

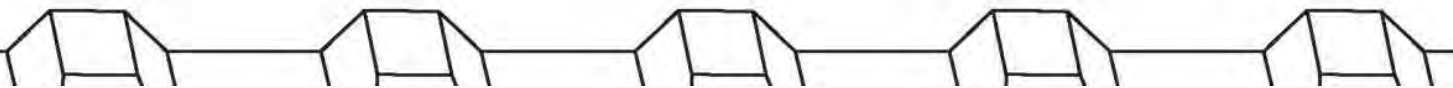


SSSI
Stressbar Steel Systems International

**STRESSBAR STEEL SYSTEMS
INTERNATIONAL, INC.**

SSSI HIGH STRENGTH THREADED BAR MATERIAL

Made in the USA



ENGINEERED SYSTEMS

INTRODUCTION

The marriage of high strength reinforcing steel and high strength concrete is coming of age. The building trend is leaning towards taller and slender building designs. These structures require substantially larger quantities of steel reinforcement and higher concrete strengths.

The engineering community has realized using higher grades of reinforcing steel bars, in larger diameters, for specific areas of buildings such as columns and shear walls, reduces congestion.

Stressbar Steel Systems International, Inc., offers a full line of threaded bars and accessories in grades 80 & 97 KSI. We provide reliable and supportive services to fulfill your needs. Our innovative products are guaranteed to meet the expanding demands of today's and tomorrow's engineering projects. Our in-house engineering staff can provide Value Engineering and shop drawings in a project-by-project basis.

Conveniently located 3 miles West of NYC via the G.W. Bridge, Stressbar can respond quickly and efficiently on deliveries to job sites in North Jersey, Connecticut and all Boroughs of NYC.



SSSI-ADVANTAGES

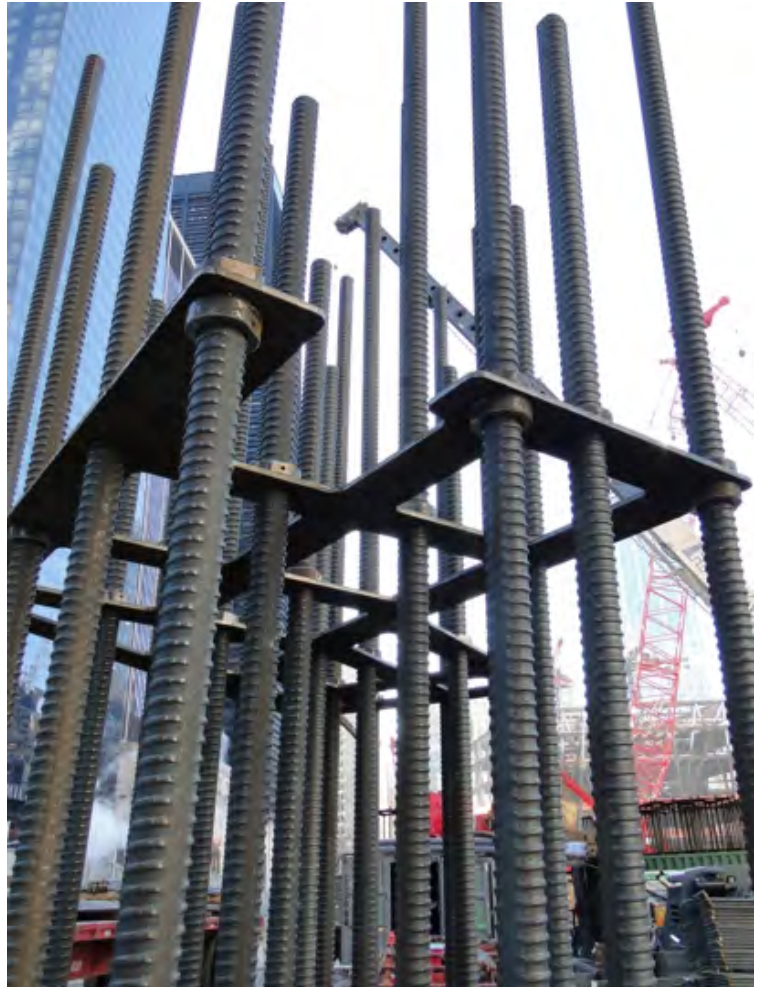
- The use of Grade 80 and 97 ksi threaded bars vs. Grade 60 reinforcement with lap splices reduce congestion and weight significantly.
- Columns & Shearwalls can be designed and constructed with smaller foot prints, thereby resulting in greater floor square footage for sale by developers.
- Reduced weight in reinforcing steel leads to "greener" projects.
- Contractors can purchase in "Neat Quantities" since threaded bars are precisely cut to length prior to shipping to site.
- The threaded bars can be prefabricated offsite in modules using steel templates and couplers for fast erection when delivered to job site. Modules also can be delivered with tie-steel in place. SSSI bar thread deformations are coarse and continuous throughout the bar. These threads are basically "Damage Proof" as compared to fine machined threaded ends on rebars by other suppliers.
- Field problems can be corrected easier since the threaded bars can be cut and coupled at any point along their entire lengths.



