire, D5.6 Cross Wire

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)		mm ² /m	Wire kg/m	Weight (kg)
Longitudinal Wire	4.0 R	300	5000	6	50	50	82.1	0.1933	5.80
Edge Wire	4.0 R	50	5000	4	50	50		0.0986	1.97
Cross Wire	5.6 R	300	2240	19	20	20	82.1	0.1933	8.23

GROSS SHEET WEIGHT (Kg): 16.00

MASS PER SQ METER (Kg/m²): 1.289

Mesh Sketch (not to scale)

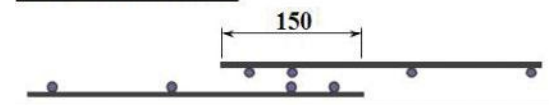


GROSS SHEET AREA (m ²)	11.2
NETT COVER (m ²)	10.08
Ratio STACK & TURNED (Y/N):	Y
No. OF SHEETS / BUNDLE:	25
ESTIMATED CUBIC (m ³) BUNDLE	1.45
BUNDLE WEIGHT (KG):	400

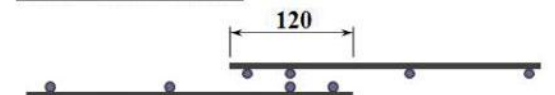
Mechanical Properties

Wire Diam	0.2% Proof Stress	
	Min	Max
5.6 R	485MPa	750MPa

LAPPING ON ENDS



LAPPING ON SIDES



*All measurements/weights approximate.

Mesh App:

Download our free smart-phone app by visiting the Apple or Google stores. Alternatively, scan the QR code from your phone to download directly.



Hard Drawn Reinforcing Mesh

147/10 NI

Mesh Specification

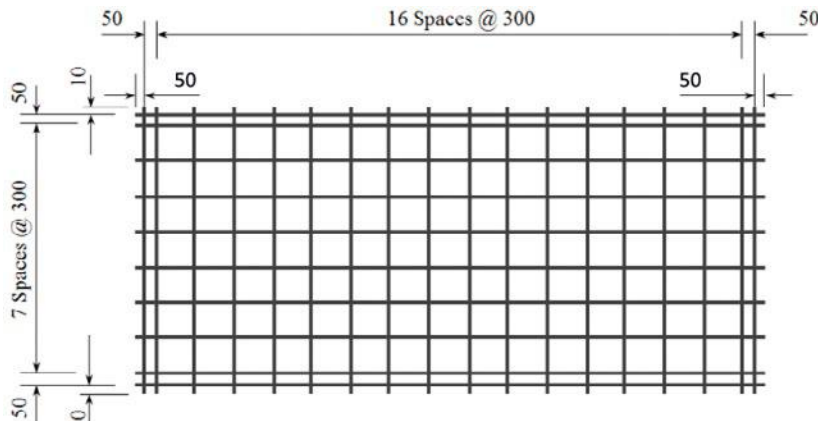
Product Description: 5.0m x 2.24m — 300 x 300 Grid D7.5 Line Wire, D7.5 Cross Wire

	Wire Dia. (mm)	Spacing (mm)	Length (mm)	No. of Wires	Overhangs (mm)		mm ² /m	Wire kg/m	Weight (kg)
Longitudinal Wire	7.5 D	300	5000	6	50	50	147.3	0.3468	10.40
Edge Wire	5.3 D	50	5000	4	50	50		0.1737	3.46
Cross Wire	7.5 D	300	2240	19	20	20	147.3	0.3468	14.76

GROSS SHEET WEIGHT (Kg): 28.63

MASS PER SQ METER (Kg/m²): 2.312

Mesh Sketch (not to scale)



GROSS SHEET AREA (m²): 11.20

NETT COVER (m²): 10.08

Ratio STACK & TURNED (Y/N): Y

No. OF SHEETS / BUNDLE: 25

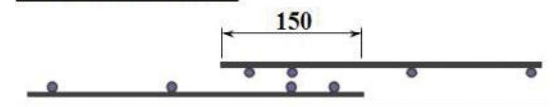
ESTIMATED CUBIC (m³) BUNDLE: 2.4

BUNDLE WEIGHT (KG): 715

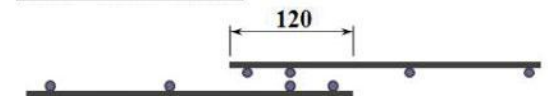
Mechanical Properties

Wire Diam	0.2% Proof Stress	
	Min	Max
7.50 D	485MPa	750MPa

LAPPING ON ENDS



LAPPING ON SIDES



*All measurements/weights approximate.

Mesh App:

Download our free smart-phone app by visiting the Apple or Google stores. Alternatively, scan the QR code from your phone to download directly.



[illegible]

Overview

The Fletcher Reinforcing Smart Phone App is designed to offer you immediate access to the information you need about our ranges of Super Ductile and Hard Drawn meshes.

This Guide will outline how to access this information quickly and easily.



Downloading

Available for both the Apple iPhone and all Android phones, the free download can be accessed through the Apple App Store and the Android Market. Just search for **“Fletcher Reinforcing”**

Alternatively, scan this QR Code from your phone to be taken to the appropriate download:



Current Devices

The App is currently available for:

- iPhone
- Android phones
- iPad (not optimised)

