

Addendum 1
November 2003
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Recommended Practice for Drill Stem Design and Operating Limits

API RECOMMENDED PRACTICE 7G
SIXTEENTH EDITION, AUGUST 1998

EFFECTIVE DATE: DECEMBER 1998
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Addendum 1 to Recommended Practice for Drill Stem Design and Operating Limits

Page 3, 4.5:

Change “A.8” to “A.9”

Page 5, Table 2, Footnote :

Change “A.15” to “A.16”

Page 12, Table 8 and Page 14, Table 9, Note 4:

Change “ $5/8$ inch” to “ $3/4$ inch” in Note 4

For Pages 15 – 17, most corrections for Table 10 are in Column 7. Additional corrections in Table 10:

Page 15:

$2^{3/8}$ in, 4.85 lb/ft, E75 drill pipe with $2^{3/8}$ OHLW connections the makeup torque for premium class (Column 10) should be “1,723”

$2^{3/8}$ in, 4.85 lb/ft, E75 drill pipe with $2^{3/8}$ OHLW connections the makeup torque for Class 2 (Column 13) should be “1,481”

$2^{3/8}$ in, 6.65 lb/ft, E75 drill pipe with $2^{3/8}$ OHSW connections the makeup torque for premium class (Column 10) should be “2,216”

$2^{3/8}$ in, 6.65 lb/ft, E75 drill pipe with $2^{3/8}$ OHSW connections the makeup torque for Class 2 (Column 13) should be “1,967”

$2^{7/8}$ in, 6.85 lb/ft, E75 drill pipe with $2^{7/8}$ OHLW connections the makeup torque for premium class (Column 10) should be “3,290”

$2^{7/8}$ in, 6.85 lb/ft, E75 drill pipe with $2^{7/8}$ OHLW connections the makeup torque for Class 2 (Column 13) should be “2,804”

$2^{7/8}$ in, 10.40 lb/ft, E75 drill pipe with $2^{7/8}$ OHSW connections the makeup torque for premium class (Column 10) should be “4,411”

$2^{7/8}$ in, 10.40 lb/ft, E75 drill pipe with $2^{7/8}$ OHSW connections the makeup torque for Class 2 (Column 13) should be “4,079”

$2^{7/8}$ in, 10.40 lb/ft, E75 drill pipe with $2^{7/8}$ PAC connections the makeup torque for premium class (Column 10) should be “3,424”

$2^{7/8}$ in, 10.40 lb/ft, E75 drill pipe with $2^{7/8}$ PAC connections the makeup torque for Class 2 (Column 13) should be “3,424”

Page 16:

$4^{1/2}$ IEU-X95, NC46, Column 6, change “ $3^{1/4}$ ” to “3”

Page 17:

Last line, Column 11, minimum OD for $6^{5/8}$ in, 27.70 lb/ft S135 drill pipe, Class 2, change “ $7^{27/64}$ ” to “ $7^{27/32}$ ”

Table 10—Recommended Minimum OD* and Make-up Torque of Weld-on Type Tool Joints
Based on Torsional Strength of Box and Drill Pipe

