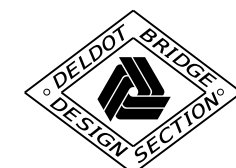


STANDARD BAR BENDS

1	2	3	4	5	6	7	8	9	10	11
12	13	14	16	17	18	20	21	22	23	24
27	28	29	30	31	32	S4	S5	S6	S12	T1
T2	T3	T6	T7	T11	T12	T13	T14	T15	T16	

SUPPLEMENTAL BAR BENDS

X	<p>SPIRAL NOTES: J = TURNS AT 'F' SPACING K = EXTRA TURNS (HALF TOP & BOTTOM) XL PLAIN SPIRAL WITH SPACERS LOOSE XM PLAIN SPIRAL WITH SPACERS MOUNTED</p>									
	15	25	26	S1	S2	S3	S7			
		ISOMETRIC VIEW	ISOMETRIC VIEW							
S8	S9	T4	T5	T8	T9	DE01	DE02	DE03	DE04	DE05
DE06	DE07	DE08	DE09	DE10	DE11	DE12	DE13	DE14	DE15	DE16
DE17	DE18	DE19	DE20	DE21	DE22	DE23	DE24	DE25	DE26	
DE27	DE28	DE29	DE30	DE31	DE32	DE40	DE41	DE42		



ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES			STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES				
BAR SIZE	NOMINAL DIMENSIONS			180° HOOKS			90° HOOKS	90° HOOK			135° HOOK
	DIAMETER (INCHES)	AREA (INCHES ²)	WEIGHT (LBS./FT.)	D	A OR G	J	A OR G	D	A OR G	A OR G	H
3	0.375	0.110	0.376	2 1/4"	5"	3"	6"	1 1/2"	4"	4"	2 1/2"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4 1/2"	4 1/2"	3"
5	0.625	0.310	1.043	3 3/4"	7"	5"	10"	2 1/2"	6"	5 1/2"	3 3/4"
6	0.750	0.440	1.502	4 1/2"	8"	6"	1-0"	4 1/2"	1-0"	8"	4 1/2"
7	0.875	0.600	2.044	5 1/4"	10"	7"	1-2"	5 1/4"	1-2"	9"	5 1/4"
8	1.000	0.790	2.670	6"	11"	8"	1-4"	6"	1-4"	10 1/2"	6"
9	1.128	1.000	3.400	9 1/2"	1-3"	11 3/4"	1-7"				
10	1.270	1.270	4.303	10 3/4"	1-5"	1-1 1/4"	1-10"				
11	1.410	1.560	5.313	1-0"	1-7"	1-2 3/4"	2-0"				
14	1.693	2.250	7.650	1-6 1/4"	2-3"	1-9 3/4"	2-7"				
18	2.257	4.000	13.600	2-0"	3-0"	2-4 1/2"	3-5"				