Above: Prefabricated Caisson cages shop fabricated. 12 ea #24 Gr. 80 ksi Multi Bar Caisson

- Tie steel (such as candy canes) are significantly reduced due to fewer vertical elements.
- The prefabricated modules can be assembled in one, two, or three floor heights. In addition to potential monetary savings, the use of the prefabricated modules may help in speeding up the construction project's schedule.
- Reduction in rebar congestion will result in easier concrete placement with fewer chances of concrete honeycombs.
- Alignment of vertical steel is easier due to the stiffness of the larger diameter threaded bars with mechanical couplers.

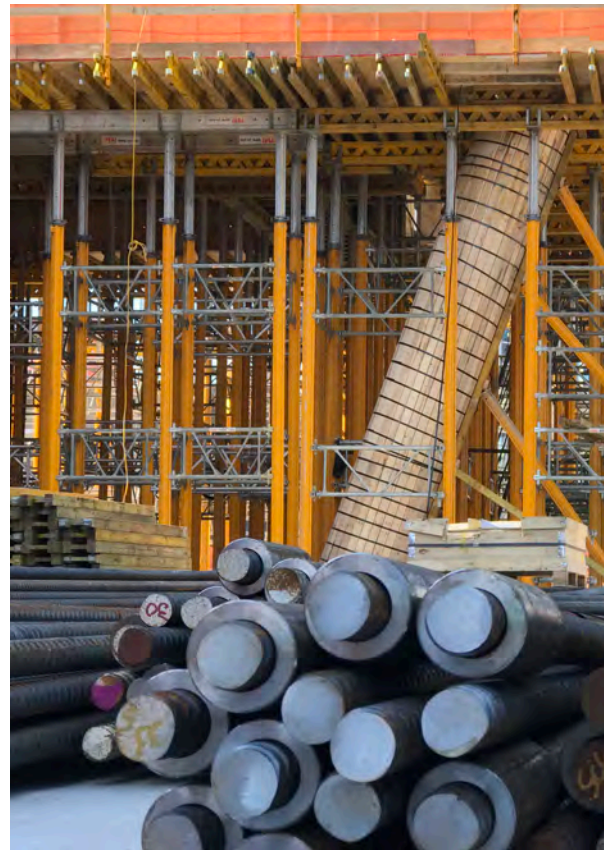
Modular fabrication begins with templates manufactured specifically for each project and are uniquely designed for each location within the structure; one project can have many different types of templates. The threaded bars are fed through cutouts in the templates and held in place with positioning nuts. The bars and plates act as one unit, which can easily be lifted into place with a crane.



LEFT: STICK UP LENGTHS AFTER CONCRETE SLAB HAS BEEN POURED



ABOVE: PREFABRICATED LINK BEAM, WITH HARDWARE AND LATERAL REINFORCEMENT PRIOR TO SHIPPING TO SITE



ABOVE: LINK BEAMS COMPLETELY PREFABRICATED WITH HARDWARE AND LATERAL REINFORCEMENT PRIOR TO SHIPPING TO SITE.

Due to the greater cross-sectional areas of the larger diameter bars, and the use of steel templates with positioning nuts, our prefabricated systems remain aligned for easy connections. These systems remain rigid and uniform throughout the construction of the superstructure.



Our system makes construction run faster and smoother. It allows for multiple bars to be installed at a time with one crane lift. Only two couplers have to be threaded before the crane can detach. Threading the couplers to join adjacent bars is easy and done in seconds.

Additionally, less tie steel is required around the vertical bars. The high strength and increased diameter of our bars allows less vertical bars to be used in any given cluster. This means that fewer vertical bars have to be tied to resist buckling, leading to less required tie steel reinforcement. You save time and money by having to install fewer "candy-canes" throughout the vertical sections.

