



WIRE REINFORCEMENT INSTITUTE®

TECH FACTS

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Design Aids For Structural Welded Wire Reinforcement (includes WWR/Rebar Comparison Tables)

INTRODUCTION

This Tech Fact* provides basic information on cold-worked wire and welded wire reinforcement (WWR) to assist in the design and detailing of WWR systems for concrete structures. Tables are included to compare steel areas for reinforcement with a minimum yield strength of 60,000 psi and three higher minimum yield strengths, i.e., 70,000, 75,000 and 80,000 psi, for WWR. Tables 3-6 consider steel wire sizes ranging from W1.4 (1/8"φ to W or D 45 (3/4"φ).

The American Concrete Institute's (ACI) publication *ACI 318, Building Requirements for Structural Concrete* defines deformed reinforcement for structural concrete in Section 2.2. The section states that welded plain wire reinforcement, welded deformed wire reinforcement and deformed wire are defined as deformed reinforcement. For further definition and acceptance for the use of high strength reinforcement see ACI 318, Chapter 3.

SPECIFICATIONS

The American Society for Testing and Materials (ASTM) publishes specifications for the wire used to manufacture reinforcement and for both plain and deformed WWR. The Canadian Standards (CSA) are withdrawn and replaced with applicable ASTM standards for use in Canada. The appropriate titles and numbers are given in Table 1. These are considered to be the governing specifications for both wire and WWR. Federal, State and local governmental agencies have special specifications that will control. The AASHTO specification numbers are a prime example of this. They are also stated in Table 1. Table 2 has minimum strength properties and weld shear test values. See the section on Minimum Yield Strengths for specific references to high strength reinforcement.

TABLE 1
SPECIFICATIONS COVERING WELDED WIRE REINFORCEMENT

U.S. Specifications	AASHTO Specifications	Title
ASTM A 82	M32	Steel Wire, Plain, for Concrete Reinforcement
ASTM A 185	M55	Steel Welded Wire Reinforcement, Plain, for Concrete
ASTM A 496	M225	Steel Wire, Deformed, for Concrete Reinforcement
ASTM A 497	M221	Steel Welded Wire Reinforcement, Deformed, for Concrete

TABLE 2
ASTM PROPERTIES OF STEEL WIRE IN WELDED WIRE REINFORCEMENT

Type of WWR	Minimum Tensile Strength		Minimum Yield Strength		Weld Shear	
	MPa	psi	MPa	psi	MPa	psi
Welded Wire Reinforcement, Plain	520	75,000	450	65,000	241	35,000
Welded Wire Reinforcement, Deformed	550	80,000	485	70,000	241	35,000

*This Tech Fact may be inserted in the WRI Structural Detailing Manual, Section 2 and will be updated as manufacturing capabilities are changed.

MINIMUM YIELD STRENGTHS

The yield strength values shown in Table 2 are ASTM requirements for minimum yield strengths measured at a strain of 0.5% of gage length. The ACI 318 Structural Building Code, Chapter 3, states that yield strength values greater than 60,000 psi to 80,000 psi may be used, provided they are measured at a strain of 0.35% of gage length. The ACI strain requirements are now covered in supplements specified by ASTM. Also, the ACI 318 Building Code limits the minimum design yield strength of reinforcement to 80,000 psi (Chapter 9, 9.4), (Chapter 11, 11.4.2).

WELD SHEAR STRENGTH AND CONCRETE BOND

Plain WWR develops bond with the concrete through the positive mechanical anchorage at each welded intersection of wires. Deformed WWR utilizes wire deformations along with the welded intersections for bond and anchorage. The ASTM requirements for weld shear strength at the wire intersections are shown in Table 2.

ASTM specifies a size differential for wires being welded together to assure adequate weld shear strength. For welded wire reinforcement, plain and deformed, the smaller wire must have an area of 40 percent or more of the area of the larger wire.

EXAMPLE: (Showing Use of Comparison Tables 3-6)

Select the styles of WWR with minimum yield strength, $f_y = 80,000$ psi to be used in lieu of $f_y = 60,000$ psi (Grade 60) reinforcing bars. The slab is for a one-way slab, 6 inches thick.

The positive moment reinforcement is #4 bars @ 10" c/c. ($A_s = .24$ in²)

The temperature reinforcement is #4 bars @ 18" c/c. ($A_s = .133$ in²)

The negative moment reinforcement is #5 bars @ 12" c/c. ($A_s = .31$ in²)

Use Table 6 - Reinforcing Bar: $f_y = 60,000$ psi, Welded Wire Reinforcement: $f_y = 80,000$ psi
Begin with 6 in. by 6 in. WWR spacing and adjust as necessary.

POSITIVE MOMENT REINFORCEMENT

#4 bars @ 10 in. c.c. - select W9 wire @ 6 in.

$$A_s = .20 \times \frac{12 \times 60}{10 \times 80} \div 2 = 0.09 \text{ in}^2$$

TEMPERATURE REINFORCEMENT

#4 bars @ 18 in. c.c. - select W5 wire @ 6 in.

$$A_s = .20 \times \frac{12 \times 60}{18 \times 80} \div 2 = 0.05 \text{ in}^2$$

Since W5 wire is greater than 40% of W9 wire, the minimum wire size requirement by ASTM is satisfied. Reviewing Table 6 (WWR with $f_y = 80,000$ psi) check the amount of temperature reinforcement required, compared to #4 @ 18" ($f_y = 60,000$ psi). For a 6 inch slab, W5 wire @ 6 in. furnishes the desired steel area.

The WWR style for the bottom reinforcement (positive moment) is then: 6 x 6 - W9 x W5.

NEGATIVE MOMENT REINFORCEMENT

#5 bars @ 12 in. c.c. - select W11.6 wire @ 6 in.

$$A_s = .31 \times \frac{60}{80} \div 2 = .116 \text{ in}^2$$

REMARKS:

When the WWR style is required to furnish tension reinforcement in only one direction, the cross-wire should be the smallest size permitted at the maximum spacing permitted. ASTM specifies the minimum size as noted above. The maximum spacing is 3 times the slab thickness or 18" as specified in ACI 318, Chapter 7.

Cross-wire: 40% of W11.6 = W5 wire @ 12 in. (ASTM A185, Chapter 7). Use W5 wire @ 12 in. for efficiency, since it is the same size used in the positive moment reinforcement. The WWR style for the top reinforcement (negative moment) is then: 6 x 12 - W11.6 x W5.

NOTES FOR TABLES 3-6

- Weights per 100 square feet are for one direction only. Double the weight for the same reinforcing in the other direction, or add the appropriate weight for a different pattern in the other direction.
- Weights per 100 square feet are theoretical and are intended for estimating purposes only. Contact the WWR producers for more specific project requirements.
- W (plain) or D (deformed) are used as prefixes for wire sizes (ex: W8, D10). ACI 318 requires the minimum D-deformed wire to be D4 for structural applications. Sheets of WWR can be both D and W mixed. (ACI 318, Chapter 12, 12.7.4).
- In accordance with ACI 318, the maximum spacing permitted for plain WWR (W) is 12 inches, and the maximum spacing for deformed welded wire reinforcement (D) is 16 inches. The 18-inch spacing in the tables is only recommended for use in slab on grade applications, which are not governed by ACI 318.

WRI provides the material herein as a matter of information and therefore, disclaims any and all responsibility for application of the stated principles or the accuracy of the data other than material developed by the institute.

TABLE 3 - #3, #4, #5

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 60,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing										WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.			
#3 @ 4"	0.330	113	5.5	11.0	16.5	22.0	27.5	33.0	38.5	44.0	-	0.330	113	
#3 @ 5"	0.264	90	4.4	8.8	13.2	17.6	22.0	26.4	30.8	35.2	39.6	0.264	90	
#3 @ 6"	0.220	75	3.7	7.3	11.0	14.7	18.3	22.0	25.7	29.3	33.0	0.220	75	
#3 @ 7"	0.189	64	3.1	6.3	9.4	12.6	15.7	18.9	22.0	25.1	28.3	0.189	64	
#3 @ 8"	0.165	56	2.8	5.5	8.3	11.0	13.8	16.5	19.3	22.0	24.8	0.165	56	
#3 @ 9"	0.147	50	2.4	4.9	7.3	9.8	12.2	14.7	17.1	19.6	22.0	0.147	50	
#3 @ 10"	0.132	45	2.2	4.4	6.6	8.8	11.0	13.2	15.4	17.6	19.8	0.132	45	
#3 @ 11"	0.120	41	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	0.120	41	
#3 @ 12"	0.110	38	1.8	3.7	5.5	7.3	9.2	11.0	12.8	14.7	16.5	0.110	38	
#3 @ 13"	0.102	35	1.7	3.4	5.1	6.8	8.5	10.2	11.8	13.5	15.2	0.102	35	
#3 @ 14"	0.094	32	1.6	3.1	4.7	6.3	7.9	9.4	11.0	12.6	14.1	0.094	32	
#3 @ 15"	0.088	30	1.5	2.9	4.4	5.9	7.3	8.8	10.3	11.7	13.2	0.088	30	
#3 @ 16"	0.083	28	1.4	2.8	4.1	5.5	6.9	8.3	9.6	11.0	12.4	0.083	28	
#3 @ 17"	0.078	27	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.3	11.6	0.078	27	
#3 @ 18"	0.073	25	1.2	2.4	3.7	4.9	6.1	7.3	8.6	9.8	11.0	0.073	25	

