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## Introduction

**Welcome** to the Wireplus handbook. This has been written to provide a helpful guide to our products, their specifications and their correct usage. This guide has been developed for:

- Building Supply Merchants
- Civil & Structural Engineers
- Designers/Developers
- Construction Companies
- Building Contractors

The following pages contain helpful information on the nature of steel and wire, welding and joining processes, on lapping and on other important design criteria. This will be useful when assessing and specifying reinforcing mesh options for particular purposes in construction.

Data sheets follow also for each Wireplus product, listing full technical specifications and suitable applications. Related services are also available. Please telephone, fax or email us with any further enquiries.

## The Company

**Wireplus** is a member of the United Industries Ltd Group of Companies that have served New Zealand well for over 20 years. The group is privately owned and is proud to serve the NZ and Pacific region.

Wireplus distributes mesh and steel products to over 30% of the New Zealand market annually and is one of the leading companies in its field in the southern hemisphere. Our strength in our market owes to our record of excellent customer service and quality of product.

Today, we support our clients with a customised fabrication service unmatched anywhere in our region. We also have regional depots and maintain an inventory sufficient to meet 98% of orders on a same day service.

Wireplus recognises that in a changing world it is reliability and relationships that last, and we continue to dedicate ourselves to those principles. We trust that you value our relationship as much as we do, and we look forward to being of continued service to you.

## Branch Locations

### Branches

#### **Wireplus Ltd. Auckland**

Ph (09) 2745535

Fax (09) 2745158

21-23 Trugood Drive, East Tamaki

PO Box 58749 Botany 2163

#### **Wireplus Ltd. Wellington**

Ph (04) 5670118

Fax (04) 5670164

9B Peterkin Street, Wingate

PO Box 38426 Petone 5045

#### **Wireplus Ltd. Christchurch**

Ph (03) 3489540

Fax (03) 3489541

22 Mc Alpine Street, Riccarton

PO Box 8697 Riccarton

#### **Wireplus Ltd. New Plymouth**

Ph (06) 7552809

Fax (06) 7552819

216A De Haviland Drive, Bell Block

PO Box 3064 Fitzroy

#### **Wireplus Ltd. Hastings**

Ph (06) 8739040

Fax (06) 8796310

1454A Omahu Road, Hastings

PO Box 15029 Flaxmere

## New Zealand Standards

**Standard Specifications** and Codes of Practice in New Zealand are controlled, managed and published by The Standards Association of New Zealand.

These New Zealand Standards determine the characteristics of the steel wire used for concrete reinforcement, the manufacturing of the welded mesh, and the process of applying the mesh to the concrete.

### **NZS3421:1975**

Specification for Hard Drawn Mild Steel Wire for Concrete Reinforcement

This standard requires the following tensile properties:

Nominal Diameter (mm)	Minimum 0.2% Proof Stress (MPa)	Tensile Strength (MPa)	
		Minimum	Maximum
up to and including 3.15	485	575	855
over 3.15	485	575	775

### **NZS3422:1975**

Specification for Welded Fabric of Drawn Steel Wire for Concrete Reinforcement

This Standard requires a minimum average Weld Shear load 'where the longitudinal wire diameter is in the range 11mm to 3.15mm and the longitudinal to transverse wire diameter differential does not exceed 3mm, the minimum average shear value in Newtons shall be not less than 240 multiplied by the cross-sectional area of the longitudinal wire in square millimetres', and dictates requirements of 'The distance between centres of two adjacent shall not vary by more than 7.5% from the exact pitch'. If the mesh is required to be cut to specified dimensions, the tolerance shall be as follows:

5 metres and under	+25mm
over 5 metres	+ 0.5%

## New Zealand Standards (cont.)

### **NZS3101:1982**

Code of Practice 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 Wireplus guideline.

Further information is available from:

Standards Association of New Zealand  
Private Bag, Wellington

## Standard Sheet Sizes

**Sheet Sizes** of our reinforcing mesh products are designed to offer our customers ease of use and handling as well as meeting NZ Standards requirements. All dimensions are specified in the following product data sheets, and include the end and side overhang lengths.

With our state-of-the-art Jäger Mesh Welding machine, Wireplus is able to customise sheet sizes and lapping requirements according to particular client specifications. Custom orders can generally be turned around in one week including delivery, depending on stock and volume. Please contact us directly for information on prices and delivery schedule for this service.



## Standard Sheet Sizes

Mesh	Size (m)	Cover (m <sup>2</sup> )	Weight (kg)	Wire (mm)	Centres (mm)
668 Standard	4.560 x 1.970	7.525	12.32	4.0	150
668 True 10™	4.910 x 2.320	10.105	16.015	4.0	150
668 15m <sup>2</sup>	6.060 x 2.420	12.76	19.95	4.0	150
665 Standard	4.560 x 1.970	7.525	21.63	5.3	150
665 True 10™	4.910 x 2.320	10.105	28.117	5.3	150
665 15m <sup>2</sup>	6.060 x 2.420	12.76	35.03	5.3	150
664 Standard	4.560 x 1.970	7.525	27.72	6.0	150
664 15m <sup>2</sup>	6.060 x 2.420	12.76	44.89	6.0	150
663 Standard	4.560 x 1.970	7.525	30.57	6.3	150
663 15m <sup>2</sup>	6.060 x 2.420	12.76	49.49	6.3	150
662 Standard	4.560 x 1.970	7.525	38.82	7.1	150
662 15m <sup>2</sup>	6.060 x 2.420	12.76	62.85	7.1	150
661 Standard	4.560 x 1.970	7.525	43.32	7.5	150
661 15m <sup>2</sup>	6.060 x 2.420	12.76	68.89	7.5	150
84 Rib Mesh	6.900 x 2.400	13.86	19.52	5.6	300
147 Rib Mesh	6.900 x 2.400	13.86	35.06	7.5	300
212 Rib Mesh	6.900 x 2.400	13.86	50.49	9.0	300
147 Rib Large	7.500 x 2.700	17.28	43.28	7.5	300
212 Rib Large	7.500 x 2.700	17.28	62.32	9.0	300

## Standard Sheet Sizes

Mesh	Size (m)	Cover (m <sup>2</sup> )	Weight (kg)	Wire (mm)	Centres (mm)
188 Rib Mesh	6.880 x 2.650	15.46	49.59	7.5	235
265 Rib Mesh	6.780 x 2.700	15.55	70.27	9.0	240
295 Rib Mesh	6.750 x 2.665	15.25	77.00	9.0	215
D84 Double Edge	4.900 x 2.200	10.10	15.69	5.3	300
D147 Double Edge	4.900 x 2.200	10.10	27.71	7.5	300
338 Standard	4.560 x 1.970	7.525	24.64	4.0	75
335 Standard	4.560 x 1.970	7.525	43.26	5.3	75
333 Standard	4.560 x 1.970	7.525	61.12	6.3	75
338 Small	2.400 x 1.200	-	7.57	4.0	75
335 Small	2.400 x 1.200	-	13.30	5.3	75
228 Small	2.400 x 1.200	-	11.36	4.0	50
225 Small	2.400 x 1.200	-	19.95	5.3	50
MDT 430 - 150	6.740 x 2.460	15.065	42.87	7.0	250
MDT 430 - 200	6.740 x 2.460	15.065	54.45	8.0	250
MDT 430 - 240	6.750 x 2.310	14.104	59.99	8.0	210
MDT 430 - 300	6.740 x 2.460	15.065	83.21	10.0	250
MDT 430 - 350	6.540 x 2.470	14.67	91.40	10.0	225
MDT 430 - 400	6.640 x 2.420	14.58	101.18	10.0	200
MDT 430 - 450	6.540 x 2.310	13.65	110.22	10.0	175

## Wire Specifications

Diameter (mm)	Nearest ISWG	Wire mass (Kg/m)	Cross sectional area (mm <sup>2</sup> )	Metres/kg
11.20	5/0	0.773385	98.560	1.2930
10.00	4/0	0.616537	78.571	1.6220
9.50	3/0	0.556435	70.911	1.7972
9.00	2/0	0.499395	63.643	2.0024
8.00	1/0	0.394584	50.286	2.5343
7.50	1	0.346802	44.196	2.8835
7.10	2	0.310797	39.608	3.2175
6.30	3	0.244704	31.185	4.0866
6.00	4	0.221953	28.286	4.5055
5.30	5	0.173185	22.071	5.7742
5.00	6	0.154134	19.643	6.4879
4.50	7	0.124849	15.911	8.0097
4.00	8	0.098646	12.571	10.1373
3.55	9	0.077699	9.902	12.8702
3.15	10	0.061176	7.796	16.3463
2.80	11	0.048337	6.160	20.6883
2.50	12	0.038534	4.911	25.9514
2.24	13	0.030935	3.942	32.3254
2.00	14	0.024662	3.143	40.5490
1.80	15	0.019976	2.546	50.0605
1.60	16	0.015783	2.011	63.3579
1.40	17	0.012084	1.540	82.7531
1.25	18	0.009633	1.228	103.8055
1.00	19	0.006165	0.786	162.1961
0.90	20	0.004994	0.636	200.2422