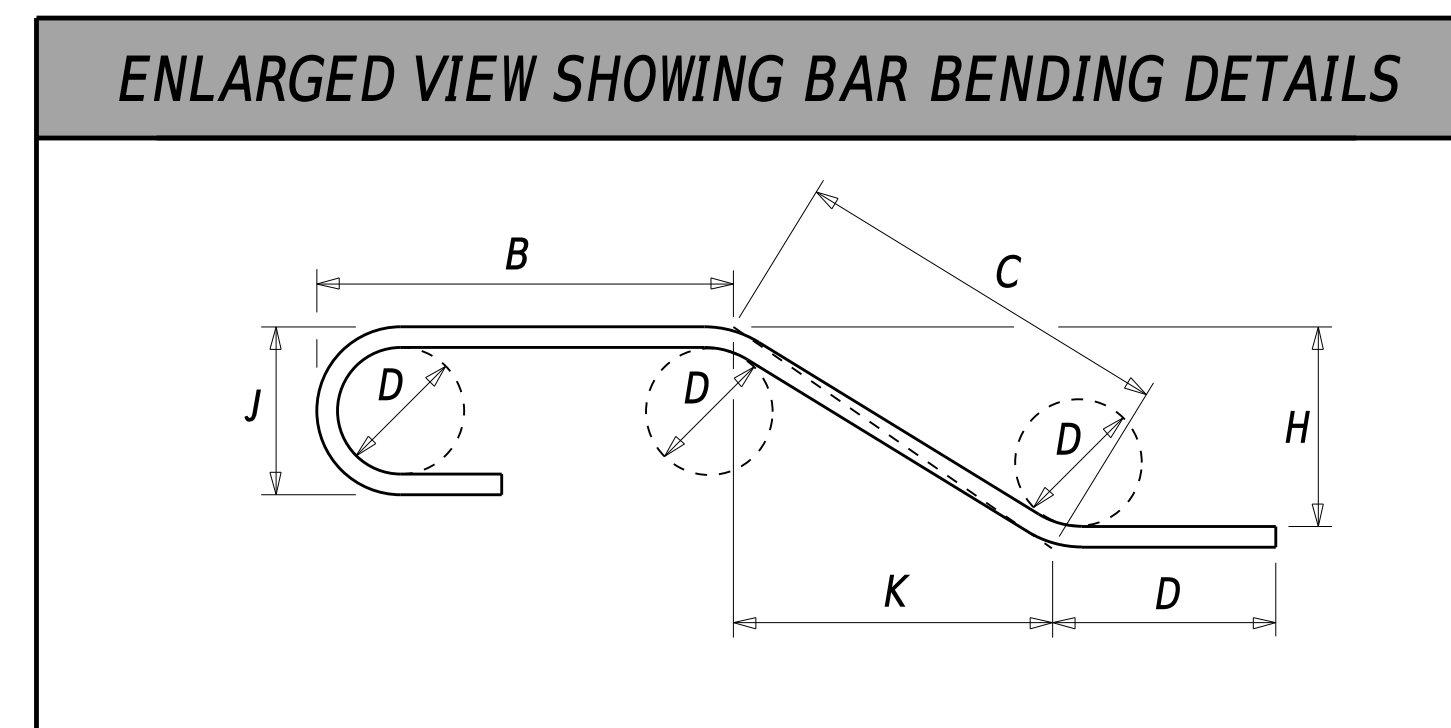
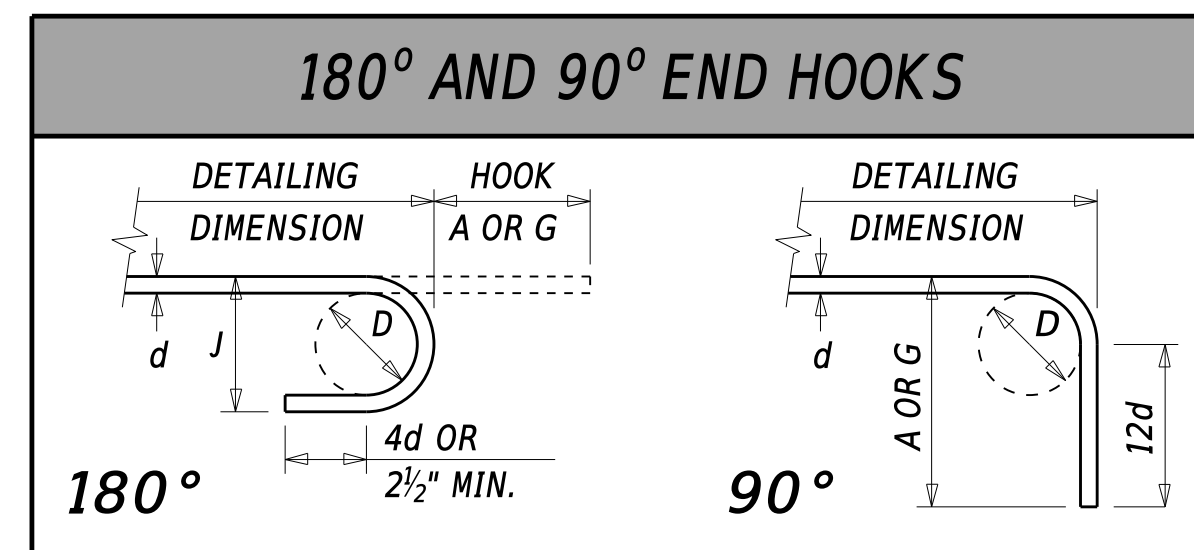
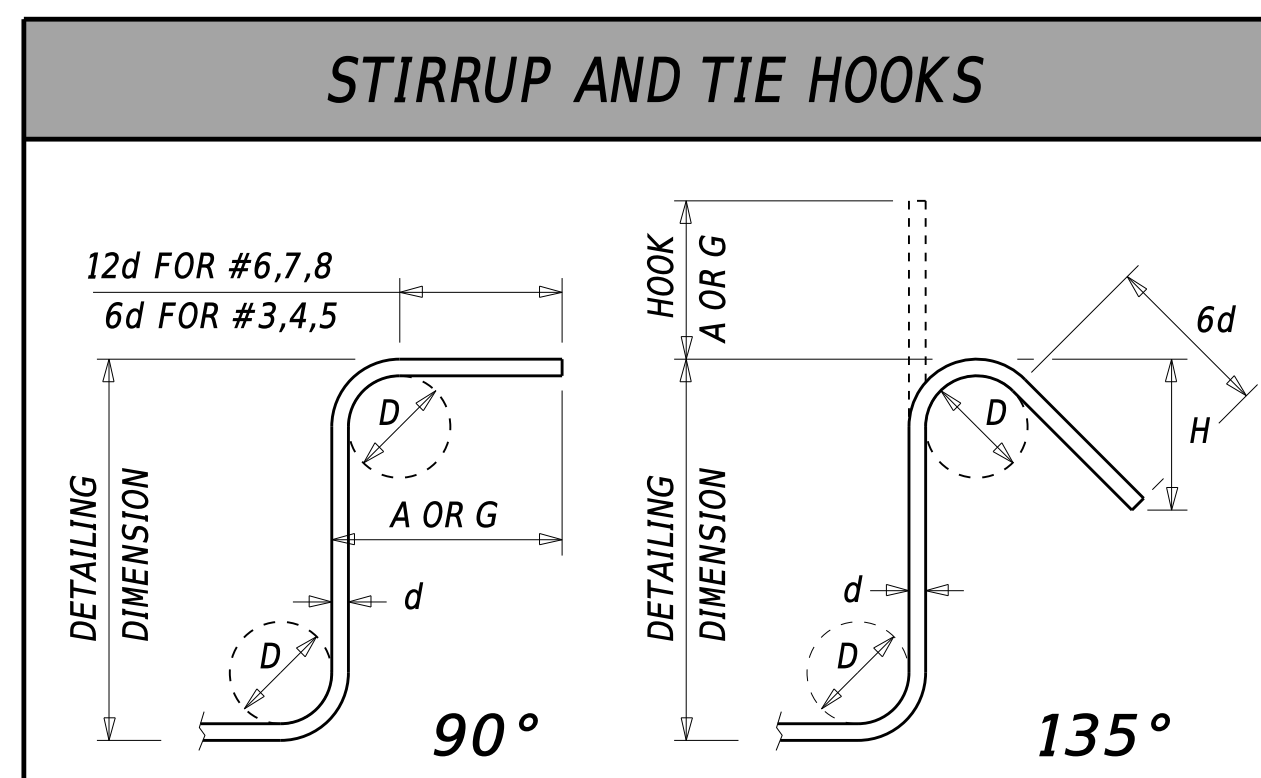
COMMON STOCK STYLES OF WELDED WIRE FABRIC			
STYLE DESIGNATION	STEEL AREA (INCHES ² PER FT.)		APPROX. WEIGHT (LBS. PER 100 SQ. FT.)
	LONGIT.	TRANS.	
ROLLS			
6x6-W1.4xW1.4	0.028	0.028	21
6x6-W2.0xW2.0	0.040	0.040	29
6x6-W2.9xW2.9	0.058	0.058	42
6x6-W4.0xW4.0	0.080	0.080	58
4x4-W1.4xW1.4	0.042	0.042	31
4x4-W2.0xW2.0	0.060	0.060	43
4x4-W2.9xW2.9	0.087	0.087	62
4x4-W4.0xW4.0	0.120	0.120	85
3x3-W1.4xW1.4	0.056	0.056	39
SHEETS			
6x6-W2.9xW2.9	0.058	0.058	42
6x6-W4.0xW4.0	0.080	0.080	58
6x6-W5.5xW5.5	0.110	0.110	80
4x4-W4.0xW4.0	0.120	0.120	85