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing										WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.			
#4 @ 4"	0.600	200	10.0	20.0	30.0	40.0	-	-	-	-	-	0.600	200	
#4 @ 5"	0.480	160	8.0	16.0	24.0	32.0	40.0	-	-	-	-	0.480	160	
#4 @ 6"	0.400	134	6.7	13.3	20.0	26.7	33.3	40.0	-	-	-	0.400	134	
#4 @ 7"	0.343	114	5.7	11.4	17.1	22.9	28.6	34.3	40.0	45.7	-	0.343	114	
#4 @ 8"	0.300	100	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	0.300	100	
#4 @ 9"	0.267	89	4.4	8.9	13.3	17.8	22.2	26.7	31.1	35.6	40.0	0.267	89	
#4 @ 10"	0.240	80	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	0.240	80	
#4 @ 11"	0.218	73	3.6	7.3	10.9	14.5	18.2	21.8	25.5	29.1	32.7	0.218	73	
#4 @ 12"	0.200	67	3.3	6.7	10.0	13.3	16.7	20.0	23.3	26.7	30.0	0.200	67	
#4 @ 13"	0.185	62	3.1	6.2	9.2	12.3	15.4	18.5	21.5	24.6	27.7	0.185	62	
#4 @ 14"	0.171	57	2.9	5.7	8.6	11.4	14.3	17.1	20.0	22.9	25.7	0.171	57	
#4 @ 15"	0.160	53	2.7	5.3	8.0	10.7	13.3	16.0	18.7	21.3	24.0	0.160	53	
#4 @ 16"	0.150	50	2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	0.150	50	
#4 @ 17"	0.141	47	2.4	4.7	7.1	9.4	11.8	14.1	16.5	18.8	21.2	0.141	47	
#4 @ 18"	0.133	45	2.2	4.4	6.7	8.9	11.1	13.3	15.6	17.8	20.0	0.133	45	

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing										WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.			
#5 @ 4"	0.930	313	15.5	31.0	-	-	-	-	-	-	-	0.930	313	
#5 @ 5"	0.744	250	12.4	24.8	37.2	-	-	-	-	-	-	0.744	250	
#5 @ 6"	0.620	209	10.3	20.7	31.0	41.3	-	-	-	-	-	0.620	209	
#5 @ 7"	0.531	179	8.9	17.7	26.6	35.4	44.3	-	-	-	-	0.531	179	
#5 @ 8"	0.465	156	7.8	15.5	23.3	31.0	38.8	-	-	-	-	0.465	156	
#5 @ 9"	0.413	139	6.9	13.8	20.7	27.6	34.4	41.3	-	-	-	0.413	139	
#5 @ 10"	0.372	125	6.2	12.4	18.6	24.8	31.0	37.2	43.4	-	-	0.372	125	
#5 @ 11"	0.338	114	5.6	11.3	16.9	22.5	28.2	33.8	39.5	45.1	-	0.338	114	
#5 @ 12"	0.310	104	5.2	10.3	15.5	20.7	25.8	31.0	36.2	41.3	-	0.310	104	
#5 @ 13"	0.286	96	4.8	9.5	14.3	19.1	23.9	28.6	33.4	38.2	42.9	0.286	96	
#5 @ 14"	0.266	89	4.4	8.9	13.3	17.7	22.1	26.6	31.0	35.4	39.9	0.266	89	
#5 @ 15"	0.248	83	4.1	8.3	12.4	16.5	20.7	24.8	28.9	33.1	37.2	0.248	83	
#5 @ 16"	0.233	78	3.9	7.8	11.6	15.5	19.4	23.3	27.1	31.0	34.9	0.233	78	
#5 @ 17"	0.219	74	3.6	7.3	10.9	14.6	18.2	21.9	25.5	29.2	32.8	0.219	74	
#5 @ 18"	0.207	70	3.4	6.9	10.3	13.8	17.2	20.7	24.1	27.6	31.0	0.207	70	

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate weight for a different pattern in the other direction. Weight per 100 square feet are theoretical and are intended for estimating purposes only.

TABLE 3 - #6, #7, #8

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 60,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.		
#6 @ 4"	1.320	451	22.0	44.0	-	-	-	-	-	-	-	1.320	451
#6 @ 5"	1.056	360	17.6	35.2	-	-	-	-	-	-	-	1.056	360
#6 @ 6"	0.880	300	14.7	29.3	44.0	-	-	-	-	-	-	0.880	300
#6 @ 7"	0.754	257	12.6	25.1	37.7	-	-	-	-	-	-	0.754	257
#6 @ 8"	0.660	225	11.0	22.0	33.0	44.0	-	-	-	-	-	0.660	225
#6 @ 9"	0.587	200	9.8	19.6	29.3	39.1	-	-	-	-	-	0.587	200
#6 @ 10"	0.528	180	8.8	17.6	26.4	35.2	44.0	-	-	-	-	0.528	180
#6 @ 11"	0.480	164	8.0	16.0	24.0	32.0	40.0	-	-	-	-	0.480	164
#6 @ 12"	0.440	150	7.3	14.7	22.0	29.3	36.7	44.0	-	-	-	0.440	150
#6 @ 13"	0.406	139	6.8	13.5	20.3	27.1	33.9	40.6	-	-	-	0.406	139
#6 @ 14"	0.377	129	6.3	12.6	18.9	25.1	31.4	37.7	44.0	-	-	0.377	129
#6 @ 15"	0.352	120	5.9	11.7	17.6	23.5	29.3	35.2	41.1	-	-	0.352	120
#6 @ 16"	0.330	113	5.5	11.0	16.5	22.0	27.5	33.0	38.5	44.0	-	0.330	113
#6 @ 17"	0.311	106	5.2	10.4	15.5	20.7	25.9	31.1	36.2	41.4	-	0.311	106
#6 @ 18"	0.293	100	4.9	9.8	14.7	19.6	24.4	29.3	34.2	39.1	44.0	0.293	100

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.		
#7 @ 4"	1.800	613	30.0	-	-	-	-	-	-	-	-	1.800	613
#7 @ 5"	1.440	491	24.0	-	-	-	-	-	-	-	-	1.440	491
#7 @ 6"	1.200	409	20.0	40.0	-	-	-	-	-	-	-	1.200	409
#7 @ 7"	1.029	350	17.1	34.3	-	-	-	-	-	-	-	1.029	350
#7 @ 8"	0.900	307	15.0	30.0	45.0	-	-	-	-	-	-	0.900	307
#7 @ 9"	0.800	273	13.3	26.7	40.0	-	-	-	-	-	-	0.800	273
#7 @ 10"	0.720	245	12.0	24.0	36.0	-	-	-	-	-	-	0.720	245
#7 @ 11"	0.655	223	10.9	21.8	32.7	43.6	-	-	-	-	-	0.655	223
#7 @ 12"	0.600	204	10.0	20.0	30.0	40.0	-	-	-	-	-	0.600	204
#7 @ 13"	0.554	189	9.2	18.5	27.7	36.9	-	-	-	-	-	0.554	189
#7 @ 14"	0.514	175	8.6	17.1	25.7	34.3	42.9	-	-	-	-	0.514	175
#7 @ 15"	0.480	164	8.0	16.0	24.0	32.0	40.0	-	-	-	-	0.480	164
#7 @ 16"	0.450	153	7.5	15.0	22.5	30.0	37.5	45.0	-	-	-	0.450	153
#7 @ 17"	0.424	144	7.1	14.1	21.2	28.2	35.3	42.4	-	-	-	0.424	144
#7 @ 18"	0.400	136	6.7	13.3	20.0	26.7	33.3	40.0	-	-	-	0.400	136

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.		
#8 @ 4"	2.370	801	39.5	-	-	-	-	-	-	-	-	2.370	801
#8 @ 5"	1.896	641	31.6	-	-	-	-	-	-	-	-	1.896	641
#8 @ 6"	1.580	534	26.3	-	-	-	-	-	-	-	-	1.580	534
#8 @ 7"	1.354	458	22.6	-	-	-	-	-	-	-	-	1.354	458
#8 @ 8"	1.185	401	19.8	39.5	-	-	-	-	-	-	-	1.185	401
#8 @ 9"	1.053	356	17.6	35.1	-	-	-	-	-	-	-	1.053	356
#8 @ 10"	0.948	320	15.8	31.6	-	-	-	-	-	-	-	0.948	320
#8 @ 11"	0.862	291	14.4	28.7	43.1	-	-	-	-	-	-	0.862	291
#8 @ 12"	0.790	267	13.2	26.3	39.5	-	-	-	-	-	-	0.790	267
#8 @ 13"	0.729	246	12.2	24.3	36.5	-	-	-	-	-	-	0.729	246
#8 @ 14"	0.677	229	11.3	22.6	33.9	-	-	-	-	-	-	0.677	229
#8 @ 15"	0.632	214	10.5	21.1	31.6	42.1	-	-	-	-	-	0.632	214
#8 @ 16"	0.593	200	9.9	19.8	29.6	39.5	-	-	-	-	-	0.593	200
#8 @ 17"	0.558	188	9.3	18.6	27.9	37.2	-	-	-	-	-	0.558	188
#8 @ 18"	0.527	178	8.8	17.6	26.3	35.1	43.9	-	-	-	-	0.527	178

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate weight for a different pattern in the other direction. Weight per 100 square feet are theoretical and are intended for estimating purposes only.

