



Title: STUD BOLT BOM FOR EACH LINE NO.

PETROCHEMICAL RESEARCH & TECHNOLOGY CO.
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Mark	Line No.	Size	Description	Quantity
1	1 1/2"-CY251-P3-1DS4	3/4"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=140	6
2	"	3/4"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=95	12
3	1 1/2"-CY261-P3-1DS4	3/4"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=210	6
4	"	3/4"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=95	6
5	1 1/2"-CY412-P3-1DS4	3/4"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=95	17
6	1 1/2"-JLS-4101-3CS6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B8 Cl1/A194-8A ASME B1.13M ASME B18.2.4.6M, L=70	6
7	1 1/2"-JLS-4201-3CS6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B8 Cl1/A194-8A ASME B1.13M ASME B18.2.4.6M, L=70	6
8	1 1/2"-PRO-2502-1DS4	3/4"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=95	12
9	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	6
10	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=130	6
11	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=85	6
12	1 1/2"-PRO-2602-1DS4	3/4"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=95	6
13	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	17
14	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=130	6
15	1 1/2"-RCW-0317-4CC2	3/4"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=95	23
16	1"-BDG-2602-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
17	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	23



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18	1"-BDG-4105-1CS1	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	12
19	1"-BDG-4205-1CS1	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	12
20	1"-BDG-4217-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	12
21	1"-BDG-7103-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	17
22	1"-BDL-7104-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	28
23	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	12
24	1"-HCL-0101-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	12
25	"	5/8"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=90	23
26	"	5/8"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=95	45
27	1"-HCM-4103-1FS4(J)	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
28	"	5/8"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=95	28
29	1"-HCM-4203-1FS4(J)	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	23
30	"	5/8"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=95	28
31	1"-JLS-2101-3CS6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B8 Cl1/A194-8A ASME B1.13M ASME B18.2.4.6M, L=70	12
32	1"-JLS-2201-3CS6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B8 Cl1/A194-8A ASME B1.13M ASME B18.2.4.6M, L=70	6
33	1"-PRO-4107-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	23
34	1"-PRO-4205-1DS4(P)	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	12
35	1"-PRO-4211-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	12



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36	1"-PRO-4215-1DS4(P)	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
37	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	23
38	1"-PRO-4217-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	23
39	1"-RWS-0207-4CC2(IF)	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	23
40	1"-RWS-0211-4CC2(IF)	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	23
41	1"-VEA-0301-1CC1(ET)	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	6
42	1/2"-BDG-2502-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
43	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	23
44	1/2"-BDG-4102-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	45
45	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	23
46	1/2"-BDG-4103-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	17
47	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	17
48	1/2"-BDG-4104-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	17
49	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	6
50	1/2"-BDG-4204-1CS1	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	17
51	1/2"-BDG-4207-1CS1	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	6
52	"	1/2"	STUD BOLTS + 2NUTS, A193- B8 Cl 1/A 194-8A AMSE B1.13M/B 18.2.4.6M, L=70	12
53	1/2"-BDG-4208-1CS1	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12



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54	1/2"-BDG-4210-1CS1	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	17
55	1/2"-BDG-4211-1CS1	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
56	1/2"-BDG-4212-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	28
57	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	6
58	1/2"-BDG-4216-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	45
59	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	12
60	1/2"-BDL-2501-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	17
61	1/2"-BDL-2601-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	12
62	1/2"-BUT-2601-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
63	1/2"-BUT-4101-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
64	1/2"-BUT-4102-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
65	1/2"-BUT-4103-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
66	1/2"-BUT-4201-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
67	1/2"-BUT-4202-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
68	1/2"-BUT-4203-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
69	1/2"-ETH-2501-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
70	1/2"-ETH-2601-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
71	1/2"-ETH-4101-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45



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72	1/2"-ETH-4102-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
73	1/2"-ETH-4201-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
74	1/2"-ETH-4202-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
75	1/2"-HCL-4101-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
76	1/2"-HCL-4201-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
77	1/2"-HCM-2102-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	51
78	1/2"-HCM-2103-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	51
79	1/2"-HCM-2201-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	51
80	1/2"-HCM-2202-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	51
81	1/2"-HCM-2501-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
82	1/2"-HCM-2502-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
83	1/2"-HCM-4101-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	124
84	1/2"-HCM-4102-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	140
85	1/2"-HCM-4201-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	101
86	1/2"-HCM-4202-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	118
87	1/2"-HYD-2501-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
88	1/2"-HYD-2601-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
89	1/2"-HYD-4101-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45