Furthermore, the system has benefits that ease the overall construction process. With the cages shipped fully prefabricated from our warehouse, congestion on the job site is reduced, and organization becomes simpler. Bar congestion is also reduced in heavily reinforced areas since equivalent strength can be achieved with fewer bars, which allows concrete to be placed more easily. Benefits are also seen in the physical erection of the structure, as the rigidity of our bars maintains vertical alignment of columns and shear walls significantly better than conventional rebar and wire ties.



ABOVE: 99 HUDSON STREET, NEW JERSEY. CAGES FABRICATED USING #20 GRADE 80 SSI THREADED BAR.



GRADE 80

Grade 75/80 SSSI Part Number	Size #	Nominal Diameter		Maximum OD		Area		Weight		Yield Load		Ultimate Strength	
		[in]	[mm]	[in]	[mm]	[in ²]	[mm ²]	[lbs/ft]	[kg/m]	Kips	kN	Kips	kN
BR2280S	7	7/8	22	0.953	24.2	0.60	387	2.04	3.03	48	214	58	258
BR2580S	8	1	25	1.106	28.1	0.79	510	2.60	3.87	63	280	83	369
BR2880S	9	1 1/8	28	1.236	31.4	1.00	645	3.25	5.06	80	356	105	467
BR3280S	10	1 1/4	32	1.413	35.9	1.27	819	4.25	6.32	102	454	133	592
BR3680S	11	1 3/8	36	1.587	40.3	1.56	1006	5.37	8.00	125	556	163	725
BR4380S	14	1 3/4	43	1.886	47.9	2.25	1452	7.65	11.38	180	801	236	1050
BR5780S	18	2 1/4	57	2.465	62.6	4.00	2581	13.60	20.24	320	1423	420	1868
BR6380S	20	2 1/2	63	2.717	69.0	4.91	3168	16.71	24.65	393	1748	515	2291
BR7580S	24	3	75	3.209	81.5	6.85	4419	23.27	34.63	548	2438	719	3198
BR8980S	28	3 1/2	90	3.880	89.0	9.61	6200	32.70	48.66	769	3421	1009	4488
BR10080S	32	4	100	4.290	109.0	12.17	7852	41.40	61.61	974	4333	1278	5685

GRADE 97

Grade 97 SSSI P/Number	Size #	Nominal Diameter		Maximum OD		Area		Weight		Yield Load		Ultimate Strength	
		[in]	[mm]	[in]	[mm]	[in ²]	[mm ²]	[lbs/ft]	[kg/m]	Kips	kN	Kips	kN
BR2297S	7	7/8	22	0.953	24.2	0.59	380	2.04	3.03	57	255	66	294
BR2597S	8	1	25	1.083	27.5	0.79	510	2.59	3.85	77	341	88	391
BR2897S	9	1 1/8	28	1.228	31.2	1.00	645	3.25	4.84	97	431	112	498
BR3297S	10	1 1/4	32	1.319	33.5	1.27	819	3.73	5.55	123	548	142	632
BR3697S	11	1 3/8	36	1.543	39.2	1.56	1006	5.07	7.54	151	673	175	778
BR4397S	14	1 3/4	43	1.886	47.9	2.34	1510	7.65	11.38	227	1010	263	1170
BR5797S	18	2 1/4	57	2.472	62.8	4.14	2671	14.08	20.95	402	1786	465	2068
BR6397S	20	2 1/2	63	2.717	69.0	4.91	3168	16.68	24.82	476	2119	552	2455
BR7597S	24	3	75	3.209	81.5	6.85	4419	23.27	34.68	664	2956	770	3425

GRADE 100

Grade 100 SSSI P/Number	Size #	Nominal Diameter		Maximum OD		Area		Weight		Yield Load		Ultimate Strength	
		[in]	[mm]	[in]	[mm]	[in ²]	[mm ²]	[lbs/ft]	[kg/m]	Kips	kN	Kips	kN
BR22100S	7	7/8	22	0.953	24.2	0.60	380	2.04	3.03	60	267	69	307
BR25100S	8	1	25	1.083	27.5	0.76	510	2.59	3.85	76	338	88	391
BR28100S	9	1 1/8	28	1.228	31.2	0.95	645	3.25	4.84	95	423	110	489
BR32200S	10	1 1/4	32	1.319	33.5	1.10	819	3.73	5.55	110	489	127	565
BR36100S	11	1 3/8	36	1.543	39.2	1.49	1006	5.37	8.00	156	695	205	912
BR43100S	14	1 3/4	43	1.886	47.9	2.25	1510	7.65	11.38	225	1001	295	1314
BR57100S	18	2 1/4	57	2.472	62.8	4.00	2671	14.08	20.95	400	1786	525	2335
BR63100S	20	2 1/2	63	2.717	69.0	4.91	3168	16.68	24.82	491	2185	645	2868
BR759100S	24	3	75	3.209	81.5	6.85	4419	23.27	34.68	685	3047	899	3999