TABLE 3 - #9, #10, #11

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 60,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#9 @ 4"	3.000	1,014	-	-	-	-	-	-	-	-	-	3.000	1014
#9 @ 5"	2.400	811	40.0	-	-	-	-	-	-	-	-	2.400	811
#9 @ 6"	2.000	676	33.3	-	-	-	-	-	-	-	-	2.000	676
#9 @ 7"	1.714	579	28.6	-	-	-	-	-	-	-	-	1.714	579
#9 @ 8"	1.500	507	25.0	-	-	-	-	-	-	-	-	1.500	507
#9 @ 9"	1.333	451	22.2	44.4	-	-	-	-	-	-	-	1.333	451
#9 @ 10"	1.200	406	20.0	40.0	-	-	-	-	-	-	-	1.200	406
#9 @ 11"	1.091	369	18.2	36.4	-	-	-	-	-	-	-	1.091	369
#9 @ 12"	1.000	338	16.7	33.3	-	-	-	-	-	-	-	1.000	338
#9 @ 13"	0.923	312	15.4	30.8	-	-	-	-	-	-	-	0.923	312
#9 @ 14"	0.857	290	14.3	28.6	42.9	-	-	-	-	-	-	0.857	290
#9 @ 15"	0.800	270	13.3	26.7	40.0	-	-	-	-	-	-	0.800	270
#9 @ 16"	0.750	253	12.5	25.0	37.5	-	-	-	-	-	-	0.750	253
#9 @ 17"	0.706	239	11.8	23.5	35.3	-	-	-	-	-	-	0.706	239
#9 @ 18"	0.667	225	11.1	22.2	33.3	44.4	-	-	-	-	-	0.667	225

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#10 @ 4"	3.810	1,252	-	-	-	-	-	-	-	-	-	3.810	1252
#10 @ 5"	3.048	1,001	-	-	-	-	-	-	-	-	-	3.048	1001
#10 @ 6"	2.540	834	42.3	-	-	-	-	-	-	-	-	2.540	834
#10 @ 7"	2.177	715	36.3	-	-	-	-	-	-	-	-	2.177	715
#10 @ 8"	1.905	626	31.8	-	-	-	-	-	-	-	-	1.905	626
#10 @ 9"	1.693	556	28.2	-	-	-	-	-	-	-	-	1.693	556
#10 @ 10"	1.524	501	25.4	-	-	-	-	-	-	-	-	1.524	501
#10 @ 11"	1.386	455	23.1	-	-	-	-	-	-	-	-	1.386	455
#10 @ 12"	1.270	417	21.2	42.3	-	-	-	-	-	-	-	1.270	417
#10 @ 13"	1.172	385	19.5	39.1	-	-	-	-	-	-	-	1.172	385
#10 @ 14"	1.089	358	18.1	36.3	-	-	-	-	-	-	-	1.089	358
#10 @ 15"	1.016	334	16.9	33.9	-	-	-	-	-	-	-	1.016	334
#10 @ 16"	0.953	313	15.9	31.8	-	-	-	-	-	-	-	0.953	313
#10 @ 17"	0.897	295	14.9	29.9	44.8	-	-	-	-	-	-	0.897	295
#10 @ 18"	0.847	278	14.1	28.2	42.3	-	-	-	-	-	-	0.847	278

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#11 @ 4"	4.680	1,515	-	-	-	-	-	-	-	-	-	4.680	1515
#11 @ 5"	3.744	1,212	-	-	-	-	-	-	-	-	-	3.744	1212
#11 @ 6"	3.120	1,010	-	-	-	-	-	-	-	-	-	3.120	1010
#11 @ 7"	2.674	865	44.6	-	-	-	-	-	-	-	-	2.674	865
#11 @ 8"	2.340	757	39.0	-	-	-	-	-	-	-	-	2.340	757
#11 @ 9"	2.080	673	34.7	-	-	-	-	-	-	-	-	2.080	673
#11 @ 10"	1.872	606	31.2	-	-	-	-	-	-	-	-	1.872	606
#11 @ 11"	1.702	551	28.4	-	-	-	-	-	-	-	-	1.702	551
#11 @ 12"	1.560	505	26.0	-	-	-	-	-	-	-	-	1.560	505
#11 @ 13"	1.440	466	24.0	-	-	-	-	-	-	-	-	1.440	466
#11 @ 14"	1.337	433	22.3	44.6	-	-	-	-	-	-	-	1.337	433
#11 @ 15"	1.248	404	20.8	41.6	-	-	-	-	-	-	-	1.248	404
#11 @ 16"	1.170	379	19.5	39.0	-	-	-	-	-	-	-	1.170	379
#11 @ 17"	1.101	356	18.4	36.7	-	-	-	-	-	-	-	1.101	356
#11 @ 18"	1.040	337	17.3	34.7	-	-	-	-	-	-	-	1.040	337

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate weight for a different pattern in the other direction. Weight per 100 square feet are theoretical and are intended for estimating purposes only.

TABLE 4 - #3, #4, #5

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 70,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#3 @ 4"	0.330	113	4.7	9.4	14.1	18.9	23.6	28.3	33.0	37.7	42.4	0.283	97
#3 @ 5"	0.264	90	3.8	7.5	11.3	15.1	18.9	22.6	26.4	30.2	33.9	0.226	77
#3 @ 6"	0.220	75	3.1	6.3	9.4	12.6	15.7	18.9	22.0	25.1	28.3	0.189	64
#3 @ 7"	0.189	64	2.7	5.4	8.1	10.8	13.5	16.2	18.9	21.6	24.2	0.162	55
#3 @ 8"	0.165	56	2.4	4.7	7.1	9.4	11.8	14.1	16.5	18.9	21.2	0.141	48
#3 @ 9"	0.147	50	2.1	4.2	6.3	8.4	10.5	12.6	14.7	16.8	18.9	0.126	43
#3 @ 10"	0.132	45	1.9	3.8	5.7	7.5	9.4	11.3	13.2	15.1	17.0	0.113	39
#3 @ 11"	0.120	41	1.7	3.4	5.1	6.9	8.6	10.3	12.0	13.7	15.4	0.103	35
#3 @ 12"	0.110	38	1.6	3.1	4.7	6.3	7.9	9.4	11.0	12.6	14.1	0.094	33
#3 @ 13"	0.102	35	1.5	2.9	4.4	5.8	7.3	8.7	10.2	11.6	13.1	0.087	30
#3 @ 14"	0.094	32	1.3	2.7	4.0	5.4	6.7	8.1	9.4	10.8	12.1	0.081	27
#3 @ 15"	0.088	30	1.3	2.5	3.8	5.0	6.3	7.5	8.8	10.1	11.3	0.075	26
#3 @ 16"	0.083	28	1.2	2.4	3.5	4.7	5.9	7.1	8.3	9.4	10.6	0.071	24
#3 @ 17"	0.078	27	1.1	2.2	3.3	4.4	5.5	6.7	7.8	8.9	10.0	0.067	23
#3 @ 18"	0.073	25	1.0	2.1	3.1	4.2	5.2	6.3	7.3	8.4	9.4	0.063	21

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#4 @ 4"	0.600	200	8.6	17.1	25.7	34.3	42.9	-	-	-	-	0.514	171
#4 @ 5"	0.480	160	6.9	13.7	20.6	27.4	34.3	41.1	-	-	-	0.411	137
#4 @ 6"	0.400	134	5.7	11.4	17.1	22.9	28.6	34.3	40.0	45.7	-	0.343	115
#4 @ 7"	0.343	114	4.9	9.8	14.7	19.6	24.5	29.4	34.3	39.2	44.1	0.294	98
#4 @ 8"	0.300	100	4.3	8.6	12.9	17.1	21.4	25.7	30.0	34.3	38.6	0.257	86
#4 @ 9"	0.267	89	3.8	7.6	11.4	15.2	19.1	22.9	26.7	30.5	34.3	0.229	76
#4 @ 10"	0.240	80	3.4	6.9	10.3	13.7	17.1	20.6	24.0	27.4	30.9	0.206	69
#4 @ 11"	0.218	73	3.1	6.2	9.4	12.5	15.6	18.7	21.8	24.9	28.1	0.187	63
#4 @ 12"	0.200	67	2.9	5.7	8.6	11.4	14.3	17.1	20.0	22.9	25.7	0.171	57
#4 @ 13"	0.185	62	2.6	5.3	7.9	10.5	13.2	15.8	18.5	21.1	23.7	0.158	53
#4 @ 14"	0.171	57	2.4	4.9	7.3	9.8	12.2	14.7	17.1	19.6	22.0	0.147	49
#4 @ 15"	0.160	53	2.3	4.6	6.9	9.1	11.4	13.7	16.0	18.3	20.6	0.137	45
#4 @ 16"	0.150	50	2.1	4.3	6.4	8.6	10.7	12.9	15.0	17.1	19.3	0.129	43
#4 @ 17"	0.141	47	2.0	4.0	6.1	8.1	10.1	12.1	14.1	16.1	18.2	0.121	40
#4 @ 18"	0.133	45	1.9	3.8	5.7	7.6	9.5	11.4	13.3	15.2	17.1	0.114	39

