

# REBAR CONNECTORS

## C2D REBAR FLANGE COUPLER

Eliminate Projecting Rebar Problems



Williams has designed a safe, economical way of extending rebar without destroying the form face. By using Williams Rebar Flange Coupler, you can connect the rebar directly to the form thus eliminating hazardous conditions caused by extended rebar. Our high strength, one piece flange coupling, when used with Williams R4J rolled thread rebar, meets the ACI code requirement 318 section 12.14.3.4 for mechanical connections.

### ADVANTAGES OF WILLIAMS REBAR FLANGE COUPLER

**Fact:** Coupler Bolts to Form Face

**Benefits:**

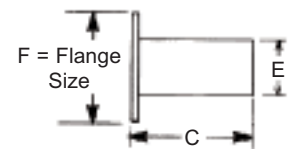
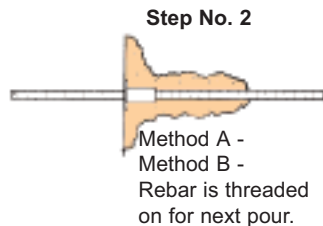
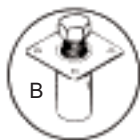
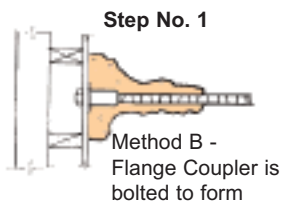
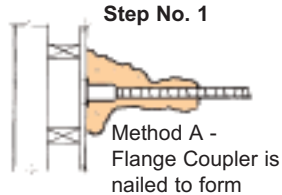
- To eliminate personal injury
- To eliminate large holes in form face for rebar to pass through
- To eliminate complicated bulkhead forms.
- To eliminate stripping form over extended rebar.

**Fact:** Three-Piece Splice

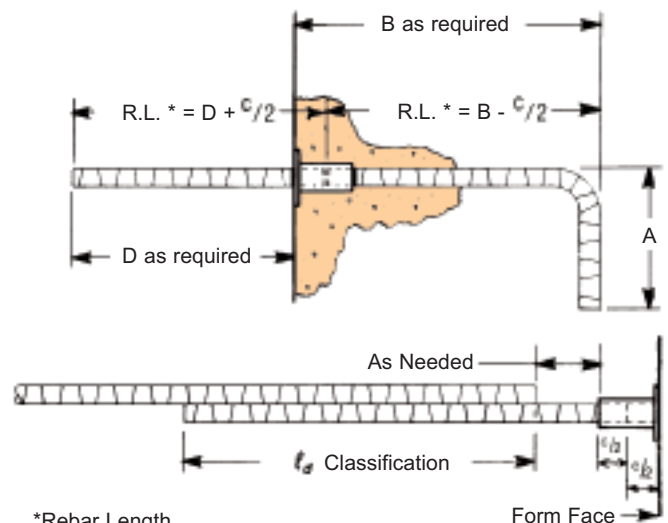
**Benefits:**

- Enables coupler to attach to from individually or coupled to rebar.
- Enables coupler to be removed from damaged rebar and re-used.
- Enables coupler and rebar to be easily stored.
- Enables coupler to be installed with other types of embeds.

### INSTALLATION PROCEDURE



FLANGE COUPLER NO.				
Flange Coupler No.	Thread Size	Flange Coupler O.D. (E)	Flange Coupler Lgth. (C)	Flange Size (F)
4	1/2" -13NC	3/4"	1-1/2"	
5	5/8" -11NC	1"	1-7/8"	2" x 2"
6	3/4" -10NC	1-1/8"	2-1/8"	
7	7/8" -9NC	1-1/4"	2-1/2"	
8	1" -8NC	1-1/2"	3"	
9	1-1/8" -7NC	1-5/8"	3-1/2"	3" x 3"
10	1-1/4" -7NC	1-7/8"	3-3/4"	
11	1-3/8" -8UN	2-1/8"	4"	
14	1-3/4" -5NC	2-3/4"	5"	4" x 4"



\*Flange Coupler is manufactured from steel specification ASTM A-108  
For coupling rebar without flange, see C1T, C2T couplings on pages 12 and 13.