## Conversion Factors

### Conversion Factors: Smooth wire fabric/Ribbed wire fabric

	Sectional area		Bars/metre		Sectional area/metre	
668	4.00mm	12.571mm <sup>2</sup>	1000/150	6.667	12.571 x 6.667	83.811mm <sup>2</sup>
84	5.60mm	24.640mm <sup>2</sup>	1000/300	3.333	24.640 x 3.333	82.125mm <sup>2</sup>
665	5.30mm	22.071mm <sup>2</sup>	1000/150	6.667	22.071 x 6.667	147.147mm <sup>2</sup>
147	7.50mm	44.196mm <sup>2</sup>	1000/300	3.333	44.196 x 3.333	147.305mm <sup>2</sup>
664	6.00mm	28.286mm <sup>2</sup>	1000/150	6.667	28.286 x 6.667	185.582mm <sup>2</sup>
188	7.50mm	44.196mm <sup>2</sup>	1000/235	4.255	44.196 x 4.255	188.054mm <sup>2</sup>
663	6.30mm	31.185mm <sup>2</sup>	1000/150	6.667	31.185 x 6.667	207.910mm <sup>2</sup>
212	9.00mm	63.643mm <sup>2</sup>	1000/300	3.333	63.643 x 3.333	212.122mm <sup>2</sup>
662	7.10mm	39.608mm <sup>2</sup>	1000/150	6.667	39.608 x 6.667	264.067mm <sup>2</sup>
265	9.00mm	63.643mm <sup>2</sup>	1000/240	4.167	63.643 x 4.167	265.200mm <sup>2</sup>
661	7.50mm	44.196mm <sup>2</sup>	1000/150	6.667	44.196 x 6.667	294.655mm <sup>2</sup>
295	9.00mm	63.643mm <sup>2</sup>	1000/215	4.651	63.643 x 4.651	296.004mm <sup>2</sup>

**Lap-splice requirements** are set and controlled by the NZ Standards Association in NZS3101:1982. There are a number of variables and conditions associated with these.

Wireplus offer the following charts and diagrams to guide calculations and design specifications. Please refer back to NZS3101:1982 for substantiation in specific cases.

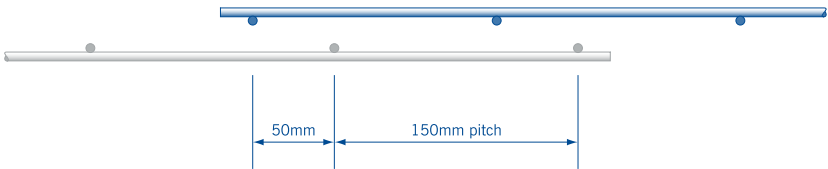
Please also be aware of the NZ Standards Association's differential of requirements for plain wire fabric and deformed wire fabric. Similar lap-splice requirements are not acceptable, and presented sheet designs are produced according to NZ Standards guidelines. For this reason calculations for deformed wire mesh and deformed bar lappages are the same.

References are as laid out in NZS3101

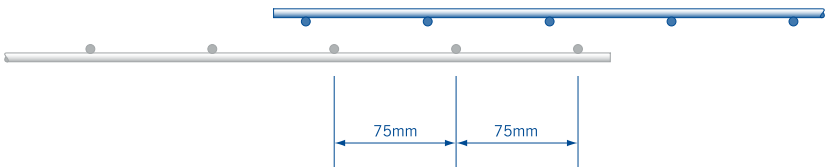
$f_y$	=485MPa	yield strength of steel
$F'$	=25MPa	compressive strength of concrete
$A_{sr}/A_{sp}$	=1.0	ratio of steel required to steel provided
$C$	=20mm + $d_b/2$	concrete cover

The following information lists lap-splice requirements for all Wireplus standard sheets in showing the required overlap of mesh from the actual sheet. There may be variation to this for customised sheet sizes. Please refer to the general guidelines.

### Example 1: Standard lap - 66 welded reinforcement

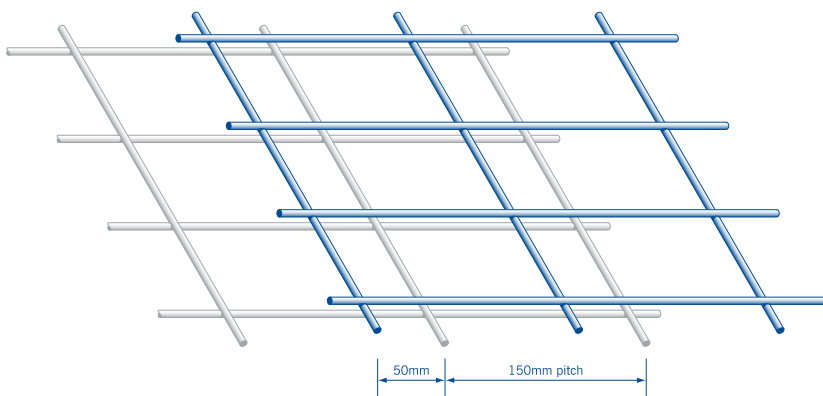


### Example 2: Standard lap - 33 welded reinforcement



## 668 Standard

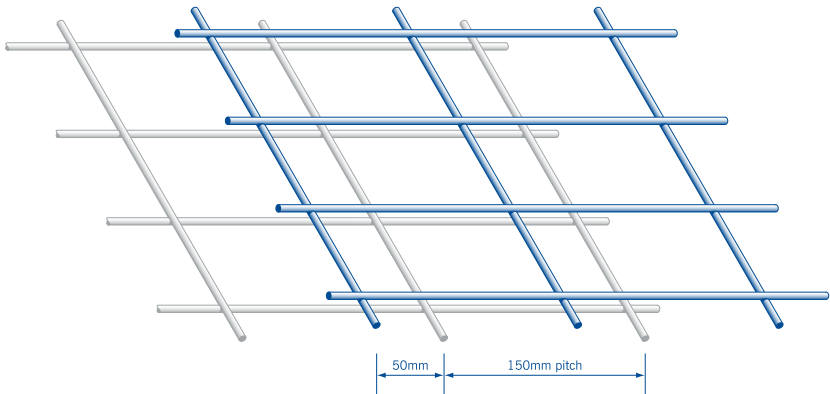
Sheet size	4560mm X 1970mm
Wire size	4.0mm
Wire mass	0.098646kg/m
Weight of sheet	12.32kg
Centre width	150mm centres
Cross section	83.81mm <sup>2</sup> /m width
Nett coverage	7.525m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 668



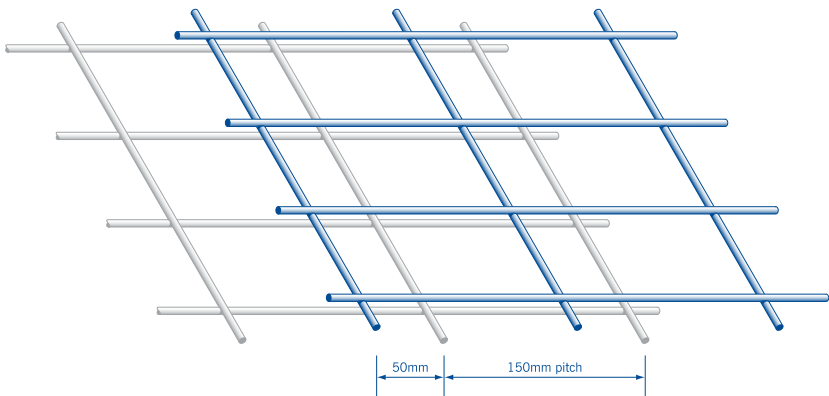
Sheet size	6060mm X 2.420mm
Wire size	4.0mm
Wire mass	0.098646kg/m
Weight of sheet	19.95kg
Centre width	150mm centres
Cross section	83.81mm <sup>2</sup> /m width
Nett coverage	12.76m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 668 15m<sup>2</sup> welded reinforcement