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#5 @ 4"	0.930	313	13.3	26.6	39.9	-	-	-	-	-	-	0.797	268
#5 @ 5"	0.744	250	10.6	21.3	31.9	42.5	-	-	-	-	-	0.638	214
#5 @ 6"	0.620	209	8.9	17.7	26.6	35.4	44.3	-	-	-	-	0.531	179
#5 @ 7"	0.531	179	7.6	15.2	22.8	30.4	38.0	-	-	-	-	0.455	153
#5 @ 8"	0.465	156	6.6	13.3	19.9	26.6	33.2	39.9	-	-	-	0.399	134
#5 @ 9"	0.413	139	5.9	11.8	17.7	23.6	29.5	35.4	41.3	-	-	0.354	119
#5 @ 10"	0.372	125	5.3	10.6	15.9	21.3	26.6	31.9	37.2	42.5	-	0.319	107
#5 @ 11"	0.338	114	4.8	9.7	14.5	19.3	24.2	29.0	33.8	38.7	43.5	0.290	98
#5 @ 12"	0.310	104	4.4	8.9	13.3	17.7	22.1	26.6	31.0	35.4	39.9	0.266	89
#5 @ 13"	0.286	96	4.1	8.2	12.3	16.4	20.4	24.5	28.6	32.7	36.8	0.245	82
#5 @ 14"	0.266	89	3.8	7.6	11.4	15.2	19.0	22.8	26.6	30.4	34.2	0.228	76
#5 @ 15"	0.248	83	3.5	7.1	10.6	14.2	17.7	21.3	24.8	28.3	31.9	0.213	71
#5 @ 16"	0.233	78	3.3	6.6	10.0	13.3	16.6	19.9	23.3	26.6	29.9	0.199	67
#5 @ 17"	0.219	74	3.1	6.3	9.4	12.5	15.6	18.8	21.9	25.0	28.1	0.188	63
#5 @ 18"	0.207	70	3.0	5.9	8.9	11.8	14.8	17.7	20.7	23.6	26.6	0.177	60

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate weight for a different pattern in the other direction. Weight per 100 square feet are theoretical and are intended for estimating purposes only.

TABLE 4 - #6, #7, #8

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 70,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.		
#6 @ 4"	1.320	451	18.9	37.7	-	-	-	-	-	-	-	1.131	387
#6 @ 5"	1.056	360	15.1	30.2	-	-	-	-	-	-	-	0.905	309
#6 @ 6"	0.880	300	12.6	25.1	37.7	-	-	-	-	-	-	0.754	257
#6 @ 7"	0.754	257	10.8	21.6	32.3	43.1	-	-	-	-	-	0.647	220
#6 @ 8"	0.660	225	9.4	18.9	28.3	37.7	-	-	-	-	-	0.566	193
#6 @ 9"	0.587	200	8.4	16.8	25.1	33.5	41.9	-	-	-	-	0.503	171
#6 @ 10"	0.528	180	7.5	15.1	22.6	30.2	37.7	-	-	-	-	0.453	154
#6 @ 11"	0.480	164	6.9	13.7	20.6	27.4	34.3	41.1	-	-	-	0.411	141
#6 @ 12"	0.440	150	6.3	12.6	18.9	25.1	31.4	37.7	44.0	-	-	0.377	129
#6 @ 13"	0.406	139	5.8	11.6	17.4	23.2	29.0	34.8	40.6	-	-	0.348	119
#6 @ 14"	0.377	129	5.4	10.8	16.2	21.5	26.9	32.3	37.7	43.1	-	0.323	111
#6 @ 15"	0.352	120	5.0	10.1	15.1	20.1	25.1	30.2	35.2	40.2	-	0.302	103
#6 @ 16"	0.330	113	4.7	9.4	14.1	18.9	23.6	28.3	33.0	37.7	42.4	0.283	97
#6 @ 17"	0.311	106	4.4	8.9	13.3	17.7	22.2	26.6	31.1	35.5	39.9	0.266	91
#6 @ 18"	0.293	100	4.2	8.4	12.6	16.8	21.0	25.1	29.3	33.5	37.7	0.251	86

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.		
#7 @ 4"	1.800	613	25.7	-	-	-	-	-	-	-	-	1.543	525
#7 @ 5"	1.440	491	20.6	41.1	-	-	-	-	-	-	-	1.234	421
#7 @ 6"	1.200	409	17.1	34.3	-	-	-	-	-	-	-	1.029	351
#7 @ 7"	1.029	350	14.7	29.4	44.1	-	-	-	-	-	-	0.882	300
#7 @ 8"	0.900	307	12.9	25.7	38.6	-	-	-	-	-	-	0.771	263
#7 @ 9"	0.800	273	11.4	22.9	34.3	-	-	-	-	-	-	0.686	234
#7 @ 10"	0.720	245	10.3	20.6	30.9	41.1	-	-	-	-	-	0.617	210
#7 @ 11"	0.655	223	9.4	18.7	28.1	37.4	-	-	-	-	-	0.561	191
#7 @ 12"	0.600	204	8.6	17.1	25.7	34.3	42.9	-	-	-	-	0.514	175
#7 @ 13"	0.554	189	7.9	15.8	23.7	31.6	39.6	-	-	-	-	0.475	162
#7 @ 14"	0.514	175	7.3	14.7	22.0	29.4	36.7	44.1	-	-	-	0.441	150
#7 @ 15"	0.480	164	6.9	13.7	20.6	27.4	34.3	41.1	-	-	-	0.411	141
#7 @ 16"	0.450	153	6.4	12.9	19.3	25.7	32.1	38.6	-	-	-	0.386	131
#7 @ 17"	0.424	144	6.1	12.1	18.2	24.2	30.3	36.3	42.4	-	-	0.363	123
#7 @ 18"	0.400	136	5.7	11.4	17.1	22.9	28.6	34.3	40.0	-	-	0.343	117

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.		
#8 @ 4"	2.370	801	33.9	-	-	-	-	-	-	-	-	2.031	687
#8 @ 5"	1.896	641	27.1	-	-	-	-	-	-	-	-	1.625	549
#8 @ 6"	1.580	534	22.6	45.1	-	-	-	-	-	-	-	1.354	458
#8 @ 7"	1.354	458	19.3	38.7	-	-	-	-	-	-	-	1.161	393
#8 @ 8"	1.185	401	16.9	33.9	-	-	-	-	-	-	-	1.016	344
#8 @ 9"	1.053	356	15.0	30.1	45.1	-	-	-	-	-	-	0.903	305
#8 @ 10"	0.948	320	13.5	27.1	40.6	-	-	-	-	-	-	0.813	274
#8 @ 11"	0.862	291	12.3	24.6	36.9	-	-	-	-	-	-	0.739	249
#8 @ 12"	0.790	267	11.3	22.6	33.9	45.1	-	-	-	-	-	0.677	229
#8 @ 13"	0.729	246	10.4	20.8	31.3	41.7	-	-	-	-	-	0.625	211
#8 @ 14"	0.677	229	9.7	19.3	29.0	38.7	-	-	-	-	-	0.580	196
#8 @ 15"	0.632	214	9.0	18.1	27.1	36.1	45.1	-	-	-	-	0.542	183
#8 @ 16"	0.593	200	8.5	16.9	25.4	33.9	42.3	-	-	-	-	0.508	171
#8 @ 17"	0.558	188	8.0	15.9	23.9	31.9	39.8	-	-	-	-	0.478	161
#8 @ 18"	0.527	178	7.5	15.0	22.6	30.1	37.6	45.1	-	-	-	0.451	153

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate weight for a different pattern in the other direction. Weight per 100 square feet are theoretical and are intended for estimating purposes only.

TABLE 4 - #9, #10, #11

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 70,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#9 @ 4"	3.000	1,014	42.9	-	-	-	-	-	-	-	-	2.571	869
#9 @ 5"	2.400	811	34.3	-	-	-	-	-	-	-	-	2.057	695
#9 @ 6"	2.000	676	28.6	-	-	-	-	-	-	-	-	1.714	579
#9 @ 7"	1.714	579	24.5	-	-	-	-	-	-	-	-	1.469	496
#9 @ 8"	1.500	507	21.4	42.9	-	-	-	-	-	-	-	1.286	435
#9 @ 9"	1.333	451	19.0	38.1	-	-	-	-	-	-	-	1.143	387
#9 @ 10"	1.200	406	17.1	34.3	-	-	-	-	-	-	-	1.029	348
#9 @ 11"	1.091	369	15.6	31.2	-	-	-	-	-	-	-	0.935	316
#9 @ 12"	1.000	338	14.3	28.6	42.9	-	-	-	-	-	-	0.857	290
#9 @ 13"	0.923	312	13.2	26.4	39.6	-	-	-	-	-	-	0.791	267
#9 @ 14"	0.857	290	12.2	24.5	36.7	-	-	-	-	-	-	0.735	249
#9 @ 15"	0.800	270	11.4	22.9	34.3	-	-	-	-	-	-	0.686	231
#9 @ 16"	0.750	253	10.7	21.4	32.1	42.9	-	-	-	-	-	0.643	217
#9 @ 17"	0.706	239	10.1	20.2	30.3	40.3	-	-	-	-	-	0.605	205
#9 @ 18"	0.667	225	9.5	19.0	28.6	38.1	-	-	-	-	-	0.571	193

