

Sectional Areas of Welded Wire Reinforcement

WWR

IMPERIAL UNITS

METRIC UNITS

AREA - in² PER LINEAR FOOT / AREA - mm² PER LINEAR METRE

WIRE SIZE*	NOMINAL DIAM.	NOMINAL AREA	NOMINAL MASS	CENTRE TO CENTRE SPACING (in) CENTRE TO CENTRE SPACING (mm)							
				2 in 51 mm	3 in 76 mm	4 in 102 mm	6 in 152 mm	8 in 203 mm	10 in 254 mm	12 in 305 mm	
W24 MW154	0.55 14.0	0.240 154	0.816 1.212	1.44 3048	0.96 2032	0.72 1524	0.48 1016	0.36 762	0.288 610	0.24 508	
W20 MW129	0.505 12.83	0.200 129	0.680 1.01	1.20 2540	0.80 1693	0.60 1270	0.40 847	0.30 635	0.24 508	0.20 423	
W18 MW116	0.479 12.17	0.180 116	0.612 0.911	1.08 2286	0.72 1524	0.54 1143	0.36 762	0.27 572	0.216 457	0.18 381	
W16 MW103	0.451 11.46	0.160 103	0.544 0.809	0.96 2032	0.64 1355	0.48 1016	0.32 677	0.24 508	0.192 406	0.16 339	
W15.5 MW100	0.445 11.3 (10M)	0.156 100	0.528 0.785	0.93 1960	0.62 1316	0.465 980	0.31 658	0.233 490	0.186 394	0.155 328	
W14 MW90.3	0.422 10.72	0.140 90	0.476 0.708	0.84 1778	0.56 1185	0.42 889	0.28 593	0.21 445	0.168 356	0.14 296	
W12 MW77.4	0.391 9.93	0.120 77	0.408 0.607	0.72 1524	0.48 1016	0.36 762	0.24 508	0.18 381	0.144 305	0.12 254	
W11 MW71.0	0.374 9.5	0.110 71	0.374 0.556	0.66 1397	0.44 931	0.33 699	0.22 466	0.165 349	0.132 279	0.11 233	
W10.5 MW67.9	0.366 9.3	0.105 68	0.357 0.531	0.63 1334	0.42 889	0.315 667	0.21 445	0.157 332	0.126 267	0.105 222	
W10 MW64.5	0.357 9.07	0.100 65	0.340 0.506	0.60 1270	0.40 847	0.30 635	0.20 423	0.15 318	0.12 254	0.10 212	
W9.5 MW61.3	0.348 8.84	0.095 61	0.323 0.481	0.57 1207	0.38 804	0.285 603	0.19 402	0.142 301	0.114 241	0.095 201	
W9 MW58.1	0.338 8.59	0.090 58	0.306 0.456	0.54 1143	0.36 762	0.27 572	0.18 381	0.135 286	0.108 229	0.09 191	
W8.5 MW54.9	0.329 8.36	0.085 55	0.289 0.43	0.51 1080	0.34 720	0.255 540	0.17 360	0.127 269	0.102 216	85 180	
W8 MW51.6	0.319 8.1	0.080 52	0.272 0.405	0.48 1016	0.32 677	0.24 508	0.16 339	0.12 254	0.096 203	0.08 169	
W7.5 MW48.4	0.309 7.85	0.075 48	0.255 0.379	0.45 953	0.30 635	0.225 476	0.15 318	0.112 237	0.09 191	0.075 159	
W7 MW45.2	0.299 7.6	0.070 45	0.238 0.354	0.42 889	0.28 593	0.21 445	0.14 296	0.105 222	0.084 178	0.07 148	
W6.5 MW42.1	0.288 7.32	0.065 42	0.221 0.329	0.39 826	0.26 550	0.195 413	0.13 275	0.097 205	0.078 165	0.065 138	
W6 MW38.7	0.276 7.01	0.060 39	0.204 0.304	0.36 762	0.24 508	0.18 381	0.12 254	0.09 191	0.072 152	0.06 127	
W5.5 MW35.5	0.265 6.73	0.055 36	0.187 0.278	0.33 699	0.22 466	0.165 349	0.11 233	0.082 174	0.066 140	0.055 116	
W5 MW32.3	0.252 6.4	0.050 32	0.170 0.253	0.30 635	0.20 423	0.15 318	0.10 212	0.075 159	0.06 127	0.05 106	
W4.5 MW28.9	0.239 6.07	0.045 29	0.153 0.228	0.27 572	0.18 381	0.135 286	0.09 191	0.067 142	0.054 114	0.045 95.3	
W4 (4ga) MW25.8	0.226 5.74	0.040 26	0.136 0.202	0.24 508	0.16 339	0.12 254	0.08 169	0.06 127	0.048 102	0.04 84.7	
W3.5 MW22.6	0.211 5.36	0.035 23	0.119 0.177	0.21 445	0.14 296	0.105 222	0.07 148	0.052 110	0.042 88.9	0.035 74.1	
W3 MW19.2	0.195 4.95	0.030 19	0.102 0.152	0.18 381	0.12 254	0.09 191	0.06 127	0.045 95.3	0.036 76.2	0.03 63.5	
W2.9 (6ga) MW18.7	0.192 4.88	0.029 19	0.098 0.147	0.174 368	0.116 245	0.087 184	0.058 123	0.043 91	0.035 74.1	0.029 61.4	
W2.5 (7ga) MW16.0	0.178 4.52	0.025 16	0.085 0.126	0.15 317	0.10 212	0.075 159	0.05 106	0.037 78.3	0.03 63.5	0.025 52.9	
W2.1 (8ga) MW13.3	0.162 4.1	0.021 13	0.070 0.104	0.124 261	0.082 175	0.062 130	0.041 88	0.031 65.6	0.025 52.4	0.021 43.6	
W1.7 (9ga) MW11.1	0.148 3.8	0.017 11	0.059 0.073	0.104 220	0.069 146	0.052 110	0.035 74.1	0.026 55	0.021 44.5	0.017 36	