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
								Premium Class			Class 2		
	Drill Pipe			New Tool Joint Data				Min. OD Tool Joint in.	Min. Box Shoulder with Eccentric Wear in.	Make-up Torque for Min. OD Tool Joint ft-lb	Min. OD Tool Joint in.	Min. Box Shoulder with Eccentric Wear in.	Make-up Torque for Min. OD Tool Joint ft-lb
	Nominal Size in.	Nom Weight lb/ft	Type Upset and Grade	Conn.	New OD in.	New ID in.	Make-up Torque ⁶ ft-lb						
03	2 ³ / ₈	4.85	EU-E75	NC26	3 ³ / ₈	1 ³ / ₄	4,125 B	3 ¹ / ₈	3 ¹ / ₆₄	1,945	3 ³ / ₃₂	1 ¹ / ₃₂	1,689
		4.85	EU-E75	W.O.	3 ³ / ₈	2	2,541 P	3 ¹ / ₁₆	1 ¹ / ₁₆	1,994	3 ¹ / ₃₂	3 ¹ / ₆₄	1,746
		4.85	EU-E75	2 ³ / ₈ OHLW	3 ¹ / ₈	2	2,716 P	3	1 ¹ / ₁₆	1,723	2 ³¹ / ₃₂	3 ¹ / ₆₄	1,481
		4.85	EU-E75	2 ³ / ₈ SL-H90	3 ¹ / ₄	2	3,042 P	2 ³¹ / ₃₂	1 ¹ / ₁₆	1,996	2 ¹⁵ / ₁₆	3 ¹ / ₆₄	1,726
03	2 ³ / ₈	6.65	IU-E75	2 ³ / ₈ PAC ²	2 ⁷ / ₈	1 ³ / ₈	2,803 P	2 ²⁵ / ₃₂	9 ¹ / ₆₄	2,455	2 ²³ / ₃₂	7 ¹ / ₆₄	2,055
		6.65	EU-E75	NC26	3 ³ / ₈	1 ³ / ₄	4,125 B	3 ³ / ₁₆	5 ¹ / ₆₄	2,467	3 ⁵ / ₃₂	1 ¹ / ₁₆	2,204
		6.65	EU-E75	2 ³ / ₈ SL-H90	3 ¹ / ₄	2	3,042 P	3 ¹ / ₃₂	3 ¹ / ₃₂	2,549	2 ³¹ / ₃₂	1 ¹ / ₁₆	1,996
		6.65	EU-E75	2 ³ / ₈ OHSW	3 ¹ / ₄	1 ³ / ₄	3,783 B	3 ¹ / ₁₆	3 ¹ / ₃₂	2,216	3 ¹ / ₃₂	5 ¹ / ₆₄	1,967
03	2 ³ / ₈	6.65	EU-X95	NC26	3 ³ / ₈	1 ³ / ₄	4,125 B	3 ¹ / ₄	7 ¹ / ₆₄	3,005	3 ⁷ / ₃₂	3 ¹ / ₃₂	2,734
	2 ³ / ₈	6.65	EU-G105	NC26 ²	3 ³ / ₈	1 ³ / ₄	4,125 B	3 ⁹ / ₃₂	1 ¹ / ₈	3,279	3 ¹ / ₄	7 ¹ / ₆₄	3,005
	2 ⁷ / ₈	6.85	EU-E75	NC31	4 ¹ / ₈	2 ¹ / ₈	7,074 P	3 ¹¹ / ₁₆	5 ¹ / ₆₄	3,154	3 ²¹ / ₃₂	1 ¹ / ₁₆	2,804
		6.85	EU-E75	2 ⁷ / ₈ WO	4 ¹ / ₈	2 ⁷ / ₁₆	4,209 P	3 ⁵ / ₈	5 ¹ / ₆₄	3,216	3 ¹⁹ / ₃₂	1 ¹ / ₁₆	2,876