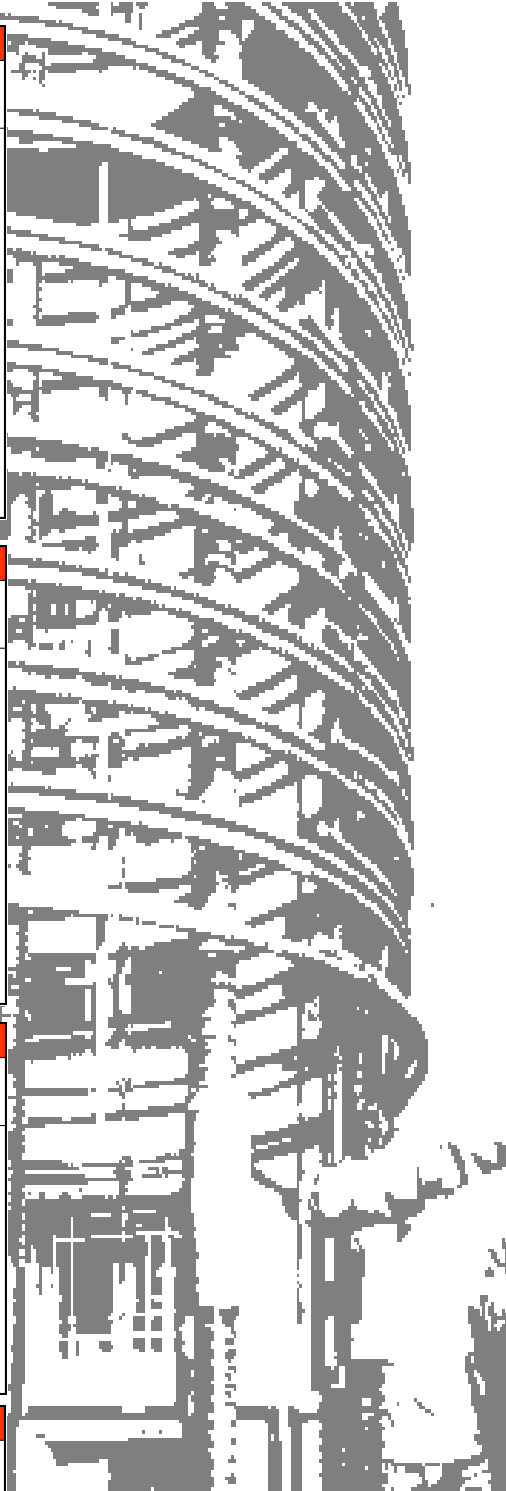
SSSI - HARDWARE ACCESSORIES

COUPLER		GRADE 80 KSI ITEMS					
Part No.	BAR SIZE			O.D		Length	
	No.	Inches	mm	Inches	mm	Inches	mm
C2280M	7	7/8"	22	1.50	38	4.33	110
C2580M	8	1"	25	1.77	45	4.53	115
C2880M	9	1-1/8"	28	1.89	48	4.92	125
C3280M	10	1-1/4"	32	2.24	57	5.51	140
C3680M	11	1-3/8"	36	2.50	63.5	5.91	150
C4380M	14	1-3/4"	43	2.99	76	7.62	193.5
C5780M	18	2-1/4"	57	3.74	95	8.66	220
C6380M	20	2-1/2"	63	4.02	102	10.24	260
C7580M	24	3"	75	4.49	114	11.81	300
C8980M	28	3-1/2"	89	5.00	127	13.39	340
C10080M	32	4"	100	5.51	140	15	380