*Wire size:

Imperial wire sizes are designated by their sectional area in hundredths of a square inch. Ex. for W8, Area = 0.08 in²
Metric wire sizes are designated by their sectional area in mm². Ex. for MW51.6, Area = 51.6 mm²

«W» denotes smooth wire ex.: W18
«D» denotes deformed wire ex.: D18
«M» denotes metric ex.: MW18 or MD18

Rebar Sizes:

#3 : A = 0.11 in² = 71 mm² 10M : A = 100 mm² = 0.155 in²
#4 : A = 0.20 in² = 129 mm² 15M : A = 200 mm² = 0.31 in²
#5 : A = 0.31 in² = 199 mm² 20M : A = 300 mm² = 0.465 in²
#6 : A = 0.44 in² = 284 mm² 25M : A = 500 mm² = 0.775 in²
#7 : A = 0.60 in² = 387 mm² 30M : A = 700 mm² = 1.085 in²
#8 : A = 0.79 in² = 510 mm²

Mesh conversion:

Rebar Fy = 400 MPa; Deformed Mesh Fy = 485 MPa, available up to 550 MPa
Area reduction when converting Rebar Steel Area to Deformed Mesh
Multiply by x 400/485 = 0.825

Conversion Factors:

1 in = 25.4 mm 1 lb = 0.4536 kg
1 ft = 0.3048 m 1000 psi = 6.895 MPa
1 in² = 645.2 mm² (Diam. inches)² x 2.673 = weight Lbs/ ft
1 in²/ ft = 2116.7 mm²/m A = 0.7854 d²
1 lb/100 ft = 0.0488 kg /m² (Area inches)² x 3.4 = weight Lbs/ ft

Minimum Mechanical Properties for WWR

Type of WWR	Minimum Tensile Strength	Minimum Yield Strength Fy	Minimum Weld Shear Strength
Smooth Wire Mesh	515 Mpa (75 000 psi)	450 Mpa (65 000 psi)	240 Mpa (35 000 psi)
Deformed Structural Wire Mesh	550 Mpa (80 000 psi)	485 Mpa (70 000 psi)	240 Mpa (ASTM) 140 Mpa (CSA)