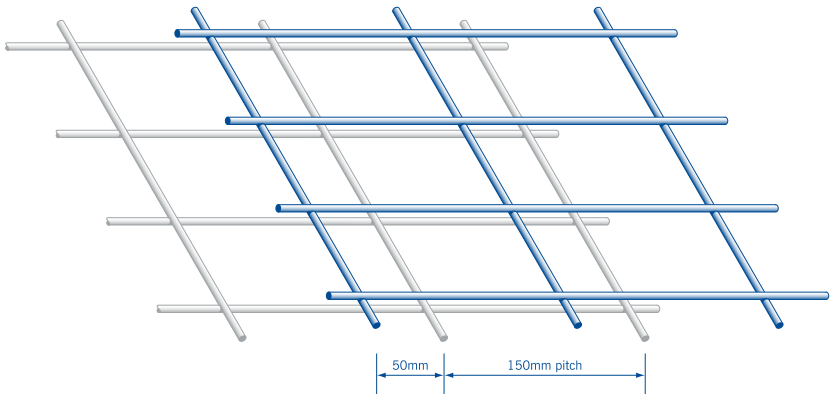
## 665 Standard

Sheet size	4560mm X 1970mm
Wire size	5.3mm
Wire mass	0.173185kg/m
Weight of sheet	21.63kg
Centre width	150mm centres
Cross section	147.15mm <sup>2</sup> /m width
Nett coverage	7.525m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 665

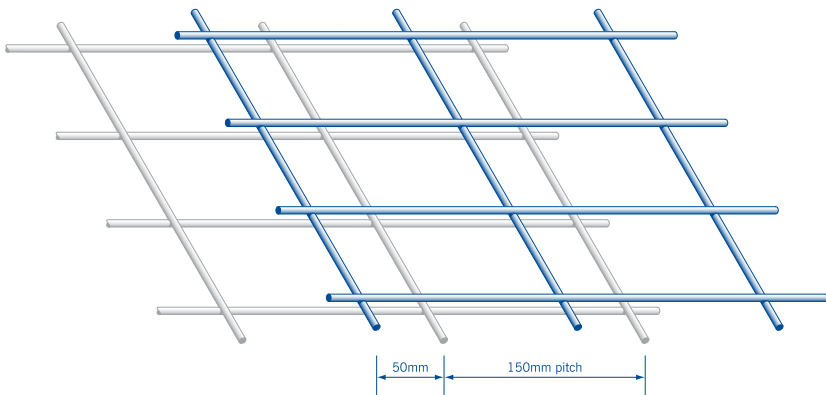
Sheet size	6060mm X 2420mm
Wire size	5.3mm
Wire mass	0.173185kg/m
Weight of sheet	35.03kg
Centre width	150mm centres
Cross section	147.15mm <sup>2</sup> /m width
Nett coverage	12.76m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 665 15m<sup>2</sup>

## 664 Standard

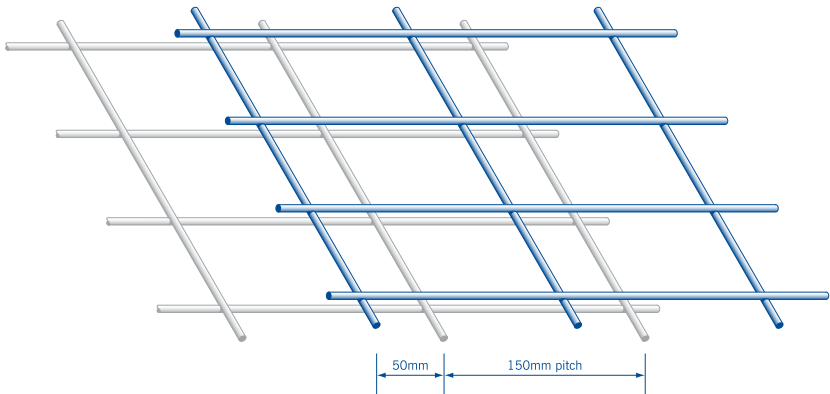
Sheet size	4560mm X 1970mm
Wire size	6.0mm
Wire mass	0.221953kg/m
Weight of sheet	27.72kg
Centre width	150mm centres
Cross section	185.58mm <sup>2</sup> /m width
Nett coverage	7.525m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 664

## 664 15m<sup>2</sup>

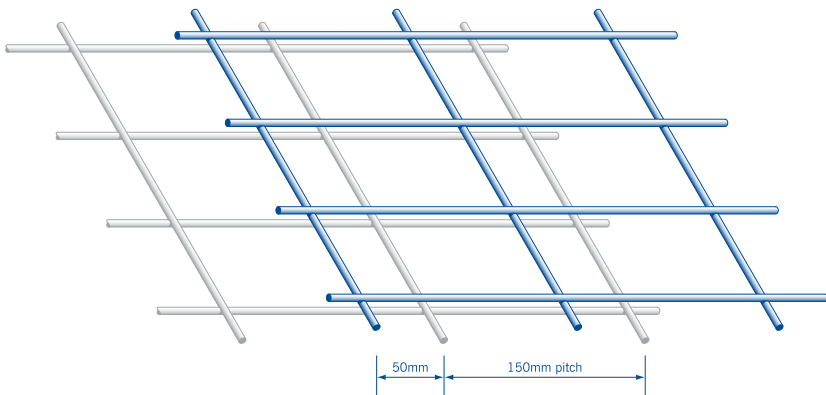
Sheet size	6060mm X 2420mm
Wire size	6.0mm
Wire mass	0.221953kg/m
Weight of sheet	44.89kg
Centre width	150mm centres
Cross section	185.58mm <sup>2</sup> /m width
Nett coverage	12.76m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 664 15m<sup>2</sup>

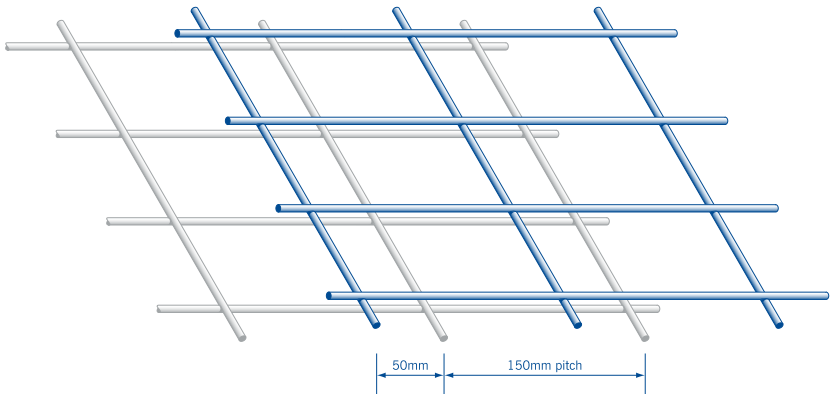
## 663 Standard

Sheet size	4560mm X 1970mm
Wire size	6.3mm
Wire mass	0.244704kg/m
Weight of sheet	30.57kg
Centre width	150mm centres
Cross section	207.91mm <sup>2</sup> /m width
Nett coverage	7.525m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 663

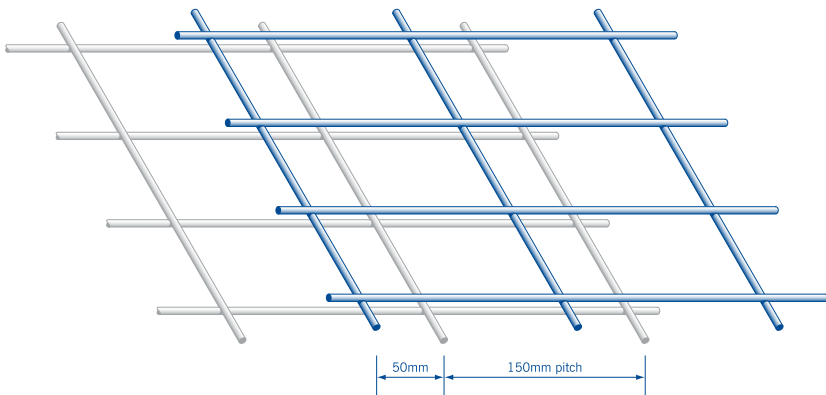
Sheet size	6060mm X 2420mm
Wire size	6.3mm
Wire mass	0.244704kg/m
Weight of sheet	49.49kg
Centre width	150mm centres
Cross section	207.91mm <sup>2</sup> /m width
Nett coverage	12.76m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 663 15m<sup>2</sup>

