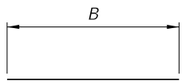
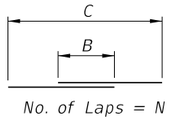
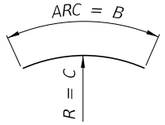


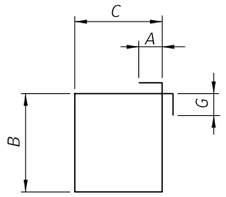
TYPE 1



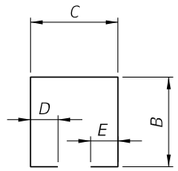
TYPE 2



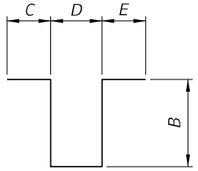
TYPE 3



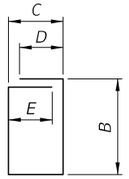
TYPE 4



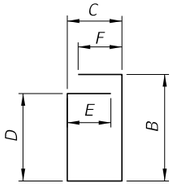
TYPE 5



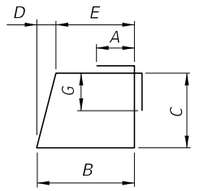
TYPE 6



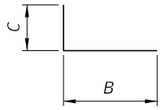
TYPE 7



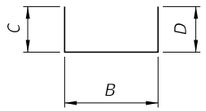
TYPE 8



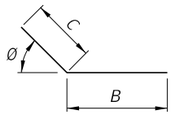
TYPE 9



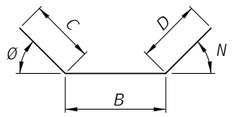
TYPE 10



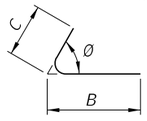
TYPE 1 1



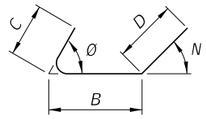
TYPE 12



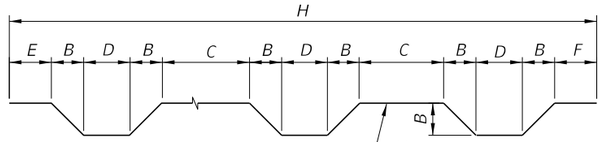
TYPE 13



TYPE 14

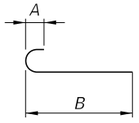


TYPE 15

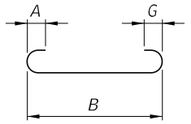


TYPE 16

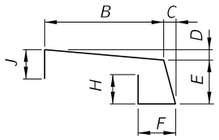
Number of Beams or Walls = N
Number of D's = N-1
Number of B's = 2N-2
Number of C's = N-2
45° Typical



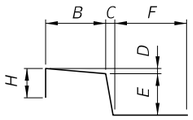
TYPE 17



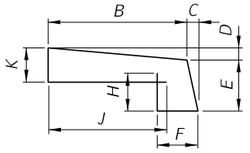
TYPE 18



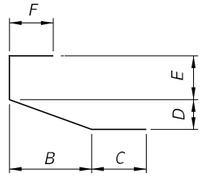
TYPE 19



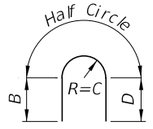
TYPE 20



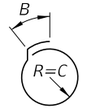
TYPE 21



TYPE 22

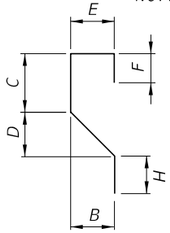


TYPE 23

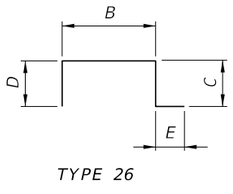


TYPE 24

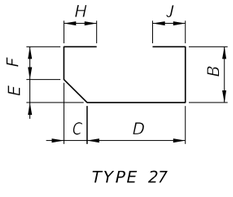
NOTE: Type 17 Bars used in Superstructures shall be tilted to obtain Minimum cover.