TYPICAL REINFORCEMENT BAR BEND NOTES

1. DETAILS SHOWN ON SHEET 1 REPRESENT BAR BEND TYPES.
2. ALL DIMENSIONS ARE OUT-TO-OUT, EXCEPT "A" AND "G" ON STD. 180° AND 135° HOOKS.
3. "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
4. WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES (3), (5) AND (22). WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
5. "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
6. UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES (1) AND (13)).
7. WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
8. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
9. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO THE TABLE ON THIS SHEET.
10. TYPES (5) - (8), (11) - (13) AND (16) - (19) ARE APPLICABLE TO BAR SIZES #3 THROUGH #8 ONLY.

GENERAL NOTES

1. ALL REINFORCEMENT STEEL BARS SHOWN SHALL MEET THE REQUIREMENTS OF ASTM A615, A706, A767, A775, A955, OR A1035.
2. ALL REINFORCEMENT STEEL BARS SHALL BE DEFORMED UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. ALL REINFORCEMENT STEEL BARS SHALL BE DENOTED BY ITS BAR SIZE.
4. ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS:
 AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, DP = DIAPHRAGM, FT = FOOTING, HW = HEADWALL, MB = MISC. BARS, MS = MOMENT SLAB, PA = PARAPET, PR = PIER, RF = RIGID FRAME, SC = SHEETPILE CAP, SS = SLEEPER SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), AND WW = WINGWALL.
5. BAR MARK SUFFIXES:
 A. SUFFIX 'E' DENOTES EPOXY COATED BAR REINFORCEMENT
 B. SUFFIX 'G' DENOTES GALVANIZED BAR REINFORCEMENT
 C. SUFFIX 'S' DENOTES STAINLESS STEEL BAR REINFORCEMENT



DESIGNER NOTES

1. BAR MARKS MUST BE NAMED IN THE FOLLOWING FORMAT:
 LOCATION PREFIX --> BAR SIZE --> MARK COUNT (TWO DIGITS) --> SUFFIX 'E', 'G', 'S', OR BLANK (FOR BLACK BAR)
 FOR EXAMPLE: AB501E, BW617G, MS537, OR DK719S, ETC.
2. SPLICING & LAPPING OR REINFORCEMENT BARS:
 - ALL INFORMATION PERTAINING TO MINIMUM REQUIRED SPLICING & LAPPING LENGTHS SHOULD BE CLEARLY SHOWN ON THE PLANS.
 - MINIMUM LENGTHS MUST BE IN ACCORDANCE WITH A5.10.8 FOR REINFORCING BARS AND WELDED WIRE FABRIC.
 - INCREASE THE BAR LAPS BY 20% FOR A THREE-BAR BUNDLE. ADD 33% FOR A FOUR-BAR BUNDLE. DO NOT OVERLAP INDIVIDUAL BAR SPLICES WITHIN THE BUNDLE.
3. REFER TO THE ENGINEERING INSTRUCTIONS DOCUMENT: BR-10-001 FOR GUIDANCE ON INSTALLING AND USING THE DELDOT REBAR SHEET PROGRAM. THE DOCUMENT CAN BE FOUND IN THE FOLLOWING LINK:
http://www.del.dot.gov/information/business/drc/pd_files/plan_development/ei-br-10-001_rebar_program.pdf
4. ALL STANDARD BAR BENDS WILL BE INDICATED ON THE REBAR SCHEDULE. THE SUPPLEMENTAL BAR BENDS USED FOR THE PROJECT WILL BE SHOWN ON THE REBAR SCHEDULE.
5. ALL INFORMATION PERTAINING TO WELDED WIRE FABRIC ON THIS SHEET ARE FOR INFORMATION PURPOSES ONLY. WELDED WIRE FABRIC IS NOT INCLUDED IN THE REBAR PROGRAM AND THEREFORE WILL NOT BE SHOWN ON THE REBAR SHEET.
6. DETAILS AND NOTES AS SHOWN UNDER THIS DETAIL ARE SOLELY FOR FABRICATION OF REINFORCEMENT BAR. FOR FURTHER GUIDANCE ON DESIGN AND DETAILING OF BAR REINFORCEMENT, REFER TO SECTIONS 106, 107, 109, AND 205.
7. 'TYPICAL REINFORCEMENT BAR BEND NOTES' ARE AUTOMATICALLY GENERATED BY THE REBAR PROGRAM.