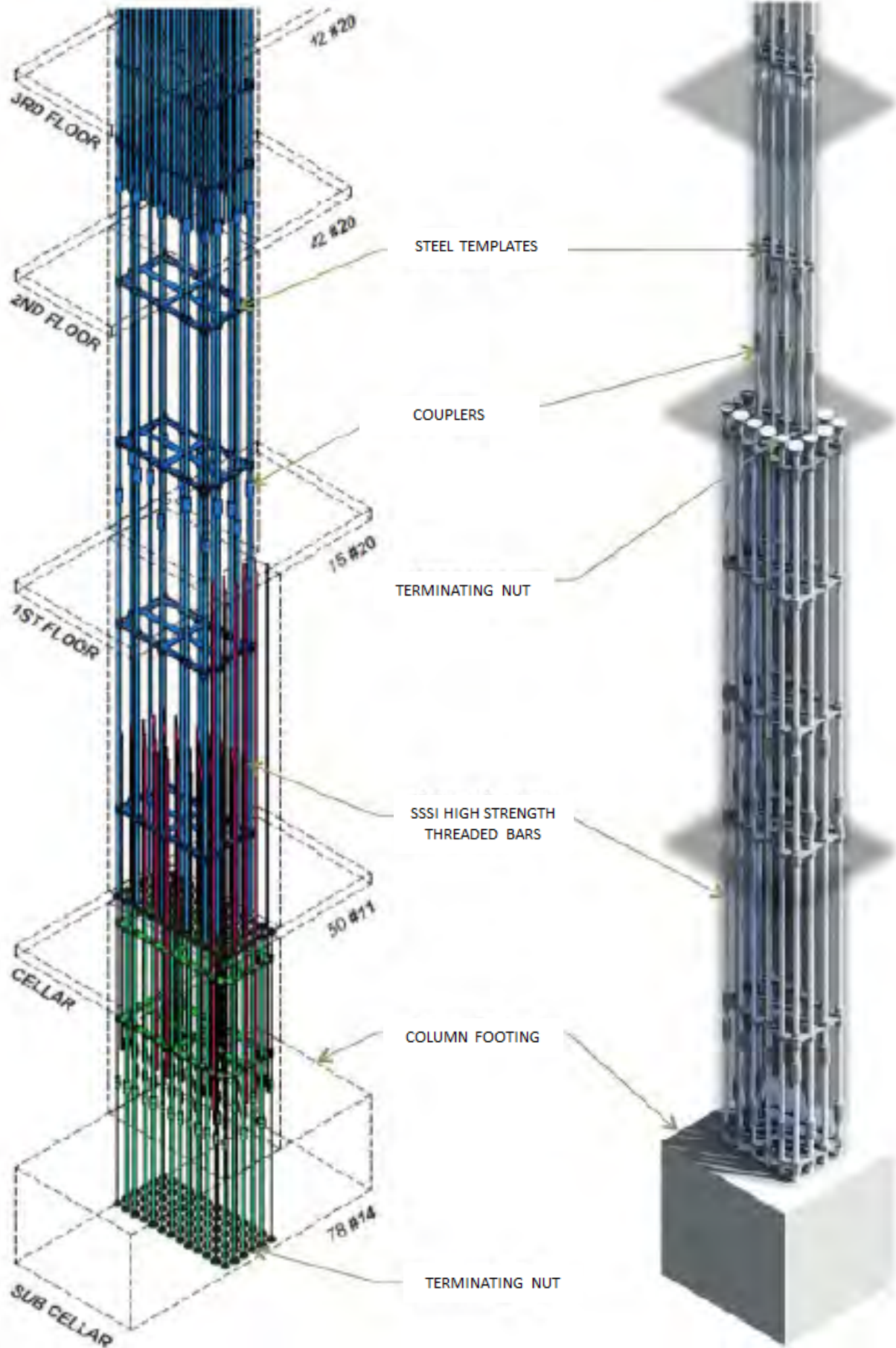
FULL LOAD NUT		GRADE 80 KSI ITEMS					
Part No.	BAR SIZE			O.D		Length	
	No.	Inches	mm	Inches	mm	Inches	mm
RN2280M	7	7/8"	22	1.50	38	1.77	45
RN2580M	8	1"	25	1.77	45	1.97	50
RN2880M	9	1-1/8"	28	1.89	48	2.36	60
RN3280M	10	1-1/4"	32	2.24	57	2.56	65
RN3680M	11	1-3/8"	36	2.50	63.5	2.76	70
RN4380M	14	1-3/4"	43	2.99	76	3.74	95
RN5780M	18	2-1/4"	57	3.74	95	4.33	110
RN6380M	20	2-1/2"	63	4.02	102	4.53	115
RN7580M	24	3"	75	4.49	114	5.71	145
RN8980M	28	3-1/2"	89	5.24	133	6.69	170
RN10080M	32	4"	100	5.75	146	7.50	190.5