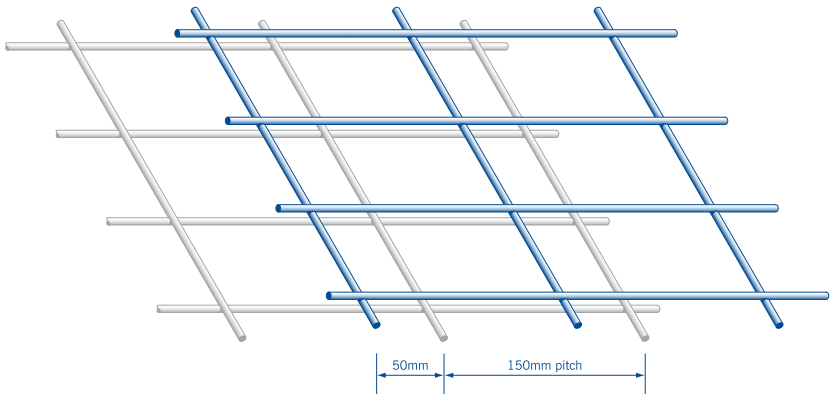
## 662 Standard

Sheet size	4560mm X 1970mm
Wire size	7.1mm
Wire mass	0.310797kg/m
Weight of sheet	38.82kg
Centre width	150mm centres
Cross section	264.07mm <sup>2</sup> /m width
Nett coverage	7.525m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 662

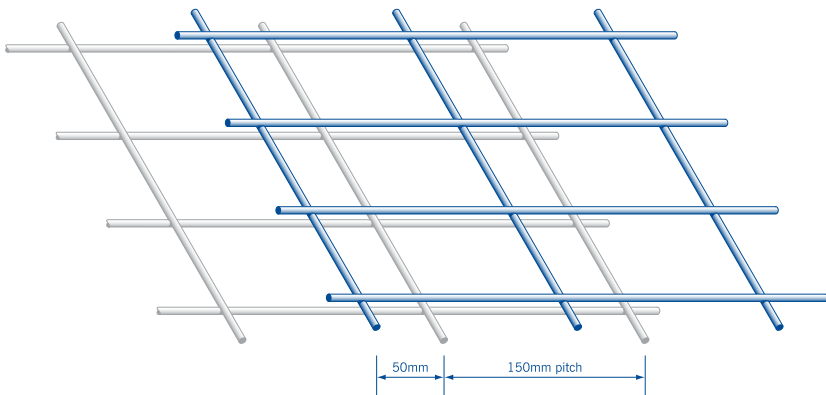
Sheet size	6060mm X 2420mm
Wire size	7.1mm
Wire mass	0.310797kg/m
Weight of sheet	62.85kg
Centre width	150mm centres
Cross section	264.07mm <sup>2</sup> /m width
Nett coverage	12.76m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 662 15m<sup>2</sup>

## 661 Standard

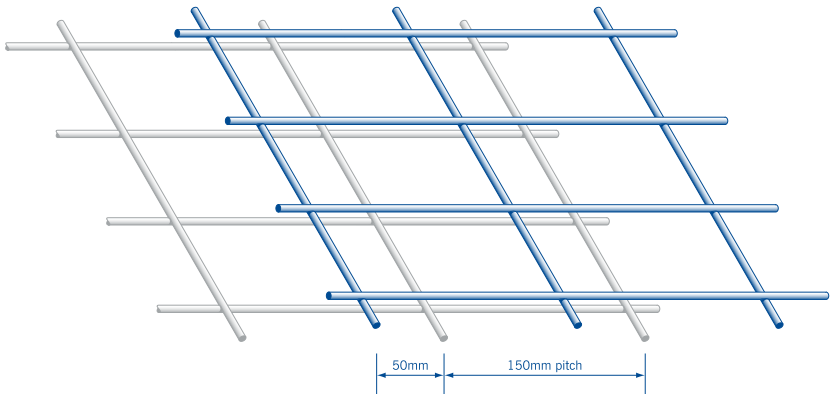
Sheet size	4560mm X 1970mm
Wire size	7.5mm
Wire mass	0.346802kg/m
Weight of sheet	43.32kg
Centre width	150mm centres
Cross section	294.66mm <sup>2</sup> /m width
Nett coverage	7.525m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 661

## 661 15m<sup>2</sup>

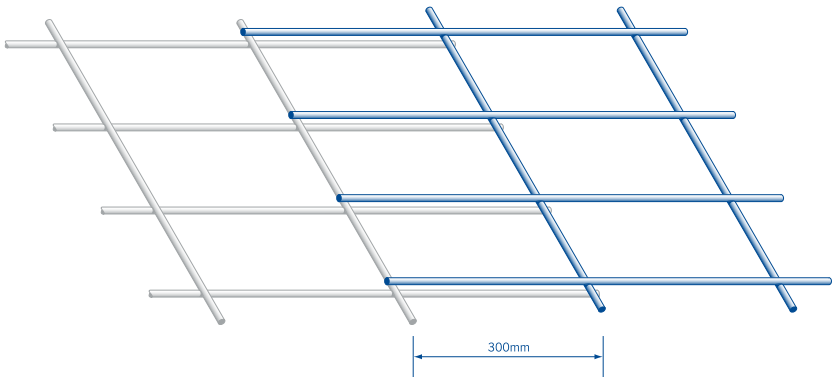
Sheet size	6060mm X 2420mm
Wire size	7.5mm
Wire mass	0.346802kg/m
Weight of sheet	68.89kg
Centre width	150mm centres
Cross section	294.66mm <sup>2</sup> /m width
Nett coverage	12.76m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 661 15m<sup>2</sup>

## 84 Rib Mesh

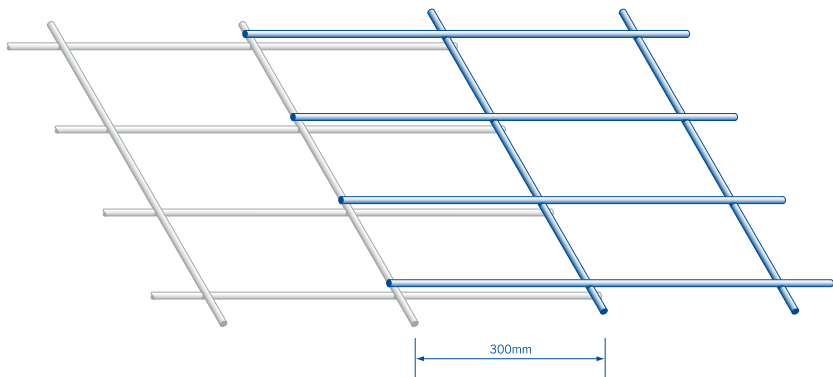
Sheet size	6900mm X 2400mm
Wire size	5.6mm
Wire mass	0.193346kg/m
Weight of sheet	19.52kg
Centre width	300mm centres
Cross section	82.125mm <sup>2</sup> /m width
Nett coverage	13.86m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap -84 Rib Mesh

## 147 Rib Mesh

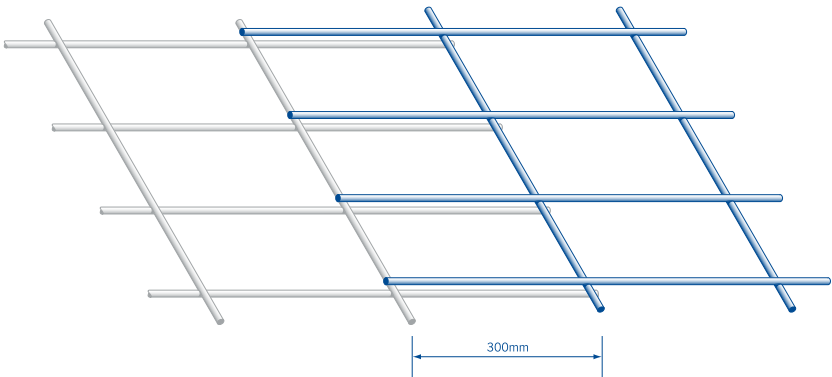
Sheet size	6900mm X 2400mm
Wire size	7.5mm
Wire mass	0.346802kg/m
Weight of sheet	35.06kg
Centre width	300mm centres
Cross section	147.305mm <sup>2</sup> /m width
Nett coverage	13.86m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 147 Rib Mesh