03		6.85	EU-E75	2 ⁷ / ₈ OHLW ²	3 ³ / ₄	2 ⁷ / ₁₆	3,290 P	3 ¹ / ₂	7 ¹ / ₆₄	3,290	3 ⁷ / ₁₆	5 ¹ / ₆₄	2,804
		6.85	EU-E75	2 ⁷ / ₈ SL-H90	3 ⁷ / ₈	2 ⁷ / ₁₆	4,504 P	3 ¹ / ₂	3 ¹ / ₃₂	3,397	3 ⁷ / ₁₆	1 ¹ / ₁₆	2,666
	2 ⁷ / ₈	10.40	EU-E75	NC31	4 ¹ / ₈	2 ¹ / ₈	7,074 P	3 ¹³ / ₁₆	9 ¹ / ₆₄	4,597	3 ³ / ₄	7 ¹ / ₆₄	3,867
		10.40	IU-E75	2 ⁷ / ₈ XH	4 ¹ / ₄	1 ⁷ / ₈	7,853 P	3 ²³ / ₃₂	9 ¹ / ₆₄	4,357	3 ² / ₃₂	7 ¹ / ₆₄	3,664
03		10.40	IU-E75	NC26 ²	3 ³ / ₈	1 ³ / ₄	4,125 B	3 ³ / ₈	11 ¹ / ₆₄	4,125	3 ¹¹ / ₃₂	5 ¹ / ₃₂	3,839
		10.40	EU-E75	2 ⁷ / ₈ OHSW ²	3 ⁷ / ₈	2 ⁵ / ₃₂	5,194 P	3 ¹⁹ / ₃₂	5 ¹ / ₃₂	4,411	3 ⁹ / ₁₆	7 ¹ / ₆₄	4,079
		10.40	EU-E75	2 ⁷ / ₈ SL-H90	3 ⁷ / ₈	2 ⁵ / ₃₂	6,732 P	3 ¹⁹ / ₃₂	9 ¹ / ₆₄	4,529	3 ¹⁷ / ₃₂	7 ¹ / ₆₄	3,770
		10.40	IU-E75	2 ⁷ / ₈ PAC ²	3 ¹ / ₈	1 ¹ / ₂	3,424 P	3 ¹ / ₈	15 ¹ / ₆₄	3,424	3 ¹ / ₈	15 ¹ / ₆₄	3,424
03	2 ⁷ / ₈	10.40	EU-X95	NC31	4 ¹ / ₈	2	7,895 P	3 ²⁹ / ₃₂	3 ¹ / ₁₆	5,726	3 ²⁷ / ₃₂	5 ¹ / ₃₂	4,969
		10.40	EU-X95	2 ⁷ / ₈ SL-H90 ²	3 ⁷ / ₈	2 ⁵ / ₃₂	6,732 P	3 ¹¹ / ₁₆	3 ¹ / ₁₆	5,702	3 ⁵ / ₈	5 ¹ / ₃₂	4,915
	2 ⁷ / ₈	10.40	EU-G105	NC31	4 ¹ / ₈	2	7,895 P	3 ¹⁵ / ₁₆	13 ¹ / ₆₄	6,110	3 ⁷ / ₈	11 ¹ / ₆₄	5,345
	2 ⁷ / ₈	10.40	EU-S135	NC31	4 ³ / ₈	1 ⁵ / ₈	10,086 P	4 ¹ / ₁₆	17 ¹ / ₆₄	7,694	4	15 ¹ / ₆₄	6,893
03	3 ¹ / ₂	9.50	EU-E75	NC38	4 ³ / ₄	3	7,595 P	4 ¹³ / ₃₂	1 ¹ / ₈	5,773	4 ¹¹ / ₃₂	3 ¹ / ₃₂	4,797
		9.50	EU-E75	NC38	4 ³ / ₄	2 ¹¹ / ₁₆	10,843 P	4 ¹³ / ₃₂	1 ¹ / ₈	5,773	4 ¹¹ / ₃₂	3 ¹ / ₃₂	4,797
		9.50	EU-E75	3 ¹ / ₂ OHLW	4 ³ / ₄	3	7,082 P	4 ⁹ / ₃₂	1 ¹ / ₈	5,340	4 ¹ / ₄	7 ¹ / ₆₄	4,868
		9.50	EU-E75	3 ¹ / ₂ SL-H90	4 ⁵ / ₈	3	7,469 P	4 ³ / ₁₆	7 ¹ / ₆₄	5,521	4 ⁵ / ₃₂	3 ¹ / ₃₂	5,003