COUPLER		GRADE 97 KSI ITEMS					
Part No.	BAR SIZE			O.D		Length	
	No.	Inches	mm	Inches	mm	Inches	mm
C2297M	7	7/8"	22	1.46	38	4.33	110
C2597M	8	1"	25	1.77	45	4.72	120
C2897M	9	1-1/8"	28	1.97	50	5.51	140
C3297M	10	1-1/4"	32	2.17	55	5.91	150
C3697M	11	1-3/8"	36	2.56	65	6.69	170
C4397M	14	1-3/4"	43	3.15	80	7.87	200
C5797M	18	2-1/4"	57	3.94	100	9.84	250
C6397M	20	2-1/2"	63	4.33	110	11.81	300
C7597M	24	3"	75	4.53	115	13.75	349

FULL LOAD NUT		GRADE 97 KSI ITEMS					
Part No.	BAR SIZE			O.D		Length	
	No.	Inches	mm	Inches	mm	Inches	mm
RN2297M	7	7/8"	22	1.46	38	2.17	55
RN2597M	8	1"	25	1.77	45	2.17	55
RN2897M	9	1-1/8"	28	1.97	50	2.36	60
RN3297M	10	1-1/4"	32	2.17	55	2.56	65
RN3697M	11	1-3/8"	36	2.56	65	2.76	70
RN4397M	14	1-3/4"	43	3.15	80	3.54	90
RN5797M	18	2-1/4"	57	3.94	100	4.72	120
RN6397M	20	2-1/2"	63	4.33	110	5.71	145
RN7597M	24	3"	75	4.53	115	6.90	175



SSSI
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PRFABRICATED MODULES + CAGES DEPICTED ABOVE ARE PROTECTED UNDER UNITED STATES PATENT NOS. 8,375,678 + 8,381,479

COUPLER INFORMATION

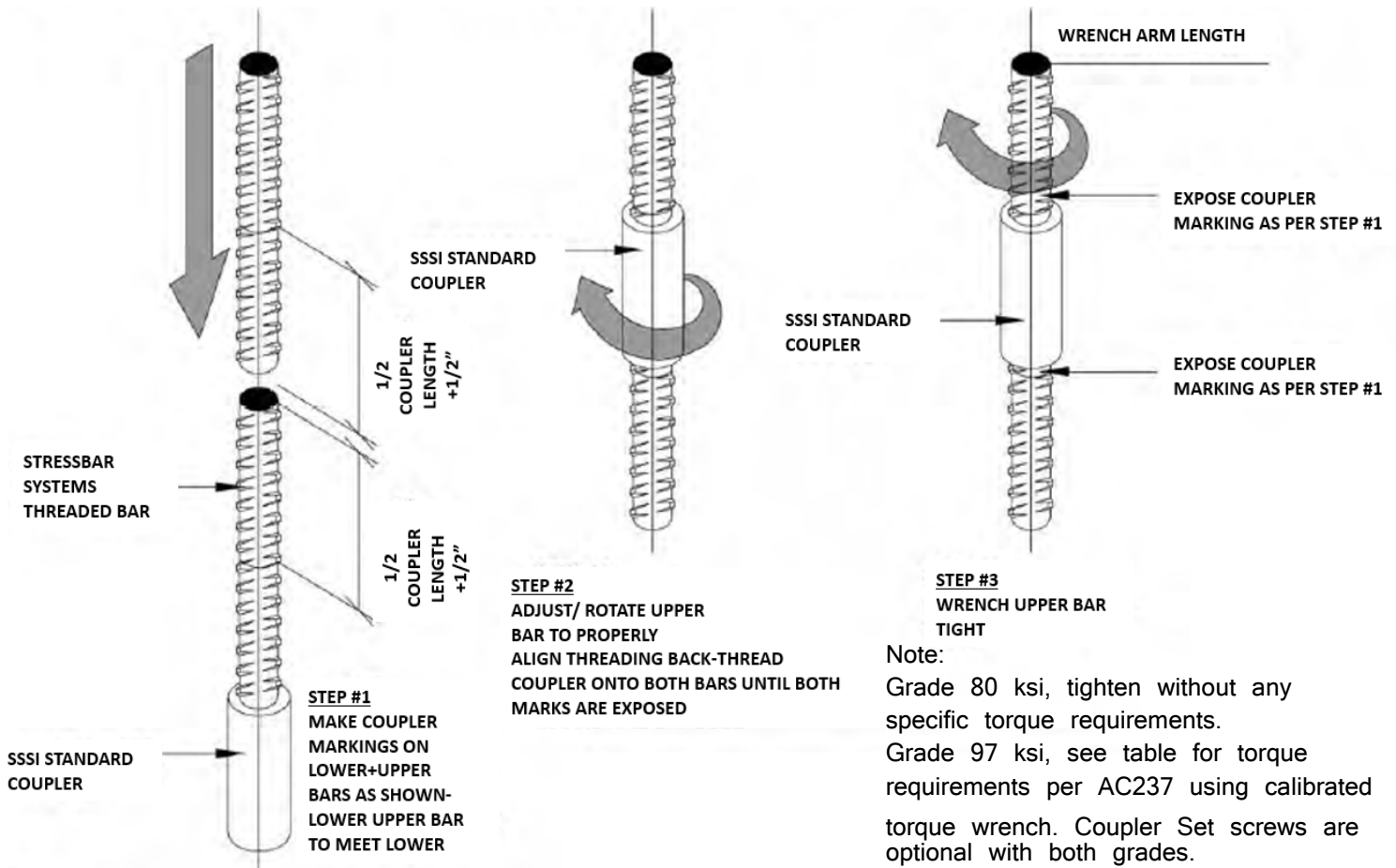
Stressbar Steel Systems International, Inc. distributes couplers for all available bar sizes. Our bars are continuously threaded along their entire length and are easily coupled to eliminate the need for field lap splicing. Couplers are designed and manufactured to develop 125% of the published yield strength of the threaded bars.