## 212 Rib Mesh

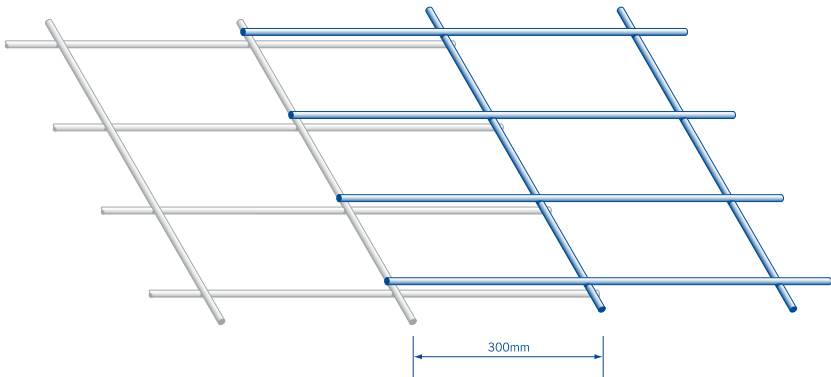
Sheet size	6900mm X 2400mm
Wire size	9.0mm
Wire mass	0.499395kg/m
Weight of sheet	50.49kg
Centre width	300mm centres
Cross section	212.122mm <sup>2</sup> /m width
Nett coverage	13.86m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 212 Rib Mesh

## 147 Rib Large

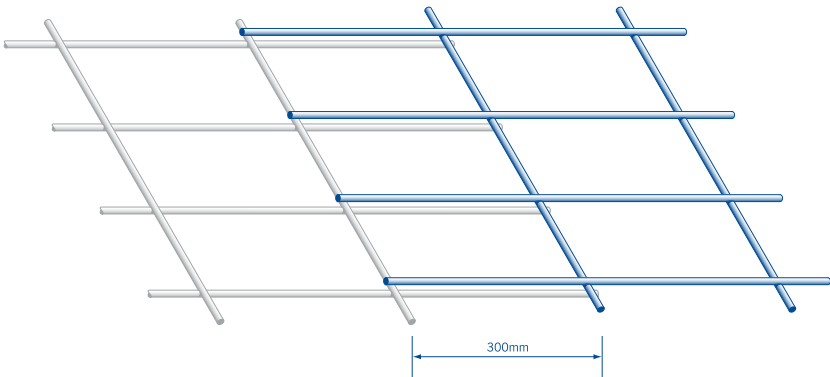
Sheet size	7500mm X 2700mm
Wire size	7.5mm
Wire mass	0.346802kg/m
Weight of sheet	43.28kg
Centre width	300mm centres
Cross section	147.305mm <sup>2</sup> /m width
Nett coverage	17.28m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 147 Rib Large

## 212 Rib Large

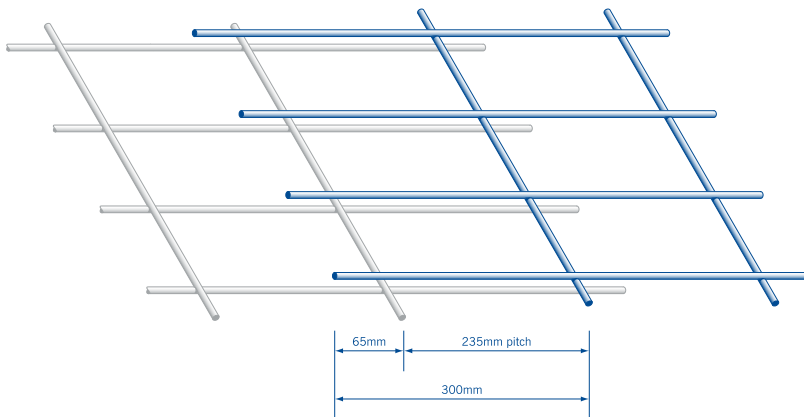
Sheet size	7500mm X 2700mm
Wire size	9.0mm
Wire mass	0.499395kg/m
Weight of sheet	62.32kg
Centre width	300mm centres
Cross section	212.122mm <sup>2</sup> /m width
Nett coverage	17.28m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 212 Rib Large

## 188 Rib Mesh

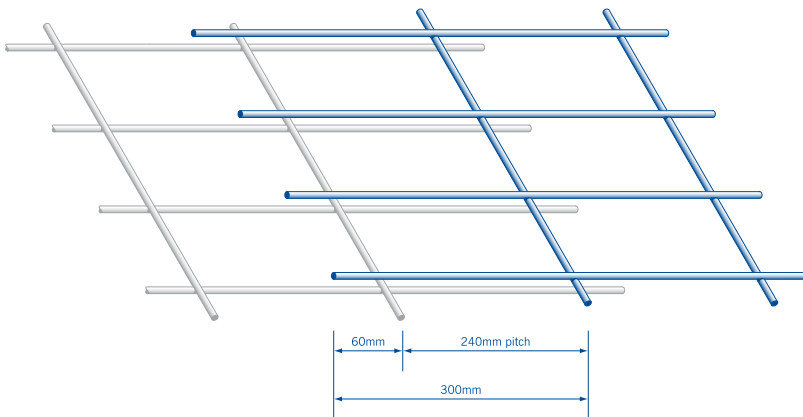
Sheet size	6880mm X 2650mm
Wire size	7.5mm
Wire mass	0.346802kg/m
Weight of sheet	49.59kg
Centre width	235mm centres
Cross section	188.05mm <sup>2</sup> /m width
Nett coverage	15.46m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 188 Rib Mesh

## 265 Rib Mesh

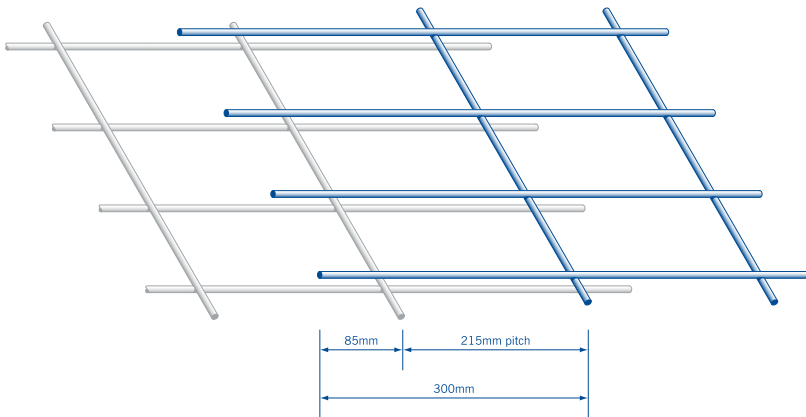
Sheet size	6780mm X 2700mm
Wire size	9.0mm
Wire mass	0.499395kg/m
Weight of sheet	70.27kg
Centre width	240mm centres
Cross section	265.20mm <sup>2</sup> /m width
Nett coverage	15.55m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 265 Rib Mesh

## 295 Rib Mesh

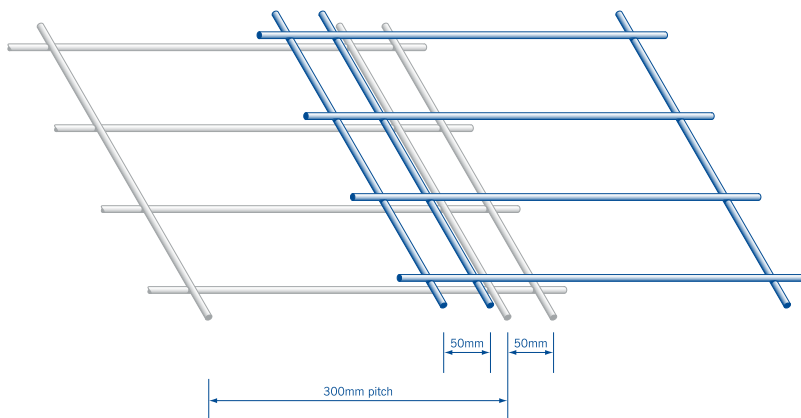
Sheet size	6750mm X 2665mm
Wire size	9.0mm
Wire mass	0.499395kg/m
Weight of sheet	77.01kg
Centre width	215mm centres
Cross section	296.00mm <sup>2</sup> /m width
Nett coverage	15.25m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 295 Rib Mesh