03	3 ¹ / ₂	13.30	EU-E75	NC38	4 ³ / ₄	2 ¹¹ / ₁₆	10,843 P	4 ¹ / ₂	11 ¹ / ₆₄	7,274	4 ⁷ / ₁₆	9 ¹ / ₆₄	6,268
		13.30	IU-E75	NC31 ²	4 ¹ / ₈	2 ¹ / ₈	7,074 P	4	15 ¹ / ₆₄	6,893	3 ¹⁵ / ₁₆	13 ¹ / ₆₄	6,110
		13.30	EU-E75	3 ¹ / ₂ OHSW	4 ³ / ₄	2 ¹¹ / ₁₆	10,300 P	4 ¹³ / ₃₂	3 ¹ / ₁₆	7,278	4 ¹¹ / ₃₂	5 ¹ / ₃₂	6,299
		13.30	EU-E75	3 ¹ / ₂ H90	5 ¹ / ₄	2 ³ / ₄	14,043 P	4 ¹⁷ / ₃₂	1 ¹ / ₈	7,064	4 ¹ / ₂	7 ¹ / ₆₄	6,487
03		13.30	EU-X95	NC38	5	2 ⁹ / ₁₆	12,057 P	4 ¹⁹ / ₃₂	7 ¹ / ₃₂	8,822	4 ¹⁷ / ₃₂	3 ¹ / ₁₆	7,785
		13.30	EU-X95	3 ¹ / ₂ SL-H90 ²	4 ⁵ / ₈	2 ¹¹ / ₁₆	11,073 P	4 ³ / ₈	13 ¹ / ₆₄	8,742	4 ⁵ / ₁₆	11 ¹ / ₆₄	7,647
		13.30	EU-X95	3 ¹ / ₂ H90	5 ¹ / ₄	2 ³ / ₄	14,043 P	4 ⁵ / ₈	11 ¹ / ₆₄	8,826	4 ⁹ / ₁₆	9 ¹ / ₆₄	7,646
	3 ¹ / ₂	13.30	EU-G105	NC38	5	2 ⁷ / ₁₆	13,221 P	4 ²¹ / ₃₂	1 ¹ / ₄	9,879	4 ¹⁹ / ₃₂	7 ¹ / ₃₂	8,822
03	3 ¹ / ₂	13.30	EU-S135	NC40	5 ³ / ₈	2 ⁷ / ₁₆	17,858 P	5	9 ¹ / ₃₂	12,569	4 ²⁹ / ₃₂	15 ¹ / ₆₄	10,768
		13.30	EU-S135	NC38	5	2 ¹ / ₈	15,902 P	4 ¹³ / ₁₆	21 ¹ / ₆₄	12,614	4 ²³ / ₃₂	9 ¹ / ₃₂	10,957
	3 ¹ / ₂	15.50	EU-E75	NC38	5	2 ⁹ / ₁₆	12,057 P	4 ¹⁷ / ₃₂	3 ¹ / ₁₆	7,785	4 ¹⁵ / ₃₂	5 ¹ / ₃₂	6,769
	3 ¹ / ₂	15.50	EU-X95	NC38	5	2 ⁷ / ₁₆	13,221 P	4 ²¹ / ₃₂	1 ¹ / ₄	9,879	4 ¹⁹ / ₃₂	7 ¹ / ₃₂	8,822
03	3 ¹ / ₂	15.50	EU-G105	NC38	5	2 ¹ / ₈	15,902 P	4 ²³ / ₃₂	9 ¹ / ₃₂	10,957	4 ⁵ / ₈	15 ¹ / ₆₄	9,348
		15.50	EU-G105	NC40	5 ¹ / ₄	2 ⁹ / ₁₆	16,616 P	4 ¹⁵ / ₁₆	1 ¹ / ₄	11,363	4 ²⁷ / ₃₂	13 ¹ / ₆₄	9,595
	3 ¹ / ₂	15.50	EU-S135	NC40	5 ¹ / ₂	2 ¹ / ₄	19,616 P	5 ³ / ₃₂	21 ¹ / ₆₄	14,419	4 ³¹ / ₃₂	17 ¹ / ₆₄	11,963
	4	11.85	EU-E75	NC46	6	3 ¹ / ₄	19,937 P	5 ⁷ / ₃₂	7 ¹ / ₆₄	7,843	5 ⁵ / ₃₂	5 ¹ / ₆₄	6,476
		11.85	EU-E75	4 WO	5 ³ / ₄	3 ⁷ / ₁₆	17,186 P	5 ⁷ / ₃₂	7 ¹ / ₆₄	7,843	5 ⁵ / ₃₂	5 ¹ / ₆₄	6,476