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#10 @ 4"	3.810	1,252	-	-	-	-	-	-	-	-	-	3.266	1073
#10 @ 5"	3.048	1,001	43.5	-	-	-	-	-	-	-	-	2.613	858
#10 @ 6"	2.540	834	36.3	-	-	-	-	-	-	-	-	2.177	715
#10 @ 7"	2.177	715	31.1	-	-	-	-	-	-	-	-	1.866	613
#10 @ 8"	1.905	626	27.2	-	-	-	-	-	-	-	-	1.633	537
#10 @ 9"	1.693	556	24.2	-	-	-	-	-	-	-	-	1.451	477
#10 @ 10"	1.524	501	21.8	43.5	-	-	-	-	-	-	-	1.306	429
#10 @ 11"	1.386	455	19.8	39.6	-	-	-	-	-	-	-	1.188	390
#10 @ 12"	1.270	417	18.1	36.3	-	-	-	-	-	-	-	1.089	357
#10 @ 13"	1.172	385	16.7	33.5	-	-	-	-	-	-	-	1.005	330
#10 @ 14"	1.089	358	15.6	31.1	-	-	-	-	-	-	-	0.933	307
#10 @ 15"	1.016	334	14.5	29.0	43.5	-	-	-	-	-	-	0.871	286
#10 @ 16"	0.953	313	13.6	27.2	40.8	-	-	-	-	-	-	0.816	268
#10 @ 17"	0.897	295	12.8	25.6	38.4	-	-	-	-	-	-	0.768	253
#10 @ 18"	0.847	278	12.1	24.2	36.3	-	-	-	-	-	-	0.726	238

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#11 @ 4"	4.680	1,515	-	-	-	-	-	-	-	-	-	4.011	1299
#11 @ 5"	3.744	1,212	-	-	-	-	-	-	-	-	-	3.209	1039
#11 @ 6"	3.120	1,010	44.6	-	-	-	-	-	-	-	-	2.674	866
#11 @ 7"	2.674	865	38.2	-	-	-	-	-	-	-	-	2.292	741
#11 @ 8"	2.340	757	33.4	-	-	-	-	-	-	-	-	2.006	649
#11 @ 9"	2.080	673	29.7	-	-	-	-	-	-	-	-	1.783	577
#11 @ 10"	1.872	606	26.7	-	-	-	-	-	-	-	-	1.605	519
#11 @ 11"	1.702	551	24.3	-	-	-	-	-	-	-	-	1.459	472
#11 @ 12"	1.560	505	22.3	44.6	-	-	-	-	-	-	-	1.337	433
#11 @ 13"	1.440	466	20.6	41.1	-	-	-	-	-	-	-	1.234	399
#11 @ 14"	1.337	433	19.1	38.2	-	-	-	-	-	-	-	1.146	371
#11 @ 15"	1.248	404	17.8	35.7	-	-	-	-	-	-	-	1.070	346
#11 @ 16"	1.170	379	16.7	33.4	-	-	-	-	-	-	-	1.003	325
#11 @ 17"	1.101	356	15.7	31.5	-	-	-	-	-	-	-	0.944	305
#11 @ 18"	1.040	337	14.9	29.7	44.6	-	-	-	-	-	-	0.891	289

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate weight for a different pattern in the other direction. Weight per 100 square feet are theoretical and are intended for estimating purposes only.

TABLE 5 - #3, #4, #5

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 75,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing										WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.			
#3 @ 4"	0.330	113	4.4	8.8	13.2	17.6	22.0	26.4	30.8	35.2	39.6	0.264	90	
#3 @ 5"	0.264	90	3.5	7.0	10.6	14.1	17.6	21.1	24.6	28.2	31.7	0.211	72	
#3 @ 6"	0.220	75	2.9	5.9	8.8	11.7	14.7	17.6	20.5	23.5	26.4	0.176	60	
#3 @ 7"	0.189	64	2.5	5.0	7.5	10.1	12.6	15.1	17.6	20.1	22.6	0.151	51	
#3 @ 8"	0.165	56	2.2	4.4	6.6	8.8	11.0	13.2	15.4	17.6	19.8	0.132	45	
#3 @ 9"	0.147	50	2.0	3.9	5.9	7.8	9.8	11.7	13.7	15.6	17.6	0.117	40	
#3 @ 10"	0.132	45	1.8	3.5	5.3	7.0	8.8	10.6	12.3	14.1	15.8	0.106	36	
#3 @ 11"	0.120	41	1.6	3.2	4.8	6.4	8.0	9.6	11.2	12.8	14.4	0.096	33	
#3 @ 12"	0.110	38	1.5	2.9	4.4	5.9	7.3	8.8	10.3	11.7	13.2	0.088	30	
#3 @ 13"	0.102	35	1.4	2.7	4.1	5.4	6.8	8.1	9.5	10.8	12.2	0.081	28	
#3 @ 14"	0.094	32	1.3	2.5	3.8	5.0	6.3	7.5	8.8	10.1	11.3	0.075	26	
#3 @ 15"	0.088	30	1.2	2.3	3.5	4.7	5.9	7.0	8.2	9.4	10.6	0.070	24	
#3 @ 16"	0.083	28	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8.8	9.9	0.066	22	
#3 @ 17"	0.078	27	1.0	2.1	3.1	4.1	5.2	6.2	7.2	8.3	9.3	0.062	22	
#3 @ 18"	0.073	25	1.0	2.0	2.9	3.9	4.9	5.9	6.8	7.8	8.8	0.059	20	

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing										WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.			
#4 @ 4"	0.600	200	8.0	16.0	24.0	32.0	40.0	-	-	-	-	0.480	160	
#4 @ 5"	0.480	160	6.4	12.8	19.2	25.6	32.0	38.4	44.8	-	-	0.384	128	
#4 @ 6"	0.400	134	5.3	10.7	16.0	21.3	26.7	32.0	37.3	42.7	-	0.320	107	
#4 @ 7"	0.343	114	4.6	9.1	13.7	18.3	22.9	27.4	32.0	36.6	41.1	0.274	91	
#4 @ 8"	0.300	100	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	0.240	80	
#4 @ 9"	0.267	89	3.6	7.1	10.7	14.2	17.8	21.3	24.9	28.4	32.0	0.213	71	
#4 @ 10"	0.240	80	3.2	6.4	9.6	12.8	16.0	19.2	22.4	25.6	28.8	0.192	64	
#4 @ 11"	0.218	73	2.9	5.8	8.7	11.6	14.5	17.5	20.4	23.3	26.2	0.175	58	
#4 @ 12"	0.200	67	2.7	5.3	8.0	10.7	13.3	16.0	18.7	21.3	24.0	0.160	54	
#4 @ 13"	0.185	62	2.5	4.9	7.4	9.8	12.3	14.8	17.2	19.7	22.2	0.148	50	
#4 @ 14"	0.171	57	2.3	4.6	6.9	9.1	11.4	13.7	16.0	18.3	20.6	0.137	46	
#4 @ 15"	0.160	53	2.1	4.3	6.4	8.5	10.7	12.8	14.9	17.1	19.2	0.128	42	
#4 @ 16"	0.150	50	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	0.120	40	
#4 @ 17"	0.141	47	1.9	3.8	5.6	7.5	9.4	11.3	13.2	15.1	16.9	0.113	38	
#4 @ 18"	0.133	45	1.8	3.6	5.3	7.1	8.9	10.7	12.4	14.2	16.0	0.107	36	

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing										WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.			
#5 @ 4"	0.930	313	12.4	24.8	37.2	-	-	-	-	-	-	0.744	250	
#5 @ 5"	0.744	250	9.9	19.8	29.8	39.7	-	-	-	-	-	0.595	200	
#5 @ 6"	0.620	209	8.3	16.5	24.8	33.1	41.3	-	-	-	-	0.496	167	
#5 @ 7"	0.531	179	7.1	14.2	21.3	28.3	35.4	42.5	-	-	-	0.425	143	
#5 @ 8"	0.465	156	6.2	12.4	18.6	24.8	31.0	37.2	43.4	-	-	0.372	125	
#5 @ 9"	0.413	139	5.5	11.0	16.5	22.0	27.6	33.1	38.6	44.1	-	0.331	111	
#5 @ 10"	0.372	125	5.0	9.9	14.9	19.8	24.8	29.8	34.7	39.7	44.6	0.298	100	
#5 @ 11"	0.338	114	4.5	9.0	13.5	18.0	22.5	27.1	31.6	36.1	40.6	0.271	91	
#5 @ 12"	0.310	104	4.1	8.3	12.4	16.5	20.7	24.8	28.9	33.1	37.2	0.248	83	
#5 @ 13"	0.286	96	3.8	7.6	11.4	15.3	19.1	22.9	26.7	30.5	34.3	0.229	77	
#5 @ 14"	0.266	89	3.5	7.1	10.6	14.2	17.7	21.3	24.8	28.3	31.9	0.213	71	
#5 @ 15"	0.248	83	3.3	6.6	9.9	13.2	16.5	19.8	23.1	26.5	29.8	0.198	66	
#5 @ 16"	0.233	78	3.1	6.2	9.3	12.4	15.5	18.6	21.7	24.8	27.9	0.186	62	
#5 @ 17"	0.219	74	2.9	5.8	8.8	11.7	14.6	17.5	20.4	23.3	26.3	0.175	59	
#5 @ 18"	0.207	70	2.8	5.5	8.3	11.0	13.8	16.5	19.3	22.0	24.8	0.165	56	

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate weight for a different pattern in the other direction. Weight per 100 square feet are theoretical and are intended for estimating purposes only.