Installation Procedure

Grade 80 + 97 Couplers

- Mark each bar to be coupled with tape or paint at a distance of half the length of the coupler from bar ends.
- Fully thread the coupler onto one bar.
- Align the adjacent bar with the bar containing the coupler.
- Spin the coupler over the adjacent bar until half of the coupler engages each bar to expose markings on both bars.
- Wrench tight the upper bars to cut slack and secure couplers.



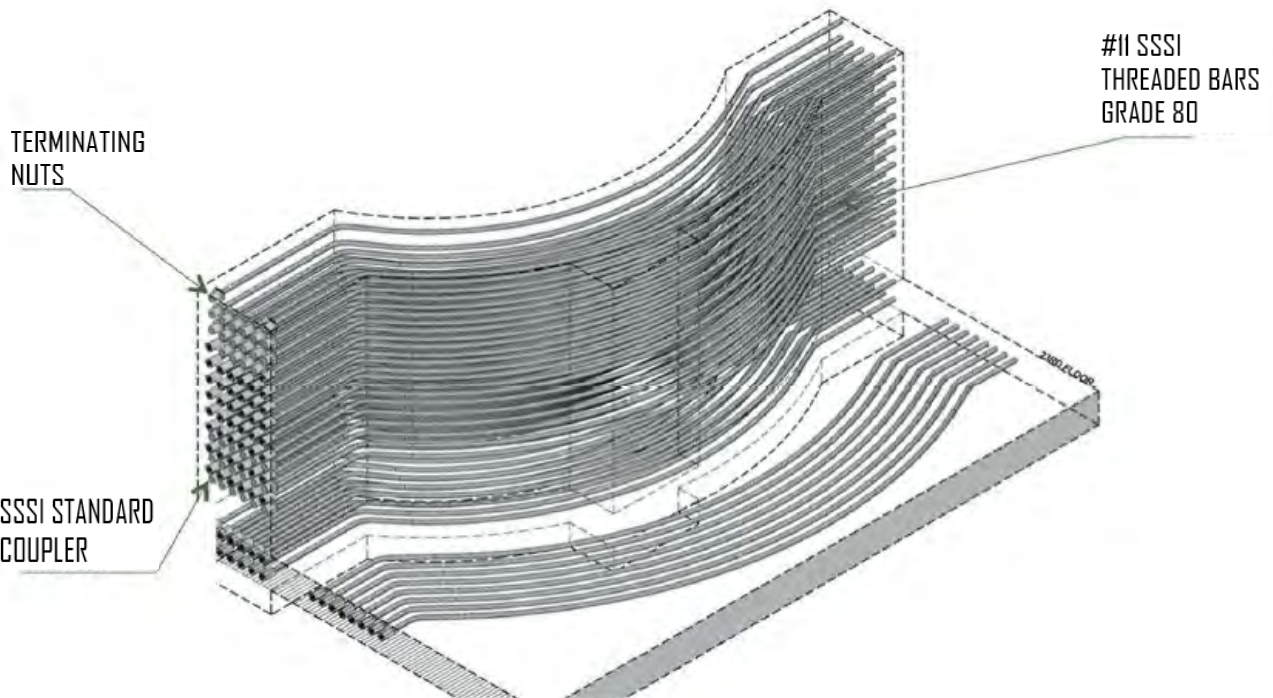
NOMINAL DIAMETER		TORQUE	
(mm) Size	KN - m	FT - Lb	
25 (8)	0.19	140	
28 (9)	0.22	160	
30 (10)	0.24	180	
35 (11)	0.27	200	
43 (14)	0.31	230	
57.5 (18)	0.35	260	
63.5 (20)	0.41	300	