(Table continued on next page.)

Table 10—Recommended Minimum OD* and Make-up Torque of Weld-on Type Tool Joints Based on Torsional Strength of Box and Drill Pipe (Continued)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Drill Pipe			New Tool Joint Data				Premium Class			Class 2		
Nominal Size in.	Nom Weight lb/ft	Type Upset and Grade	Conn.	New OD in.	New ID in.	Make-up Torque ⁶ ft-lb	Min. OD Tool Joint in.	Min. Box Shoulder with Eccentric Wear in.	Make-up Torque for Min. OD Tool Joint ft-lb	Min. OD Tool Joint in.	Min. Box Shoulder with Eccentric Wear in.	Make-up Torque for Min. OD Tool Joint ft-lb
4	11.85	EU-E75	4 OHLW	5 ¹ / ₄	3 ¹⁵ / ₃₂	13,186 P	5	9 ¹ / ₆₄	7,866	4 ¹³ / ₁₆	7 ¹ / ₆₄	6,593
	11.85	IU-E75	4 H90	5 ¹ / ₂	2 ¹³ / ₁₆	21,185 P	4 ⁷ / ₈	7 ¹ / ₆₄	7,630	4 ²⁷ / ₃₂	3 ¹ / ₃₂	6,962
	14.00	IU-E75	NC40	5 ¹ / ₄	2 ¹³ / ₁₆	13,968 P	4 ¹³ / ₁₆	3 ¹ / ₁₆	9,017	4 ³ / ₄	5 ¹ / ₃₂	7,877
	14.00	EU-E75	NC46	6	3 ¹ / ₄	19,937 P	5 ⁹ / ₃₂	9 ¹ / ₆₄	9,233	5 ⁷ / ₃₂	7 ¹ / ₆₄	7,843
	14.00	IU-E75	4 SH ²	4 ⁵ / ₈	2 ⁹ / ₁₆	9,016 P	4 ⁷ / ₁₆	15 ¹ / ₆₄	8,782	4 ³ / ₈	13 ¹ / ₆₄	7,817
	14.00	EU-E75	4 OHSW	5 ¹ / ₂	3 ¹ / ₄	16,236 P	5 ¹ / ₁₆	11 ¹ / ₆₄	9,131	5	9 ¹ / ₆₄	7,839
4	14.00	IU-E75	4 H90	5 ¹ / ₂	2 ¹³ / ₁₆	21,185 P	4 ¹⁵ / ₁₆	9 ¹ / ₆₄	8,986	4 ⁷ / ₈	7 ¹ / ₆₄	7,630
	14.00	IU-X95	NC40	5 ¹ / ₄	2 ¹¹ / ₁₆	15,319 P	4 ¹⁵ / ₁₆	1 ¹ / ₄	11,363	4 ²⁷ / ₃₂	13 ¹ / ₆₄	9,595
	14.00	EU-X95	NC46	6	3 ¹ / ₄	19,937 P	5 ³ / ₈	3 ¹ / ₁₆	11,363	5 ⁵ / ₁₆	5 ¹ / ₃₂	9,937
4	14.00	IU-X95	4 H90	5 ¹ / ₂	2 ¹³ / ₁₆	21,185 P	5 ¹ / ₃₂	3 ¹ / ₁₆	11,065	4 ³¹ / ₃₂	5 ¹ / ₃₂	9,673