Standard construction Mesh

Imperial designation	Metric designation	Steel Area in ² / lin ft mm ² / lin m	Weight lbs / 100 sq ² ft kg / m ²	Standard Size mesh sheets, roll*
6x6 – 10/10	152x152 - MW 9.1 / MW 9.1	.029 59.9	21 1.02	roll*
6x6 – 9/9	152x152 - MW 11.1 / MW 11.1	.035 74.3	25 1.22	roll* • 4'x8' • 8'x12' • 8'x20'
6x6 – 8/8	152x152 - MW 13.3 / MW 13.3	.042 88.7	30 1.46	8'x20'
↕ 6x6 – 6/6	152x152 - MW 18.7 / MW 18.7	.059 124.5	42 2.05	roll* • 4'x8' • 8'x12' • 8'x16' • 8'x20'
↕ 6x6 – 4/4	152x152 - MW 25.7 / MW 25.7	.081 171.5	58 2.83	8'x12' • 8'x20'
6x6 – 2/2	152x152 - MW 34.9 / MW 34.9	.110 232.8	78 3.81	8'x12' • 8'x20'
6x6 – 0/0	152x152 - MW 47.6 / MW 47.6	.150 317.3	107 5.22	8'x12' • 8'x20'
↕ 4x4 – 6/6	102x102 - MW 18.7 / MW 18.7	.088 186.8	62 3.02	8'x12' • 8'x20'
↕ 4x4 – 4/4	102x102 - MW 25.7 / MW 25.7	.122 257.2	85 4.14	8'x12' • 8'x20'
8x8 – D8/D8	203x203 - MD 51.6 / MD 51.6	.122 257.2	85 4.14	8'x14'
12x12 – W3.4/W3.4	305x305 - MW 22.2 / MW 22.2	.035 73.0	25 1.22	8'x20'
12x12 – W5.8/W5.8	305x305 - MW 37.4 / MW 37.4	.059 123.0	42 2.05	8'x20'
12x12 – W8/W8	305x305 - MW 51.6 / MW 51.6	.081 170.0	58 2.83	8'x20'
4x6 – W6.8/W6.1 Road mesh	102x152 - MW 43.9 / MW 39.4	.204 / .122 430.1 / 259.2	121 5.9	8'x14'

* ROLL = 6'x200' • 6'x100'
↕ ALSO AVAILABLE IN GALVANISED SHEET 8'x20'

WIRE MESH SPECIFICATIONS

1. Specifications Covering WWR

Canadian Standards	U.S. Specifications	Title
CSA G30.3	ASTM A 82	Cold Drawn Steel Wire for Concrete Reinforcement
CSA G30.5	ASTM A 185	Welded Steel Wire Fabric for Concrete Reinforcement
CSA G30.14	ASTM A 496	Deformed Steel Wire for Concrete Reinforcement
CSA G30.15	ASTM A 497	Welded Deformed Steel Wire Fabric for Concrete Reinforcement

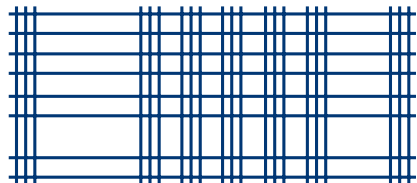
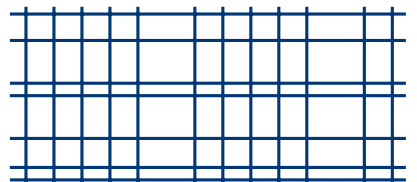
2. Industry method of designation style



PRODUCTS

Construction mesh	Sheets and rolls, bright or galvanized
Pipe mesh rolls	2" C/C or 3" C/C wire spacing 3' to 11'6" W Up to D14 (10.7 mm) wire
Structural mesh sheets	Variable spacing 4' to 10' W x 8' to 40' L in sheets Up to D20 (12.8 mm) wire and Curved & straight shear ladders with 2 or 3 principal wires 4" to 31" W x 19'8" L D2 to D20 (4mm to 12.8 mm) wire
Cage machine wire	W2.5 to W8 (4.5 mm to 8.1 mm) D2.5 to D16 (4.5 mm to 11.5 mm) 3500 lb strapped coils Straight & cut lengths
Mine mesh	In sheets and rolls, flush cut Bright or galvanized
Fence panels	4', 5', 6' and 8' H x 8' L, galvanized 2" x 6" opening, 6 gage wire

STRUCTURAL WWR CONFIGURATIONS

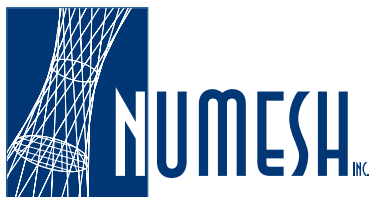


Structural WWR sheets are available in custom configuration with variable wire spacing for both longitudinal and transverse wires sheet sizes 4' to 10' wide by 8' to 30' long.

For fixed spacing of transverse wires, sheets are available up to 12' wide by 40' long.

Refer to WWR table as a design aid in selecting areas of steel for various wire sizes and spacing.

Important: Numesh inc. disclaims any liability for the use of the information and data contained herein.



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