## D84 Double Edge

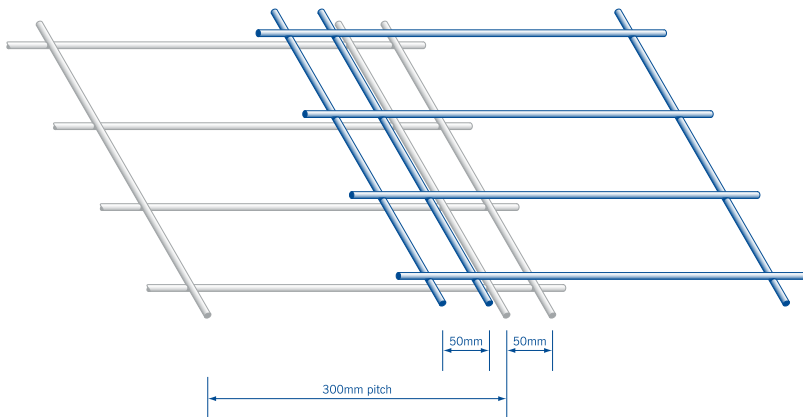
Sheet size	4900mm X 2200mm
Wire size	5.3mm
Wire mass	0.173185kg/m
Weight of sheet	15.69kg
Centre width	300mm centres
Cross section	82.13mm <sup>2</sup> /m width
Nett coverage	10.10m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - D84 Double Edge

## D147 Double Edge

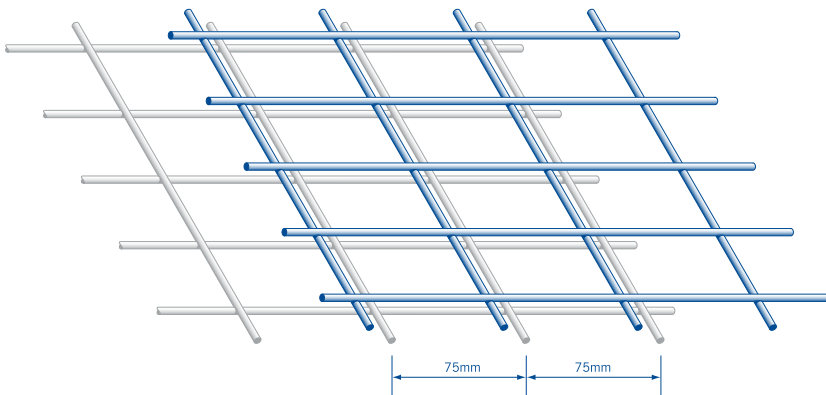
Sheet size	4900mm X 2200mm
Wire size	7.5mm
Wire mass	0.346802kg/m
Weight of sheet	27.71kg
Centre width	300mm centres
Cross section	147.31mm <sup>2</sup> /m width
Nett coverage	10.10m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - D147 Double Edge

## 338 Standard

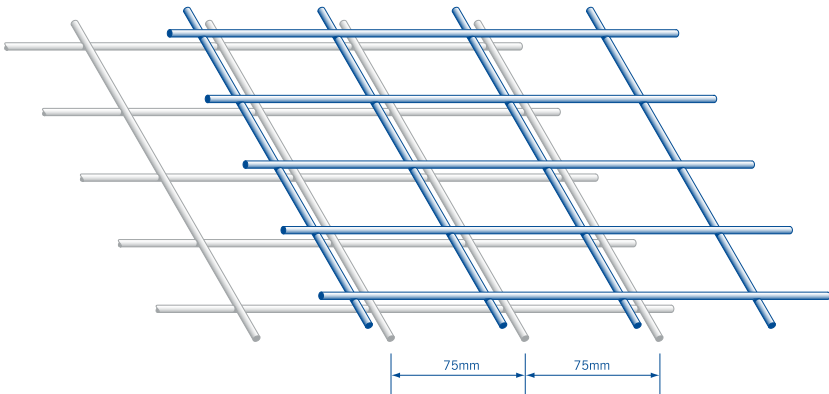
Sheet size	4560mm X 1970mm
Wire size	4.0mm
Wire mass	0.098646kg/m
Weight of sheet	24.64kg
Centre width	75mm centres
Cross section	167.613mm <sup>2</sup> /m width
Nett coverage	7.525m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 338

## 335 Standard

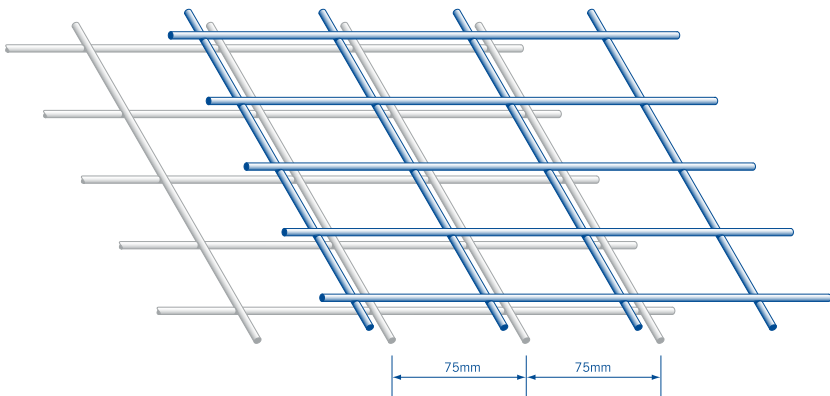
Sheet size	4560mm X 1970mm
Wire size	5.3mm
Wire mass	0.173185kg/m
Weight of sheet	43.26kg
Centre width	75mm centres
Cross section	294.273mm <sup>2</sup> /m width
Nett coverage	7.525m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 335

## 333 Standard

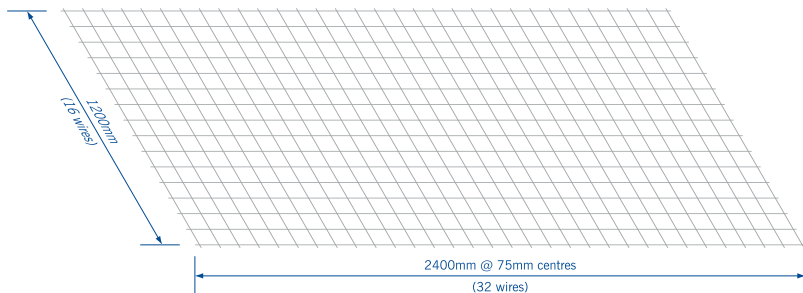
Sheet size	4560mm X 1970mm
Wire size	6.3mm
Wire mass	0.244704kg/m
Weight of sheet	61.12kg
Centre width	75mm centres
Cross section	415.790mm <sup>2</sup> /m width
Nett coverage	7.525m <sup>2</sup>
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Standard Lap - 333

## 338 Small

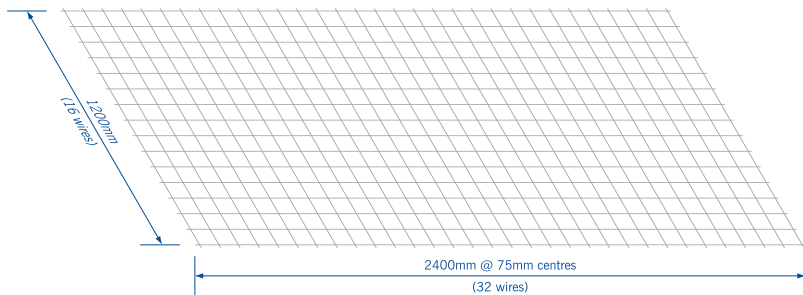
Sheet size	2400mm X 1200mm
Wire size	4.0mm
Wire mass	0.098646kg/m
Weight of sheet	7.576kg
Centre width	75mm centres
Cross section	167.613mm <sup>2</sup> /m width
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Sheet Layout

## 335 Small

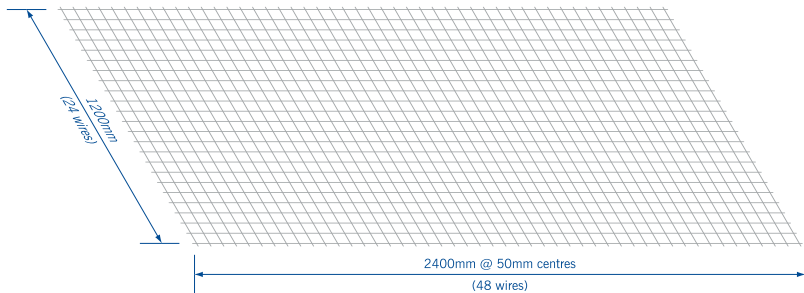
Sheet size	2400mm X 1200mm
Wire size	5.3mm
Wire mass	0.173185kg/m
Weight of sheet	13.301kg
Centre width	75mm centres
Cross section	294.273mm <sup>2</sup> /m width
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Sheet Layout