	14.00	IU-G105	NC40	5 ¹ / ₂	2 ⁷ / ₁₆	17,858 P	5	9 ¹ / ₃₂	12,569	4 ²⁹ / ₃₂	15 ¹ / ₆₄	10,768
	14.00	EU-G105	NC46	6	3 ¹ / ₄	19,937 P	5 ⁷ / ₁₆	7 ¹ / ₃₂	12,813	5 ¹¹ / ₃₂	11 ¹ / ₆₄	10,647
4	14.00	IU-G105	4 H90	5 ¹ / ₂	2 ¹³ / ₁₆	21,185 P	5 ³ / ₃₂	7 ¹ / ₃₂	12,481	5 ¹ / ₃₂	3 ¹ / ₁₆	11,065
	14.00	EU-S135	NC46	6	3	23,399 P	5 ⁹ / ₁₆	9 ¹ / ₃₂	15,787	5 ¹ / ₂	1 ¹ / ₄	14,288
4	15.70	IU-E75	NC40	5 ¹ / ₄	2 ¹¹ / ₁₆	15,319 P	4 ⁷ / ₈	7 ¹ / ₃₂	10,179	4 ²⁵ / ₃₂	11 ¹ / ₆₄	8,444
	15.70	EU-E75	NC46	6	3 ¹ / ₄	19,937 P	5 ⁵ / ₁₆	5 ¹ / ₃₂	9,937	5 ¹ / ₄	1 ¹ / ₈	8,535
	15.70	IU-E75	4 H90	5 ¹ / ₂	2 ¹³ / ₁₆	21,185 P	4 ³¹ / ₃₂	5 ¹ / ₃₂	9,673	4 ²⁹ / ₃₂	1 ¹ / ₈	8,305
4	15.70	IU-X95	NC40	5 ¹ / ₂	2 ⁷ / ₁₆	17,858 P	5	9 ¹ / ₃₂	12,569	4 ²⁹ / ₃₂	15 ¹ / ₆₄	10,768
	15.70	EU-X95	NC46	6	3	23,399 P	5 ⁷ / ₁₆	7 ¹ / ₃₂	12,813	5 ¹¹ / ₃₂	11 ¹ / ₆₄	10,647
	15.70	IU-X95	4 H90	5 ¹ / ₂	2 ¹³ / ₁₆	21,185 P	5 ³ / ₃₂	7 ¹ / ₃₂	12,481	5 ¹ / ₃₂	3 ¹ / ₁₆	11,065
4	15.70	EU-G105	NC46	6	3	23,399 P	5 ¹⁵ / ₃₂	15 ¹ / ₆₄	13,547	5 ¹³ / ₃₂	13 ¹ / ₆₄	12,085
	15.70	IU-G105	4 H90	5 ¹ / ₂	2 ¹³ / ₁₆	21,185 P	5 ⁵ / ₃₂	1 ¹ / ₄	13,922	5 ¹ / ₁₆	13 ¹ / ₆₄	11,770
4	15.70	IU-S135	NC46	6	2 ⁵ / ₈	26,982 B	5 ²¹ / ₃₂	21 ¹ / ₆₄	18,083	5 ¹⁷ / ₃₂	17 ¹ / ₆₄	15,035
	15.70	EU-S135	NC46	6	2 ⁷ / ₈	25,038 P	5 ²¹ / ₃₂	21 ¹ / ₆₄	18,083	5 ¹⁷ / ₃₂	17 ¹ / ₆₄	15,035
4 ¹ / ₂	16.60	IEU-E75	4 ¹ / ₂ FH	6	3	20,620 P	5 ³ / ₈	13 ¹ / ₆₄	12,125	5 ⁹ / ₃₂	5 ¹ / ₃₂	10,072
	16.60	IEU-E75	NC46	6 ¹ / ₄	3 ¹ / ₄	19,937 P	5 ¹³ / ₃₂	13 ¹ / ₆₄	12,085	5 ¹¹ / ₃₂	11 ¹ / ₆₄	10,647
	16.60	IEU-E75	4 ¹ / ₂ OHSW	5 ⁷ / ₈	3 ³ / ₄	16,162 P	5 ⁷ / ₁₆	13 ¹ / ₆₄	11,862	5 ³ / ₈	11 ¹ / ₆₄	10,375