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90	1/2"-HYD-4102-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
91	1/2"-HYD-4201-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
92	1/2"-HYD-4202-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
93	1/2"-LPC-0201-3CC6(P)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	6
94	1/2"-LPC-0202-3CC6(P)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	6
95	1/2"-LPC-0303-3CC6(P)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	6
96	1/2"-LPC-0304-3CC6(P)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	6
97	1/2"-LPC-2101-3CC6(P)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	6
98	1/2"-LPC-2201-3CC6(P)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	6
99	1/2"-LPC-4101-3CC6(P)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	6
100	1/2"-LPC-4102-3CC6(P)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	6
101	1/2"-LPC-4201-3CC6(P)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	6
102	1/2"-LPC-4202-3CC6(P)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	6
103	1/2"-LPS-0201-3CC6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	17
104	1/2"-LPS-0202-3CC6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	17
105	1/2"-LPS-0303-3CC6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	17
106	1/2"-LPS-2101-3CC6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	17
107	1/2"-LPS-2201-3CC6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H CI1 ASME B1.13M/B18.2.4.6M, L=70	17



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109	1/2"-LPS-4102-3CC6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H Cl1 ASME B1.13M/B18.2.4.6M, L=70	17
110	1/2"-LPS-4201-3CC6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H Cl1 ASME B1.13M/B18.2.4.6M, L=70	17
111	1/2"-LPS-4202-3CC6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B7/A194 2H Cl1 ASME B1.13M/B18.2.4.6M, L=70	17
112	1/2"-NIT-2502-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
113	1/2"-NIT-2503-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	28
114	1/2"-NIT-2601-1CS2	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	17
115	1/2"-NIT-2602-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
116	1/2"-NIT-2603-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
117	1/2"-NIT-4101-1CS2	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	17
118	1/2"-NIT-4103-1CS2	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
119	"	1/2"	STUD BOLTS + 2NUTS, A193- B8 Cl 1/A 194-8A AMSE B1.13M/B 18.2.4.6M, L=70	6
120	1/2"-NIT-4201-1CS2	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	17
121	1/2"-NIT-4202-1CS2	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	17
122	1/2"-NIT-4203-1CS2	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	17
123	1/2"-NIT-4204-1CS2	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	23
124	1/2"-PAL-2101-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	23
125	1/2"-PAL-2501-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45



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126	1/2"-PAL-2601-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
127	1/2"-PAL-2603-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
128	1/2"-PAL-2605-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	51
129	1/2"-PAL-2607-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	51
130	1/2"-PAL-4101-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
131	1/2"-PAL-4102-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
132	1/2"-PAL-4103-1FS4(J)	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	28
133	"	5/8"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=95	12
134	1/2"-PAL-4104-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
135	1/2"-PAL-4201-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
136	1/2"-PAL-4202-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
137	1/2"-PAL-4203-1FS4(P)	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	28
138	"	5/8"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=95	6
139	1/2"-PAL-4204-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
140	1/2"-PNL-2101-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	51
141	1/2"-PNL-2501-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
142	1/2"-PNL-2601-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
143	1/2"-PNL-4101-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8c1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45



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144	1/2"-PNL-4102-1FS4	1/2"	STUD BOLTS + 2NUTS, A 193-B8cl1/A194- 8A ASME B1.13M/ B18.2.4.6M, L=85	45
145	1/2"-RWR-0225-4CC2(IF)	1/2"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=70	6
146	1/2"-RWR-0227-4CC2(IF)	1/2"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=70	6
147	1/2"-RWR-2102-4CC2(IF)	1/2"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=70	6
148	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	6
149	1/2"-RWR-2202-4CC2(IF)	1/2"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=70	6
150	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	6
151	1/2"-RWS-0201-4CC2(J)	1/2"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=70	28
152	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	6
153	1/2"-RWS-0203-4CC2(J)	1/2"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=70	28
154	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	6
155	1/2"-RWS-0224-4CC2(IF)	1/2"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=70	6
156	1/2"-RWS-0226-4CC2(IF)	1/2"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=70	6
157	2 1/2"-RWR-0214-4CC2(IF)	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	6
158	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=90	23
159	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=95	6
160	2 1/2"-RWS-0213-4CC2(J)	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	6
161	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=90	23



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162	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=95	6
163	2"-BDG-2504-1CS1	3/4"	STUD BOLTS + 2NUTS, A193- B8 Cl 1/A 194-8A AMSE B1.13M/B 18.2.4.6M, L=95	6
164	"	5/8"	STUD BOLTS + 2NUTS, A193- B8 Cl 1/A 194-8A AMSE B1.13M/B 18.2.4.6M, L=85	6
165	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B 18.2.4.6M, L=85	6
166	2"-BDG-2601-1CS1	3/4"	STUD BOLTS + 2NUTS, A193- B8 Cl 1/A 194-8A AMSE B1.13M/B 18.2.4.6M, L=95	12
167	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B 18.2.4.6M, L=85	12
168	2"-BDG-4202-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	56
169	2"-JLS-4102-3CS6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B8 Cl1/A194-8A ASME B1.13M ASME B18.2.4.6M, L=70	17
170	2"-JLS-4202-3CS6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B8 Cl1/A194-8A ASME B1.13M ASME B18.2.4.6M, L=70	23
171	2"-PRO-3502-1DS4(P)	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	90
172	2"-PRO-4101-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	12
173	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	12
174	2"-PRO-4106-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	12
175	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	23
176	2"-PRO-4201-1DS4(P)	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	45
177	2"-PRO-4206-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	12
178	2"-PRO-4207-1DS4	3/4"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=95	6
179	"	3/4"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=95	6