## 228 Small

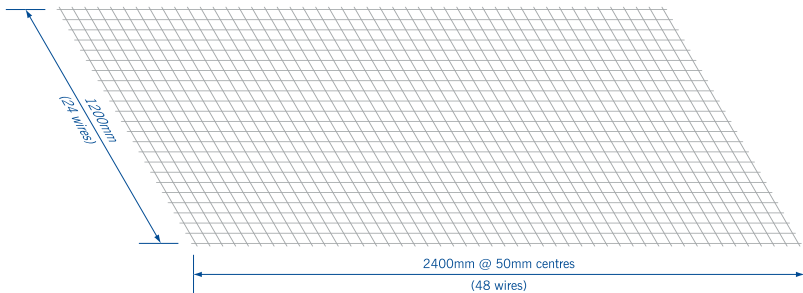
Sheet size	2400mm X 1200mm
Wire size	4.0mm
Wire mass	0.098646kg/m
Weight of sheet	11.364kg
Centre width	50mm centres
Cross section	251.420mm <sup>2</sup> /m width
Minimum tensile	575MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Sheet Layout

## 225 Small

Sheet size	2400mm X 1200mm
Wire size	5.3mm
Wire mass	0.173185kg/m
Weight of sheet	19.951kg
Centre width	50mm centres
Cross section	441.45mm <sup>2</sup> /m width
Minimum tensile	585MPa
Maximum tensile	775MPa
Minimum proof stress	485MPa



Sheet Layout

## Ductile 430 Mesh (MDT)

The requirement by the construction industry for a reinforcing mesh for structural concrete can now be satisfied with the introduction of Ductile 430 Mesh.

Ductile 430 is produced as an equivalent to 430 grade reinforcing bar. The material has characteristics with similar ultimate tensile and uniform elongation and has been designed to allow maximum elongation between anchor points.

The mesh is available in various configurations and is designed to conform to NZS3101 for primary reinforcement in structural concrete elements and also for topping slabs on proprietary flooring systems for multi-story construction.

A range of 430 meshes are available all utilising the lapping advantages available by having wires at 100mm pitch at the exterior both longitudinally and latitudinally. Sheet sizes are configured to give consideration to lapping efficiency, but considering handling constraints due to transport and on-site limitations.

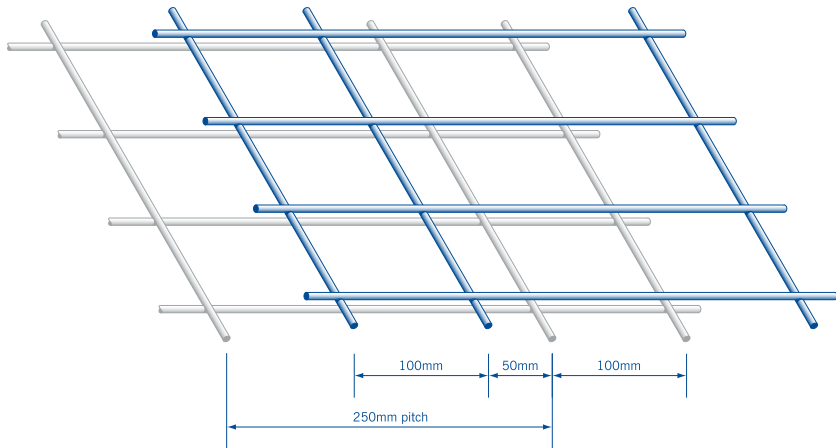
**The following are sizes within the range:**

MDT 430 - 150	Provides 150mm <sup>2</sup> per metre width, equivalent to either 147 or 665
MDT 430 - 200	Provides 200mm <sup>2</sup> per metre width, equivalent to either 188 or 664
MDT 430 - 240	Provides 240mm <sup>2</sup> per metre width, equivalent to either 212 or 663
MDT 430 - 300	Provides 300mm <sup>2</sup> per metre width, equivalent to either 295 or 661
MDT 430 - 350	Provides 350mm <sup>2</sup> per metre width
MDT 430 - 400	Provides 400mm <sup>2</sup> per metre width
MDT 430 - 450	Provides 450mm <sup>2</sup> per metre width

Other specifications are available.

## MDT 430 - 150

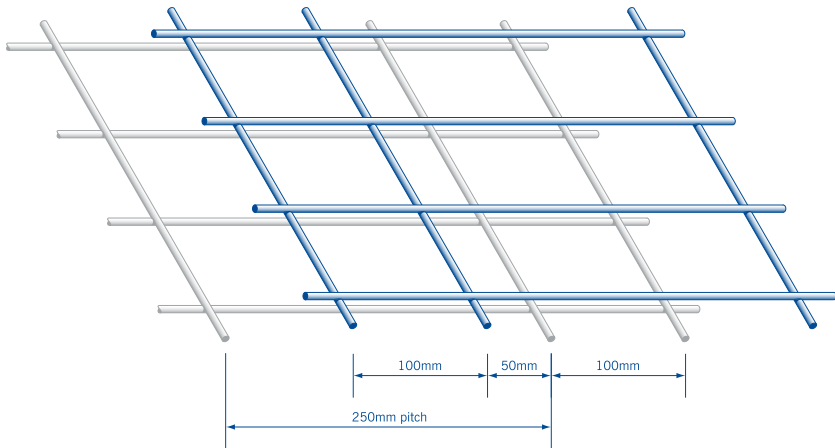
Sheet size	6740mm X 2460mm
Main wire	7.00mm
Edge wire	5.50 (longitudinal only)
Wire mass (8.00)	0.302103kg/m
Weight of sheet	42.870kg
Mass per m <sup>2</sup>	2.416kg/m <sup>2</sup>
Cross section	154.000mm <sup>2</sup> /m width
Nett coverage	15.065m <sup>2</sup>
Minimum ultimate tensile	430MPa
Maximum ultimate tensile	485MPa
Minimum elongation	15%



Ductile 430 Mesh - 150

## MDT 430 - 200

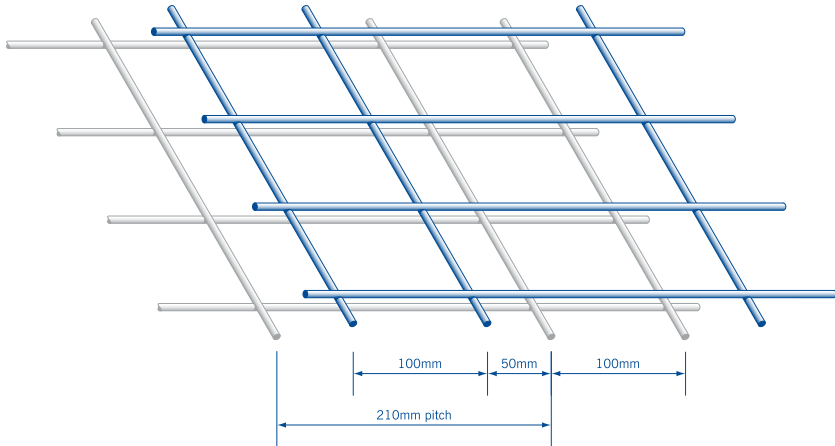
Sheet size	6740mm X 2460mm
Main wire	8.00mm
Edge wire	5.50 (longitudinal only)
Wire mass (8.00)	0.394584kg/m
Weight of sheet	54.454kg
Mass per m <sup>2</sup>	3.157kg/m <sup>2</sup>
Cross section	201.144mm <sup>2</sup> /m width
Nett coverage	15.065m <sup>2</sup>
Minimum ultimate tensile	430MPa
Maximum ultimate tensile	485MPa
Minimum elongation	15%