TABLE 5 - #6, #7, #8

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 75,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#6 @ 4"	1.320	451	17.6	35.2	-	-	-	-	-	-	-	1.056	361
#6 @ 5"	1.056	360	14.1	28.2	42.2	-	-	-	-	-	-	0.845	288
#6 @ 6"	0.880	300	11.7	23.5	35.2	-	-	-	-	-	-	0.704	240
#6 @ 7"	0.754	257	10.1	20.1	30.2	40.2	-	-	-	-	-	0.603	206
#6 @ 8"	0.660	225	8.8	17.6	26.4	35.2	44.0	-	-	-	-	0.528	180
#6 @ 9"	0.587	200	7.8	15.6	23.5	31.3	39.1	-	-	-	-	0.469	160
#6 @ 10"	0.528	180	7.0	14.1	21.1	28.2	35.2	42.2	-	-	-	0.422	144
#6 @ 11"	0.480	164	6.4	12.8	19.2	25.6	32.0	38.4	44.8	-	-	0.384	131
#6 @ 12"	0.440	150	5.9	11.7	17.6	23.5	29.3	35.2	41.1	-	-	0.352	120
#6 @ 13"	0.406	139	5.4	10.8	16.2	21.7	27.1	32.5	37.9	43.3	-	0.325	111
#6 @ 14"	0.377	129	5.0	10.1	15.1	20.1	25.1	30.2	35.2	40.2	-	0.302	103
#6 @ 15"	0.352	120	4.7	9.4	14.1	18.8	23.5	28.2	32.9	37.5	42.2	0.282	96
#6 @ 16"	0.330	113	4.4	8.8	13.2	17.6	22.0	26.4	30.8	35.2	39.6	0.264	90
#6 @ 17"	0.311	106	4.1	8.3	12.4	16.6	20.7	24.8	29.0	33.1	37.3	0.248	85
#6 @ 18"	0.293	100	3.9	7.8	11.7	15.6	19.6	23.5	27.4	31.3	35.2	0.235	80

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#7 @ 4"	1.800	613	24.0	-	-	-	-	-	-	-	-	1.440	490
#7 @ 5"	1.440	491	19.2	38.4	-	-	-	-	-	-	-	1.152	393
#7 @ 6"	1.200	409	16.0	32.0	-	-	-	-	-	-	-	0.960	327
#7 @ 7"	1.029	350	13.7	27.4	41.1	-	-	-	-	-	-	0.823	280
#7 @ 8"	0.900	307	12.0	24.0	36.0	-	-	-	-	-	-	0.720	246
#7 @ 9"	0.800	273	10.7	21.3	32.0	42.7	-	-	-	-	-	0.640	218
#7 @ 10"	0.720	245	9.6	19.2	28.8	38.4	-	-	-	-	-	0.576	196
#7 @ 11"	0.655	223	8.7	17.5	26.2	34.9	43.6	-	-	-	-	0.524	178
#7 @ 12"	0.600	204	8.0	16.0	24.0	32.0	40.0	-	-	-	-	0.480	163
#7 @ 13"	0.554	189	7.4	14.8	22.2	29.5	36.9	44.3	-	-	-	0.443	151
#7 @ 14"	0.514	175	6.9	13.7	20.6	27.4	34.3	41.1	-	-	-	0.411	140
#7 @ 15"	0.480	164	6.4	12.8	19.2	25.6	32.0	38.4	44.8	-	-	0.384	131
#7 @ 16"	0.450	153	6.0	12.0	18.0	24.0	30.0	36.0	42.0	-	-	0.360	122
#7 @ 17"	0.424	144	5.6	11.3	16.9	22.6	28.2	33.9	39.5	-	-	0.339	115
#7 @ 18"	0.400	136	5.3	10.7	16.0	21.3	26.7	32.0	37.3	42.7	-	0.320	109

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#8 @ 4"	2.370	801	31.6	-	-	-	-	-	-	-	-	1.896	641
#8 @ 5"	1.896	641	25.3	-	-	-	-	-	-	-	-	1.517	513
#8 @ 6"	1.580	534	21.1	42.1	-	-	-	-	-	-	-	1.264	427
#8 @ 7"	1.354	458	18.1	36.1	-	-	-	-	-	-	-	1.083	366
#8 @ 8"	1.185	401	15.8	31.6	-	-	-	-	-	-	-	0.948	321
#8 @ 9"	1.053	356	14.0	28.1	42.1	-	-	-	-	-	-	0.843	285
#8 @ 10"	0.948	320	12.6	25.3	37.9	-	-	-	-	-	-	0.758	256
#8 @ 11"	0.862	291	11.5	23.0	34.5	-	-	-	-	-	-	0.689	233
#8 @ 12"	0.790	267	10.5	21.1	31.6	42.1	-	-	-	-	-	0.632	214
#8 @ 13"	0.729	246	9.7	19.4	29.2	38.9	-	-	-	-	-	0.583	197
#8 @ 14"	0.677	229	9.0	18.1	27.1	36.1	45.1	-	-	-	-	0.542	183
#8 @ 15"	0.632	214	8.4	16.9	25.3	33.7	42.1	-	-	-	-	0.506	171
#8 @ 16"	0.593	200	7.9	15.8	23.7	31.6	39.5	-	-	-	-	0.474	160
#8 @ 17"	0.558	188	7.4	14.9	22.3	29.7	37.2	44.6	-	-	-	0.446	150
#8 @ 18"	0.527	178	7.0	14.0	21.1	28.1	35.1	42.1	-	-	-	0.421	142

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate weight for a different pattern in the other direction. Weight per 100 square feet are theoretical and are intended for estimating purposes only.

TABLE 5 - #9, #10, #11

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 75,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#9 @ 4"	3.000	1,014	40.0	-	-	-	-	-	-	-	-	2.400	811
#9 @ 5"	2.400	811	32.0	-	-	-	-	-	-	-	-	1.920	649
#9 @ 6"	2.000	676	26.7	-	-	-	-	-	-	-	-	1.600	541
#9 @ 7"	1.714	579	22.9	-	-	-	-	-	-	-	-	1.371	463
#9 @ 8"	1.500	507	20.0	40.0	-	-	-	-	-	-	-	1.200	406
#9 @ 9"	1.333	451	17.8	35.6	-	-	-	-	-	-	-	1.067	361
#9 @ 10"	1.200	406	16.0	32.0	-	-	-	-	-	-	-	0.960	325
#9 @ 11"	1.091	369	14.5	29.1	43.6	-	-	-	-	-	-	0.873	295
#9 @ 12"	1.000	338	13.3	26.7	40.0	-	-	-	-	-	-	0.800	270
#9 @ 13"	0.923	312	12.3	24.6	36.9	-	-	-	-	-	-	0.738	250
#9 @ 14"	0.857	290	11.4	22.9	34.3	-	-	-	-	-	-	0.686	232
#9 @ 15"	0.800	270	10.7	21.3	32.0	42.7	-	-	-	-	-	0.640	216
#9 @ 16"	0.750	253	10.0	20.0	30.0	40.0	-	-	-	-	-	0.600	202
#9 @ 17"	0.706	239	9.4	18.8	28.2	37.6	-	-	-	-	-	0.565	191
#9 @ 18"	0.667	225	8.9	17.8	26.7	35.6	44.4	-	-	-	-	0.533	180

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#10 @ 4"	3.810	1,252	-	-	-	-	-	-	-	-	-	3.048	1002
#10 @ 5"	3.048	1,001	40.6	-	-	-	-	-	-	-	-	2.438	801
#10 @ 6"	2.540	834	33.9	-	-	-	-	-	-	-	-	2.032	667
#10 @ 7"	2.177	715	29.0	-	-	-	-	-	-	-	-	1.742	572
#10 @ 8"	1.905	626	25.4	-	-	-	-	-	-	-	-	1.524	501
#10 @ 9"	1.693	556	22.6	-	-	-	-	-	-	-	-	1.355	445
#10 @ 10"	1.524	501	20.3	40.6	-	-	-	-	-	-	-	1.219	401
#10 @ 11"	1.386	455	18.5	36.9	-	-	-	-	-	-	-	1.108	364
#10 @ 12"	1.270	417	16.9	33.9	-	-	-	-	-	-	-	1.016	334
#10 @ 13"	1.172	385	15.6	31.3	-	-	-	-	-	-	-	0.938	308
#10 @ 14"	1.089	358	14.5	29.0	43.5	-	-	-	-	-	-	0.871	286
#10 @ 15"	1.016	334	13.5	27.1	40.6	-	-	-	-	-	-	0.813	267
#10 @ 16"	0.953	313	12.7	25.4	38.1	-	-	-	-	-	-	0.762	250
#10 @ 17"	0.897	295	12.0	23.9	35.9	-	-	-	-	-	-	0.717	236
#10 @ 18"	0.847	278	11.3	22.6	33.9	-	-	-	-	-	-	0.677	222