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180	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=90	12
181	2"-PRO-4208-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	45
182	2"-PRO-4209-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
183	"	3/4"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=115	12
184	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	34
185	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=90	12
186	2"-PRO-4210-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	34
187	2"-PRO-4212-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	45
188	2"-PRO-4213-1DS4	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
189	"	3/4"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=115	12
190	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	12
191	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=90	12
192	2"-PRO-4214-1DS4	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=90	34
193	2"-RCW-0321-4CC2	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	28
194	2"-RWR-0210-4CC2(IF)	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	34
195	2"-RWS-0209-4CC2(J)	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	34
196	3"-BDG-4101-1CS1	5/8"	STUD BOLTS + 2NUTS, A193- B8 Cl 1/A 194-8A AMSE B1.13M/B 18.2.4.6M, L=85	6
197	"	5/8"	STUD BOLTS + 2NUTS, A193- B8 Cl 1/A 194-8A AMSE B1.13M/B 18.2.4.6M, L=95	6



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198	3"-BDG-4201-1CS1	5/8"	STUD BOLTS + 2NUTS, A193- B8 Cl 1/A 194-8A AMSE B1.13M/B 18.2.4.6M, L=85	6
199	"	5/8"	STUD BOLTS + 2NUTS, A193- B8 Cl 1/A 194-8A AMSE B1.13M/B 18.2.4.6M, L=95	6
200	3"-JLS-0201-3CS6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B8 Cl1/A194-8A ASME B1.13M ASME B18.2.4.6M, L=70	6
201	3"-RCW-0318-4CC2(P)	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	6
202	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=90	6
203	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=95	34
204	3"-RCW-0319-4CC2(P)	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	6
205	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=95	34
206	3/4"-BDG-4215-1DS4	3/4"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=95	6
207	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=75	12
208	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=75	6
209	3/4"-HCM-2505-1DS4(J)	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	23
210	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=75	17
211	3/4"-HCM-2602-1DS4(J)	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	23
212	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=75	12
213	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	6
214	3/4"-LPS-0304-3CC6(IA)	5/8"	STUD BOLTS + 2NUTS, A193-B7/A194 2H Cl1 ASME B1.13M/B18.2.4.6M, L=75	17
215	4"-PRO-4216-1DS4	3/4"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=115	12



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216	4"-RCW-0322-4CC2(P)	3/4"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=100	12
217	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	6
218	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=90	6
219	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=95	45
220	4"-RCW-0323-4CC2(P)	3/4"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=100	12
221	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=85	6
222	"	5/8"	STUD BOLTS + 2NUTS, A193 - B7/A 194-2H ASME B1.13M/ B 18.2.4.6M, L=95	40
223	6"-JLS-0322-3CS6(IA)	1/2"	STUD BOLTS + 2NUTS, A193-B8 Cl1/A194-8A ASME B1.13M ASME B18.2.4.6M, L=70	6
224	6"-PRO-4102-1DS4(P)	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	17
225	"	3/4"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=130	34
226	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	6
227	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=85	12
228	6"-PRO-4103-1DS4(P)	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
229	"	3/4"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=130	34
230	"	3/4"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=120	12
231	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=130	6
232	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=85	6
233	6"-PRO-4104-1DS4(P)	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12



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234	"	3/4"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=115	12
235	"	3/4"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=190	17
236	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	6
237	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=85	12
238	8"-PRO-4202-1DS4(P)	1"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=160	23
239	"	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	17
240	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	12
241	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=85	6
242	"	7/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=140	17
243	8"-PRO-4203-1DS4(P)	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
244	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=130	6
245	"	5/8"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=85	6
246	"	7/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=140	51
247	8"-PRO-4204-1DS4(P)	1/2"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=70	12
248	"	3/4"	STUD BOLTS + 2NUTS, A193 – B8 cl 1/A 194-8A ASME B1.13M/B18.2.4.6M, L=130	17
249	"	5/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=85	6
250	"	7/8"	STUD BOLTS + 2NUTS, GALV. B7-2H ASME B1.13M/ASME B18.2.4.6M, L=215	17