\*Rebar Length

Form Face

# REBAR CONNECTORS

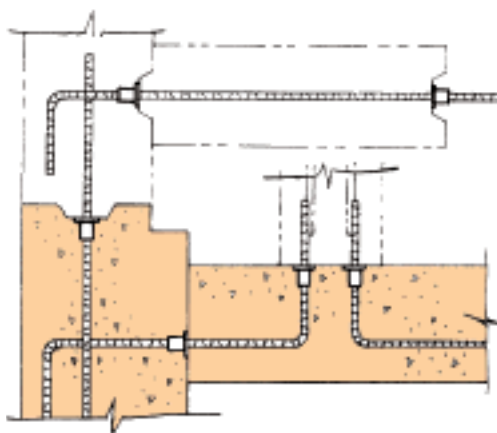
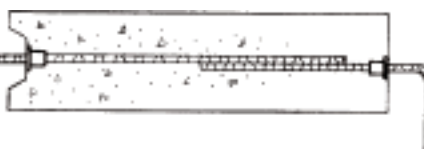
Use the C2D Coupler with Williams R4J threaded rebar for the following splice strengths:

STANDARD REINFORCING (NON-THREADED) ASTM A-615 GRADE 60				Flangel Coupler Splice Strengths R4J (Threaded) ASTM A-615 Grade 60 Rebar		
Bar Size	YIELD FY (LBS.)	** 1.25 X FY ACI CAPACITY REQUIREMENT LBS. kN	Ultimate (LBS.)	Min. Yield (LBS.)	Average Ultimate (LBS./kN)	Rolled Thread Size
4	12,000	15,000/ 67	18,000	12,000	18,000/ 80	1/2" - 13 N
5	18,600	23,250/ 103	27,900	18,600	27,900/ 124	5/8" - 11 NC
6	26,400	33,000/ 147	39,600	26,400	39,600/ 176	3/4" - 10 NC
7	36,000	45,000/ 200	54,000	36,000	54,000/ 240	7/8" - 9 NC
8	47,400	59,250/ 264	71,100	47,400	71,100/ 316	1" - 8NC
9	60,000	75,000/ 334	90,000	60,000	90,000/ 400	1-1/8" - 7 NC
10	76,200	92,250/ 410	114,300	76,200	114,300/ 508	1-1/4" - 7 NC
11	93,600	117,000/ 520	140,040	93,600	138,600/ 617	1-3/8" - 8 UN
14	135,000	168,750/ 751	202,500	114,000	190,000/ 845	1-3/4" - 5NC

Note: To achieve above tensile values when threaded, ATM A615 Grade 60 Rebar must meet tensile strength requirements of Williams' standards.  
\*\*Tension or Compression strength requirement for mechanical connections as per ACI 318, 12.14.3.4.



**Williams R4J Threaded Rebar**  
Available in all sizes and diameters.



ASTM STANDARD REINFORCING BARS					
Bar Size	Weight		Nominal Dimensions-Round Sections		
	Lbs. Per Inch	Lbs. Per Foot	Diameter Inches	Cross Section Area-Sq. Ins.	Hook End (A) Dimension
#3	.031	.376	.375	.11	6"
#4	.056	.668	.500	.20	8"
#5	.087	1.043	.625	.31	10"
#6	.125	1.502	.750	.44	1- 0"
#7	.170	2.044	.875	.60	1- 2"
#8	.223	2.670	1.000	.79	1- 4"
#9	.283	3.400	1.128	1.00	1- 7"
#10	.359	4.303	1.270	1.27	1- 10"
#11	.443	5.313	1.410	1.56	2- 0"
#14	.638	7.65	1.693	2.25	2- 7"
#18	1.133	13.60	2.257	4.00	3- 5"

METRIC REINFORCING STEEL BARS						
Metric Reinforcing 400 Mpa Non-Threaded Strength				Flange Coupler Splice Strength R4J (Threaded) RSIO 400 Mpa Rebar		
Bar Size (mm)	Yield Fy (kN)	ACI CAPACITY Requirement 1.25 x FY (kN)	Ultimate (kN)	Min. Yield (kN)	Average Ultimate (kN)	Rolled Thread Size
10	40	50	60	40	60	1/2" - 13NC
15	80	100	120	80	120	5/8" - 11NC
20	120	150	180	120	180	3/4" - 10NC
25	200	250	300	200	300	1" - 8NC
30	280	350	420	280	420	1-1/8" - 7NC
35	400	500	600	400	600	1-3/8" - 8UN
45	600	750	900	600	900	1-3/4" - 8UN

R.S.I.O METRIC REINFORCING STEEL BARS				
Bar Designation (Bar Size)	Mass Kg/m	Nominal Dimensions		
		Diameter mm	Cross Sectional Area mm <sup>2</sup>	Perimeter mm
10M	0.785	11.3	100	35.5
15M	1.570	16.0	200	50.1
20M	2.355	19.5	300	61.3
25M	3.925	25.2	500	79.2
30M	5.495	29.9	700	93.9
35M	7.830	35.7	1000	112.2
45M	11.775	43.7	1500	137.3
55M	19.625	56.4	2500	177.2