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#11 @ 4"	4.680	1,515	-	-	-	-	-	-	-	-	-	3.744	1212
#11 @ 5"	3.744	1,212	-	-	-	-	-	-	-	-	-	2.995	970
#11 @ 6"	3.120	1,010	41.6	-	-	-	-	-	-	-	-	2.496	808
#11 @ 7"	2.674	865	35.7	-	-	-	-	-	-	-	-	2.139	692
#11 @ 8"	2.340	757	31.2	-	-	-	-	-	-	-	-	1.872	606
#11 @ 9"	2.080	673	27.7	-	-	-	-	-	-	-	-	1.664	538
#11 @ 10"	1.872	606	25.0	-	-	-	-	-	-	-	-	1.498	485
#11 @ 11"	1.702	551	22.7	-	-	-	-	-	-	-	-	1.361	441
#11 @ 12"	1.560	505	20.8	41.6	-	-	-	-	-	-	-	1.248	404
#11 @ 13"	1.440	466	19.2	38.4	-	-	-	-	-	-	-	1.152	373
#11 @ 14"	1.337	433	17.8	35.7	-	-	-	-	-	-	-	1.070	346
#11 @ 15"	1.248	404	16.6	33.3	-	-	-	-	-	-	-	0.998	323
#11 @ 16"	1.170	379	15.6	31.2	-	-	-	-	-	-	-	0.936	303
#11 @ 17"	1.101	356	14.7	29.4	44.0	-	-	-	-	-	-	0.881	285
#11 @ 18"	1.040	337	13.9	27.7	41.6	-	-	-	-	-	-	0.832	270

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate weight for a different pattern in the other direction. Weight per 100 square feet are theoretical and are intended for estimating purposes only.

TABLE 6 - #3, #4, #5

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 80,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#3 @ 4"	0.330	113	4.1	8.3	12.4	16.5	20.6	24.8	28.9	33.0	37.1	0.248	85
#3 @ 5"	0.264	90	3.3	6.6	9.9	13.2	16.5	19.8	23.1	26.4	29.7	0.198	68
#3 @ 6"	0.220	75	2.8	5.5	8.3	11.0	13.8	16.5	19.3	22.0	24.8	0.165	56
#3 @ 7"	0.189	64	2.4	4.7	7.1	9.4	11.8	14.1	16.5	18.9	21.2	0.141	48
#3 @ 8"	0.165	56	2.1	4.1	6.2	8.3	10.3	12.4	14.4	16.5	18.6	0.124	42
#3 @ 9"	0.147	50	1.8	3.7	5.5	7.3	9.2	11.0	12.8	14.7	16.5	0.110	38
#3 @ 10"	0.132	45	1.7	3.3	5.0	6.6	8.3	9.9	11.6	13.2	14.9	0.099	34
#3 @ 11"	0.120	41	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	0.090	31
#3 @ 12"	0.110	38	1.4	2.8	4.1	5.5	6.9	8.3	9.6	11.0	12.4	0.083	29
#3 @ 13"	0.102	35	1.3	2.5	3.8	5.1	6.3	7.6	8.9	10.2	11.4	0.076	26
#3 @ 14"	0.094	32	1.2	2.4	3.5	4.7	5.9	7.1	8.3	9.4	10.6	0.071	24
#3 @ 15"	0.088	30	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8.8	9.9	0.066	23
#3 @ 16"	0.083	28	1.0	2.1	3.1	4.1	5.2	6.2	7.2	8.3	9.3	0.062	21
#3 @ 17"	0.078	27	1.0	1.9	2.9	3.9	4.9	5.8	6.8	7.8	8.7	0.058	20
#3 @ 18"	0.073	25	0.9	1.8	2.7	3.7	4.6	5.5	6.4	7.3	8.2	0.055	19

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#4 @ 4"	0.600	200	7.5	15.0	22.5	30.0	37.5	45.0	-	-	-	0.450	150
#4 @ 5"	0.480	160	6.0	12.0	18.0	24.0	30.0	36.0	42.0	-	-	0.360	120
#4 @ 6"	0.400	134	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	-	0.300	101
#4 @ 7"	0.343	114	4.3	8.6	12.9	17.1	21.4	25.7	30.0	34.3	38.6	0.257	86
#4 @ 8"	0.300	100	3.8	7.5	11.3	15.0	18.8	22.5	26.3	30.0	33.8	0.225	75
#4 @ 9"	0.267	89	3.3	6.7	10.0	13.3	16.7	20.0	23.3	26.7	30.0	0.200	67
#4 @ 10"	0.240	80	3.0	6.0	9.0	12.0	15.0	18.0	21.0	24.0	27.0	0.180	60
#4 @ 11"	0.218	73	2.7	5.5	8.2	10.9	13.6	16.4	19.1	21.8	24.5	0.164	55
#4 @ 12"	0.200	67	2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	0.150	50
#4 @ 13"	0.185	62	2.3	4.6	6.9	9.2	11.5	13.8	16.2	18.5	20.8	0.138	47
#4 @ 14"	0.171	57	2.1	4.3	6.4	8.6	10.7	12.9	15.0	17.1	19.3	0.129	43
#4 @ 15"	0.160	53	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	0.120	40
#4 @ 16"	0.150	50	1.9	3.8	5.6	7.5	9.4	11.3	13.1	15.0	16.9	0.113	38
#4 @ 17"	0.141	47	1.8	3.5	5.3	7.1	8.8	10.6	12.4	14.1	15.9	0.106	35
#4 @ 18"	0.133	45	1.7	3.3	5.0	6.7	8.3	10.0	11.7	13.3	15.0	0.100	34

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#5 @ 4"	0.930	313	11.6	23.3	34.9	-	-	-	-	-	-	0.698	235
#5 @ 5"	0.744	250	9.3	18.6	27.9	37.2	-	-	-	-	-	0.558	188
#5 @ 6"	0.620	209	7.8	15.5	23.3	31.0	38.8	-	-	-	-	0.465	157
#5 @ 7"	0.531	179	6.6	13.3	19.9	26.6	33.2	39.9	-	-	-	0.399	134
#5 @ 8"	0.465	156	5.8	11.6	17.4	23.3	29.1	34.9	40.7	-	-	0.349	117
#5 @ 9"	0.413	139	5.2	10.3	15.5	20.7	25.8	31.0	36.2	41.3	-	0.310	104
#5 @ 10"	0.372	125	4.7	9.3	14.0	18.6	23.3	27.9	32.6	37.2	41.9	0.279	94
#5 @ 11"	0.338	114	4.2	8.5	12.7	16.9	21.1	25.4	29.6	33.8	38.0	0.254	86
#5 @ 12"	0.310	104	3.9	7.8	11.6	15.5	19.4	23.3	27.1	31.0	34.9	0.233	78
#5 @ 13"	0.286	96	3.6	7.2	10.7	14.3	17.9	21.5	25.0	28.6	32.2	0.215	72
#5 @ 14"	0.266	89	3.3	6.6	10.0	13.3	16.6	19.9	23.2	26.6	29.9	0.199	67
#5 @ 15"	0.248	83	3.1	6.2	9.3	12.4	15.5	18.6	21.7	24.8	27.9	0.186	62
#5 @ 16"	0.233	78	2.9	5.8	8.7	11.6	14.5	17.4	20.3	23.3	26.2	0.174	59
#5 @ 17"	0.219	74	2.7	5.5	8.2	10.9	13.7	16.4	19.1	21.9	24.6	0.164	56
#5 @ 18"	0.207	70	2.6	5.2	7.8	10.3	12.9	15.5	18.1	20.7	23.3	0.155	53

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate

TABLE 6 - #6, #7, #8

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 80,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#6 @ 4"	1.320	451	16.5	33.0	49.5	-	-	-	-	-	-	0.990	338
#6 @ 5"	1.056	360	13.2	26.4	39.6	-	-	-	-	-	-	0.792	270
#6 @ 6"	0.880	300	11.0	22.0	33.0	44.0	-	-	-	-	-	0.660	225
#6 @ 7"	0.754	257	9.4	18.9	28.3	37.7	47.1	-	-	-	-	0.566	193
#6 @ 8"	0.660	225	8.3	16.5	24.8	33.0	41.3	49.5	-	-	-	0.495	169
#6 @ 9"	0.587	200	7.3	14.7	22.0	29.3	36.7	44.0	-	-	-	0.440	150
#6 @ 10"	0.528	180	6.6	13.2	19.8	26.4	33.0	39.6	46.2	-	-	0.396	135
#6 @ 11"	0.480	164	6.0	12.0	18.0	24.0	30.0	36.0	42.0	48.0	-	0.360	123
#6 @ 12"	0.440	150	5.5	11.0	16.5	22.0	27.5	33.0	38.5	44.0	49.5	0.330	113
#6 @ 13"	0.406	139	5.1	10.2	15.2	20.3	25.4	30.5	35.5	40.6	45.7	0.305	104
#6 @ 14"	0.377	129	4.7	9.4	14.1	18.9	23.6	28.3	33.0	37.7	42.4	0.283	97
#6 @ 15"	0.352	120	4.4	8.8	13.2	17.6	22.0	26.4	30.8	35.2	39.6	0.264	90
#6 @ 16"	0.330	113	4.1	8.3	12.4	16.5	20.6	24.8	28.9	33.0	37.1	0.248	85
#6 @ 17"	0.311	106	3.9	7.8	11.6	15.5	19.4	23.3	27.2	31.1	34.9	0.233	80
#6 @ 18"	0.293	100	3.7	7.3	11.0	14.7	18.3	22.0	25.7	29.3	33.0	0.220	75