REFERENCE: Acceptance Criteria for Threaded High-Strength Steel Bars for Concrete Reinforcement
AC 237 Table 3, page 4



ABOVE: CONTRACTORS THREAD COUPLERS UP TOWARDS UPPER BARS UNTIL MARKINGS ARE EXPOSED

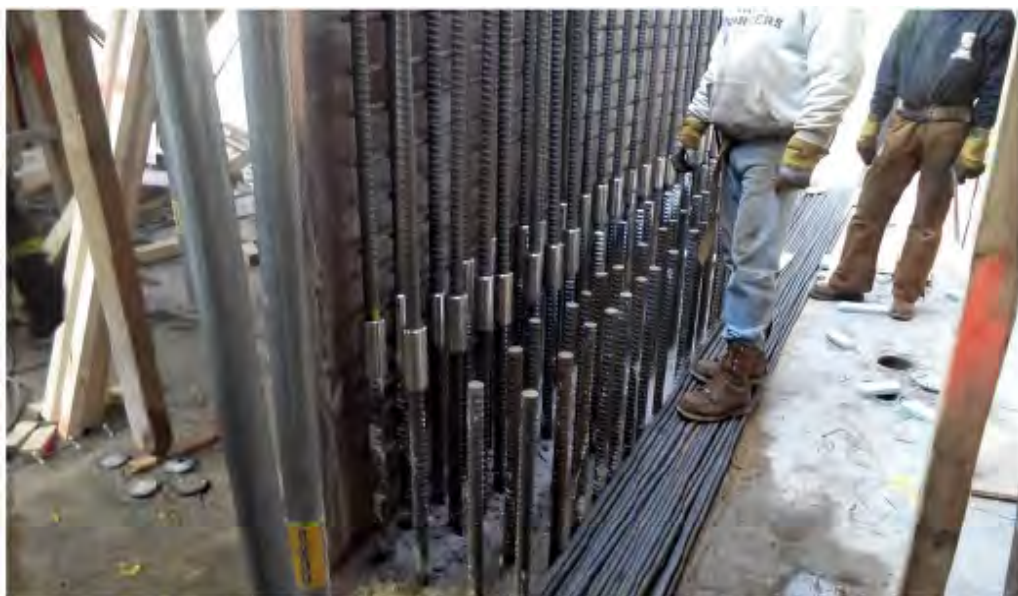
In addition to vertical reinforcement, our high strength bars have been used in horizontal applications shown below:



With our clients in mind, SSSI can ship couplers pre-attached to threaded bars for ease of installation on site. Shipped in easy to handle bundles, our material can be picked up and placed by hand. The following images display projects utilizing our bars and couplers without steel templates. In this case, the "loose" bars with pre-attached couplers were installed individually from the story below.



ABOVE: THREADED BARS ARE DELIVERED TO SITE WITH ATTACHED COUPLERS FOR EASIER INSTALLATION



LEFT: HARBORSIDE 200 GREENE STREET, JERSEY CITY, NEW JERSEY



SSSI
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STRESSBAR STEEL SYSTEMS INTERNATIONAL, INC.

VALUE ENGINEERING CONCEPTS REVOLUTIONIZING THE CONSTRUCTION INDUSTRY



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