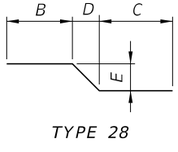
TYPE 25



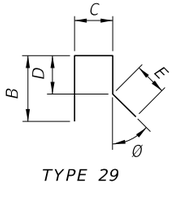
TYPE 26



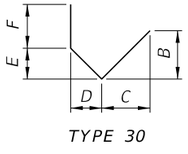
TYPE 27



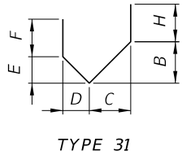
TYPE 28



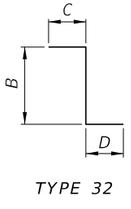
TYPE 29



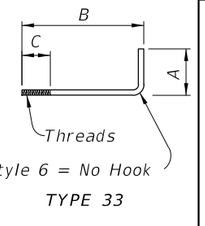
TYPE 30



TYPE 31

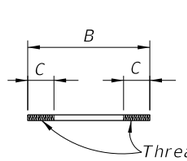


TYPE 32

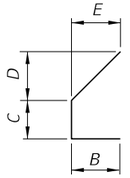


Style 6 = No Hook

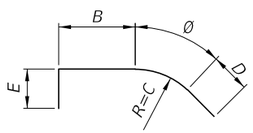
TYPE 33



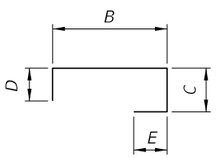
TYPE 34



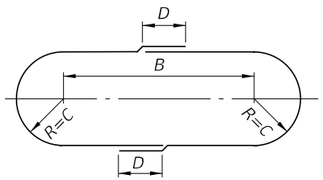
TYPE 35



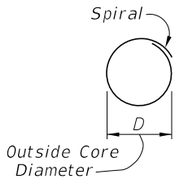
TYPE 36



TYPE 37

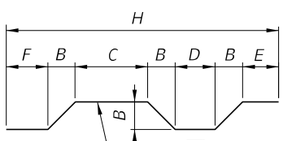


TYPE 38



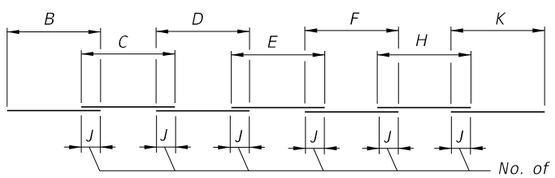
TYPE 39

C = Pitch
B = Overall Height
Ø = Spirals shall be made of ASTM A615 Grade 60 billet steel using either plain or deformed bars ASTM A615 or Cold drawn steel wire ASTM A1064.
N = Total number of closed turns at Top and Bottom of columns
Splices may be accomplished by lapping 1.5 turns. Cost of Channel Spacers and Splices shall be included in the Contract Unit Price for Reinf. Steel (Substructure)

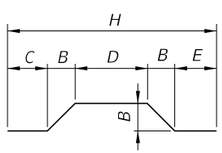


Number of Beams or Walls = N
Number of D's = N-1
Number of B's = 2N-1
Number of C's = N-1
45° Typical

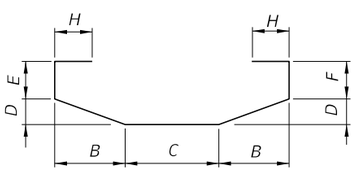
TYPE 40



TYPE 41

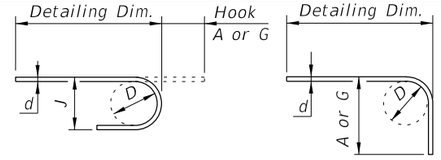


TYPE 42



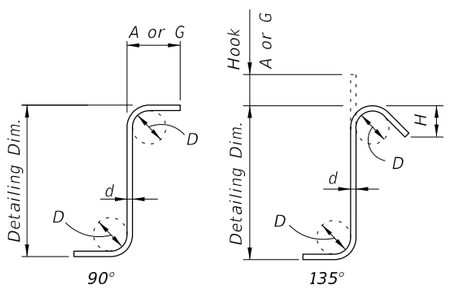
TYPE 43

HOOK DETAILS



180° 90°

BAR SIZE	D	180° HOOKS A OR G	180° HOOKS J	90° HOOKS A OR G
#3	2¼"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3¾"	7"	5"	10"
#6	4½"	8"	6"	1'-0"
#7	5¼"	10"	7"	1'-2"
#8	6"	11"	8"	1'-4"
#9	9½"	1'-3"	11¾"	1'-7"
#10	10¾"	1'-5"	1'-1¼"	1'-10"
#11	12"	1'-7"	1'-2¾"	2'-0"
#14	18¼"	2'-3"	1'-9¾"	2'-7"
#18	24"	3'-0"	2'-4½"	3'-5"
STYLE		1		3



90° 135°

STIRRUPS (TIES SIMILAR)

RECOMMENDED STIRRUP & TIE HOOK DIMENSIONS

BAR SIZE	D	90° HOOKS A or G	135° HOOKS A or G	135° HOOKS H *
#3	1½"	4"	4"	2½"
#4	2"	4½"	4½"	3"
#5	2½"	6"	5½"	3¾"
#6	4½"	1'-0"	8"	4½"
#7	5¼"	1'-2"	9"	5¼"
#8	6"	1'-4"	10½"	6"
STYLE		4	5	

STYLE 6 = NO HOOK

* Dimension is approximate.

Hook Styles Detailed on this sheet are for Illustration Only.

Actual Hook Style for any particular bar will be shown under A or G Heading on REINFORCING BAR LIST sheet(s) in Structures Plans.

All Dimensions are out-to-out.

NOTE: For Bar Dimensions See REINFORCING BAR LIST Sheet(s) in Structures Plans.

12/17/2015 2:10:30 PM

LAST REVISION	REVISION	DESCRIPTION:		INDEX NO.	SHEET NO.
07/01/14			FY 2016-17 DESIGN STANDARDS	21300	1 of 1

STANDARD BAR BENDING DETAILS