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#7 @ 4"	1.800	613	22.5	45.0	-	-	-	-	-	-	-	1.350	460
#7 @ 5"	1.440	491	18.0	36.0	-	-	-	-	-	-	-	1.080	368
#7 @ 6"	1.200	409	15.0	30.0	45.0	-	-	-	-	-	-	0.900	307
#7 @ 7"	1.029	350	12.9	25.7	38.6	-	-	-	-	-	-	0.771	263
#7 @ 8"	0.900	307	11.3	22.5	33.8	45.0	-	-	-	-	-	0.675	230
#7 @ 9"	0.800	273	10.0	20.0	30.0	40.0	-	-	-	-	-	0.600	205
#7 @ 10"	0.720	245	9.0	18.0	27.0	36.0	45.0	-	-	-	-	0.540	184
#7 @ 11"	0.655	223	8.2	16.4	24.5	32.7	40.9	-	-	-	-	0.491	167
#7 @ 12"	0.600	204	7.5	15.0	22.5	30.0	37.5	45.0	-	-	-	0.450	153
#7 @ 13"	0.554	189	6.9	13.8	20.8	27.7	34.6	41.5	-	-	-	0.415	142
#7 @ 14"	0.514	175	6.4	12.9	19.3	25.7	32.1	38.6	45.0	-	-	0.386	131
#7 @ 15"	0.480	164	6.0	12.0	18.0	24.0	30.0	36.0	42.0	-	-	0.360	123
#7 @ 16"	0.450	153	5.6	11.3	16.9	22.5	28.1	33.8	39.4	45.0	-	0.338	115
#7 @ 17"	0.424	144	5.3	10.6	15.9	21.2	26.5	31.8	37.1	42.4	-	0.318	108
#7 @ 18"	0.400	136	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	0.300	102

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR	WWR
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	As/ LF	#/CSF
#8 @ 4"	2.370	801	29.6	-	-	-	-	-	-	-	-	1.778	601
#8 @ 5"	1.896	641	23.7	-	-	-	-	-	-	-	-	1.422	481
#8 @ 6"	1.580	534	19.8	39.5	-	-	-	-	-	-	-	1.185	401
#8 @ 7"	1.354	458	16.9	33.9	-	-	-	-	-	-	-	1.016	344
#8 @ 8"	1.185	401	14.8	29.6	44.4	-	-	-	-	-	-	0.889	301
#8 @ 9"	1.053	356	13.2	26.3	39.5	-	-	-	-	-	-	0.790	267
#8 @ 10"	0.948	320	11.9	23.7	35.6	-	-	-	-	-	-	0.711	240
#8 @ 11"	0.862	291	10.8	21.5	32.3	43.1	-	-	-	-	-	0.646	218
#8 @ 12"	0.790	267	9.9	19.8	29.6	39.5	-	-	-	-	-	0.593	200
#8 @ 13"	0.729	246	9.1	18.2	27.3	36.5	-	-	-	-	-	0.547	185
#8 @ 14"	0.677	229	8.5	16.9	25.4	33.9	42.3	-	-	-	-	0.508	172
#8 @ 15"	0.632	214	7.9	15.8	23.7	31.6	39.5	-	-	-	-	0.474	161
#8 @ 16"	0.593	200	7.4	14.8	22.2	29.6	37.0	44.4	-	-	-	0.444	150
#8 @ 17"	0.558	188	7.0	13.9	20.9	27.9	34.9	41.8	-	-	-	0.418	141
#8 @ 18"	0.527	178	6.6	13.2	19.8	26.3	32.9	39.5	-	-	-	0.395	134

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate weight for a different pattern in the other direction. Weight per 100 square feet are theoretical and are intended for estimating purposes only.

TABLE 6 - #9, #10, #11

COMPARISON TABLES - REINFORCING BARS & WELDED WIRE REINFORCEMENT

Rebar @ 60,000 psi and Welded Wire Reinforcement @ 80,000 psi

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.		
#9 @ 4"	3.000	1,014	37.5	-	-	-	-	-	-	-	-	2.250	761
#9 @ 5"	2.400	811	30.0	-	-	-	-	-	-	-	-	1.800	608
#9 @ 6"	2.000	676	25.0	-	-	-	-	-	-	-	-	1.500	507
#9 @ 7"	1.714	579	21.4	42.9	-	-	-	-	-	-	-	1.286	434
#9 @ 8"	1.500	507	18.8	37.5	-	-	-	-	-	-	-	1.125	380
#9 @ 9"	1.333	451	16.7	33.3	-	-	-	-	-	-	-	1.000	338
#9 @ 10"	1.200	406	15.0	30.0	45.0	-	-	-	-	-	-	0.900	305
#9 @ 11"	1.091	369	13.6	27.3	40.9	-	-	-	-	-	-	0.818	277
#9 @ 12"	1.000	338	12.5	25.0	37.5	-	-	-	-	-	-	0.750	254
#9 @ 13"	0.923	312	11.5	23.1	34.6	-	-	-	-	-	-	0.692	234
#9 @ 14"	0.857	290	10.7	21.4	32.1	42.9	-	-	-	-	-	0.643	218
#9 @ 15"	0.800	270	10.0	20.0	30.0	40.0	-	-	-	-	-	0.600	203
#9 @ 16"	0.750	253	9.4	18.8	28.1	37.5	-	-	-	-	-	0.563	190
#9 @ 17"	0.706	239	8.8	17.6	26.5	35.3	44.1	-	-	-	-	0.529	179
#9 @ 18"	0.667	225	8.3	16.7	25.0	33.3	41.7	-	-	-	-	0.500	169

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.		
#10 @ 4"	3.810	1,252	-	-	-	-	-	-	-	-	-	2.858	939
#10 @ 5"	3.048	1,001	38.1	-	-	-	-	-	-	-	-	2.286	751
#10 @ 6"	2.540	834	31.8	-	-	-	-	-	-	-	-	1.905	626
#10 @ 7"	2.177	715	27.2	-	-	-	-	-	-	-	-	1.633	536
#10 @ 8"	1.905	626	23.8	-	-	-	-	-	-	-	-	1.429	470
#10 @ 9"	1.693	556	21.2	42.3	-	-	-	-	-	-	-	1.270	417
#10 @ 10"	1.524	501	19.1	38.1	-	-	-	-	-	-	-	1.143	376
#10 @ 11"	1.386	455	17.3	34.6	-	-	-	-	-	-	-	1.039	341
#10 @ 12"	1.270	417	15.9	31.8	-	-	-	-	-	-	-	0.953	313
#10 @ 13"	1.172	385	14.7	29.3	44.0	-	-	-	-	-	-	0.879	289
#10 @ 14"	1.089	358	13.6	27.2	40.8	-	-	-	-	-	-	0.816	269
#10 @ 15"	1.016	334	12.7	25.4	38.1	-	-	-	-	-	-	0.762	251
#10 @ 16"	0.953	313	11.9	23.8	35.7	-	-	-	-	-	-	0.714	235
#10 @ 17"	0.897	295	11.2	22.4	33.6	44.8	-	-	-	-	-	0.672	221
#10 @ 18"	0.847	278	10.6	21.2	31.8	42.3	-	-	-	-	-	0.635	209

Bars	A _s / LF in ²	Rebar #/CSF	Wire Sizes For Various Spacing									WWR As/ LF	WWR #/CSF
			2 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.		
#11 @ 4"	4.680	1,515	-	-	-	-	-	-	-	-	-	3.510	1136
#11 @ 5"	3.744	1,212	-	-	-	-	-	-	-	-	-	2.808	909
#11 @ 6"	3.120	1,010	39.0	-	-	-	-	-	-	-	-	2.340	758
#11 @ 7"	2.674	865	33.4	-	-	-	-	-	-	-	-	2.006	649
#11 @ 8"	2.340	757	29.3	-	-	-	-	-	-	-	-	1.755	568
#11 @ 9"	2.080	673	26.0	-	-	-	-	-	-	-	-	1.560	505
#11 @ 10"	1.872	606	23.4	-	-	-	-	-	-	-	-	1.404	455
#11 @ 11"	1.702	551	21.3	42.5	-	-	-	-	-	-	-	1.276	413
#11 @ 12"	1.560	505	19.5	39.0	-	-	-	-	-	-	-	1.170	379
#11 @ 13"	1.440	466	18.0	36.0	-	-	-	-	-	-	-	1.080	350
#11 @ 14"	1.337	433	16.7	33.4	-	-	-	-	-	-	-	1.003	325
#11 @ 15"	1.248	404	15.6	31.2	-	-	-	-	-	-	-	0.936	303
#11 @ 16"	1.170	379	14.6	29.3	43.9	-	-	-	-	-	-	0.878	284
#11 @ 17"	1.101	356	13.8	27.5	41.3	-	-	-	-	-	-	0.826	267
#11 @ 18"	1.040	337	13.0	26.0	39.0	-	-	-	-	-	-	0.780	253

* Weight per 100 square feet are for one direction only. Double the weight for the same reinforcement in the other direction, or add the appropriate weight for a different pattern in the other direction. Weight per 100 square feet are theoretical and are intended for estimating purposes only.