Ductile 430 Mesh - 200

## MDT 430 - 240

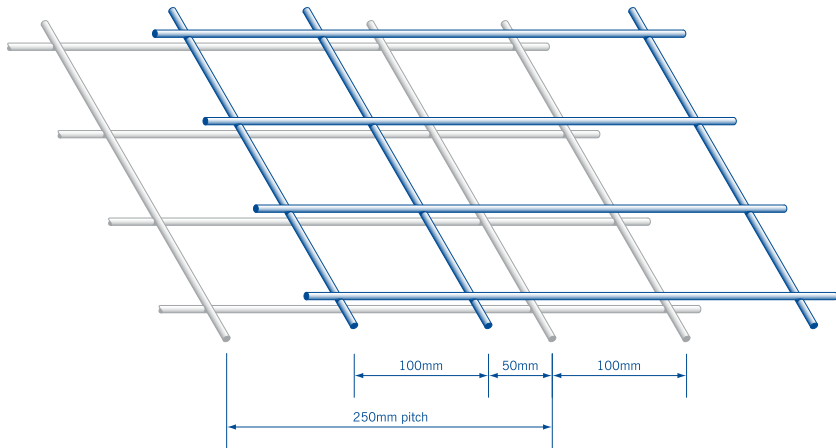
Sheet size	6750mm X 2310mm
Main wire	8.00mm
Edge wire	5.50 (longitudinal only)
Wire mass (8.00)	0.394584kg/m
Weight of sheet	59.998kg
Mass per m <sup>2</sup>	3.758kg/m <sup>2</sup>
Cross section	239.462mm <sup>2</sup> /m width
Nett coverage	14.104m <sup>2</sup>
Minimum ultimate tensile	430MPa
Maximum ultimate tensile	485MPa
Minimum elongation	15%



Ductile 430 Mesh - 240

## MDT 430 - 300

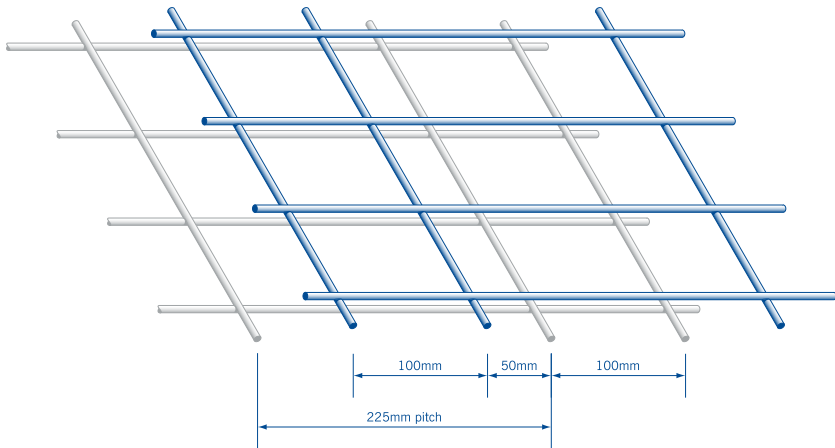
Sheet size	6740mm X 2460mm
Main wire	10.00mm
Edge wire	6.00 (longitudinal only)
Wire mass (10.00)	0.616537kg/m
Weight of sheet	83.211kg
Mass per m <sup>2</sup>	4.932kg/m <sup>2</sup>
Cross section	314.284mm <sup>2</sup> /m width
Nett coverage	15.065m <sup>2</sup>
Minimum ultimate tensile	430MPa
Maximum ultimate tensile	485MPa
Minimum elongation	15%



Ductile 430 Mesh - 300

## MDT 430 - 350

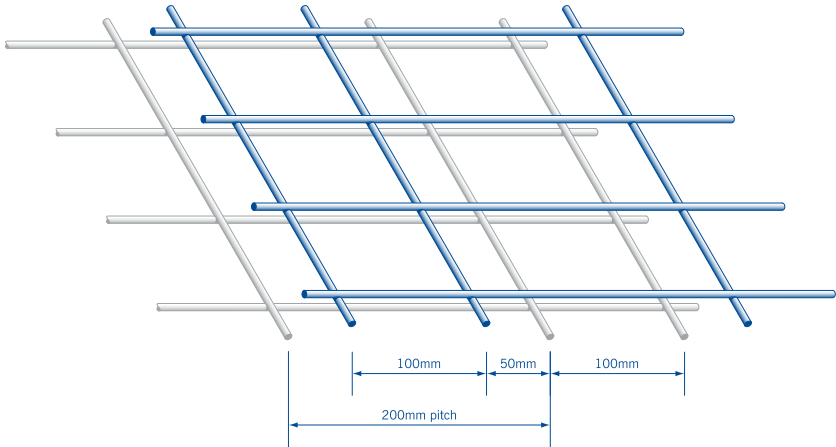
Sheet size	6540mm X 2470mm
Main wire	10.00mm
Edge wire	7.00 (longitudinal only)
Wire mass (10.00)	0.616537kg/m
Weight of sheet	91.401kg
Mass per m <sup>2</sup>	5.480kg/m <sup>2</sup>
Cross section	349.169mm <sup>2</sup> /m width
Nett coverage	14.67m <sup>2</sup>
Minimum ultimate tensile	430MPa
Maximum ultimate tensile	485MPa
Minimum elongation	15%



Ductile 430 Mesh - 350

## MDT 430 - 400

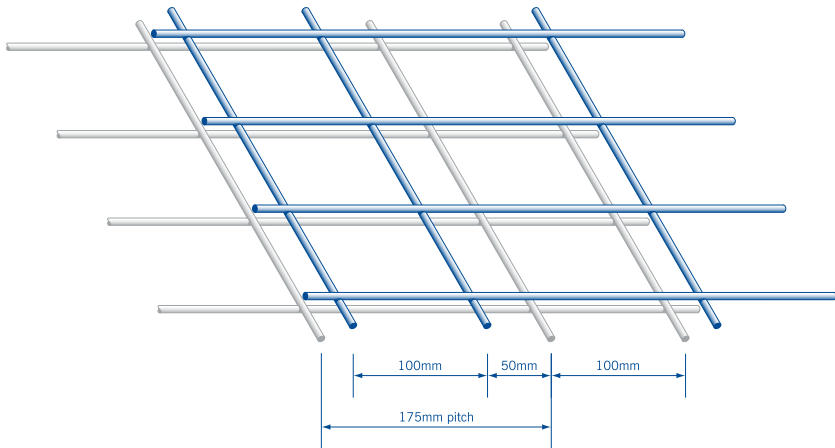
Sheet size	6640mm X 2420mm
Main wire	10.00mm
Edge wire	7.00 (longitudinal only)
Wire mass (10.00)	0.616537kg/m
Weight of sheet	101.183kg
Mass per m <sup>2</sup>	6.615kg/m <sup>2</sup>
Cross section	392.855mm <sup>2</sup> /m width
Nett coverage	14.58m <sup>2</sup>
Minimum ultimate tensile	430MPa
Maximum ultimate tensile	485MPa
Minimum elongation	15%



Ductile 430 Mesh - 400

## MDT 430 - 450

Sheet size	6540mm X 2310mm
Main wire	10.00mm
Edge wire	8.00 (longitudinal only)
Wire mass (10.00)	0.616537kg/m
Weight of sheet	110.219kg
Mass per m <sup>2</sup>	7.046kg/m <sup>2</sup>
Cross section	448.955mm <sup>2</sup> /m width
Nett coverage	13.65m <sup>2</sup>
Minimum ultimate tensile	430MPa
Maximum ultimate tensile	485MPa
Minimum elongation	15%



Ductile 430 Mesh - 450

## Mesh Equivalents

Based on sectional area of steel per metre width

Size	Pitch	Wire Diameter	Eqv	Wire Diameter	Pitch	Size
668	150 x 150	4.00mm		5.60mm	300 x 300	84
666	150 x 150	5.00mm		7.10mm	300 x 300	132
665	150 x 150	5.30mm		7.50mm	300 x 300	147
664	150 x 150	6.00mm		7.50mm	235 x 235	188
663	150 x 150	6.30mm		9.00mm	300 x 300	212
662	150 x 150	7.10mm		9.00mm	240 x 240	265
661	150 x 150	7.50mm		9.00mm	215 x 215	295

## Mesh Equivalents

### Substitution Reinforcing Rounds to Reinforcing Mesh

Based on sectional area of steel per metre width by the grade of steel (mesh grade 485)

Diameter	Grade	Centres	Nearest Equivalent
10mm	300	200	662 or 265
10mm	300	250	663 or 212
10mm	300	300	664 or 188
10mm	300	350	665 or 147
10mm	300	400	666 or 132
12mm	300	250	661 or 295
12mm	300	300	662 or 265
12mm	300	350	663 or 212
12mm	300	400	664 or 188
12mm	300	450	665 or 147
10mm	500	275	661 or 295
10mm	500	300	662 or 265
10mm	500	350	663 or 212
10mm	500	400	663 or 212
10mm	500	450	664 or 188
12mm	500	400	661 or 295
12mm	500	450	662 or 265
12mm	500	500	663 or 212