	16.60	EU-E75	NC50	6 ⁵ / ₈	3 ³ / ₄	22,361 P	5 ²⁵ / ₃₂	5 ¹ / ₃₂	11,590	5 ¹¹ / ₁₆	9 ¹ / ₆₄	10,773
	16.60	IEU-E75	4 ¹ / ₂ H-90	6	3 ¹ / ₄	23,126 P	5 ¹¹ / ₃₂	3 ¹ / ₁₆	12,215	5 ⁹ / ₃₂	5 ¹ / ₃₂	10,642
4 ¹ / ₂	16.60	IEU-X95	4 ¹ / ₂ FH	6	2 ³ / ₄	23,695 P	5 ¹ / ₂	17 ¹ / ₆₄	14,945	5 ¹³ / ₃₂	7 ¹ / ₃₂	12,821
	16.60	IEU-X95	NC46	6 ¹ / ₄	3	19,937 P	5 ¹⁷ / ₃₂	17 ¹ / ₆₄	15,035	5 ⁷ / ₁₆	7 ¹ / ₃₂	12,813
	16.60	EU-X95	NC50	6 ⁵ / ₈	3 ³ / ₄	22,361 P	5 ²⁷ / ₃₂	7 ¹ / ₃₂	14,926	5 ²⁵ / ₃₂	3 ¹ / ₁₆	13,245
	16.60	IEU-X95	4 ¹ / ₂ H-90	6	3	26,969 P	5 ¹⁵ / ₃₂	1 ¹ / ₄	15,441	5 ³ / ₈	13 ¹ / ₆₄	13,013
	16.60	IEU-G105	4 ¹ / ₂ FH	6	2 ³ / ₄	23,695 P	5 ⁹ / ₁₆	19 ¹ / ₆₄	16,391	5 ¹⁵ / ₃₂	1 ¹ / ₄	14,231
4 ¹ / ₂	16.60	IEU-G105	NC46	6 ¹ / ₄	3	23,399 P	5 ¹⁹ / ₃₂	19 ¹ / ₆₄	16,546	5 ¹ / ₂	1 ¹ / ₄	14,288
	16.60	EU-G105	NC50	6 ⁵ / ₈	3 ³ / ₄	22,361 P	5 ²⁹ / ₃₂	1 ¹ / ₄	16,633	5 ¹³ / ₁₆	13 ¹ / ₆₄	14,082
	16.60	IEU-G105	4 ¹ / ₂ H-90	6	3	26,969 P	5 ¹ / ₂	17 ¹ / ₆₄	16,264	5 ⁷ / ₁₆	15 ¹ / ₆₄	14,625
	16.60	IEU-S135	NC46	6 ¹ / ₄	2 ³ / ₄	26,615 P	5 ²⁵ / ₃₂	25 ¹ / ₆₄	21,230	5 ²¹ / ₃₂	21 ¹ / ₆₄	18,083
	16.60	EU-S135	NC50	6 ⁵ / ₈	3 ¹ / ₂	26,674 P	6 ¹ / ₁₆	21 ¹ / ₆₄	21,017	5 ³¹ / ₃₂	9 ¹ / ₃₂	18,367
4 ¹ / ₂	20.00	IEU-E75	4 ¹ / ₂ FH	6	3	20,620 P	5 ¹⁵ / ₃₂	1 ¹ / ₄	14,231	5 ³ / ₈	13 ¹ / ₆₄	12,125
	20.00	IEU-E75	NC46	6 ¹ / ₄	3	23,399 P	5 ¹ / ₂	1 ¹ / ₄	14,288	5 ¹³ / ₃₂	13 ¹ / ₆₄	12,085
	20.00	EU-E75	NC50	6 ⁵ / ₈	3 ⁵ / ₈	24,549 P	5 ¹³ / ₁₆	13 ¹ / ₆₄	14,082	5 ³ / ₄	12 ¹ / ₆₄	12,415
	20.00	IEU-E75	4 ¹ / ₂ H-90	6	3	26,969 P	5 ¹³ / ₃₂	7 ¹ / ₃₂	13,815	5 ¹¹ / ₃₂	3 ¹ / ₁₆	12,215
4 ¹ / ₂	20.00	IEU-X95	4 ¹ / ₂ FH	6	2 ¹ / ₂	26,528 P	5 ⁵ / ₈	21 ¹ / ₆₄	17,861	5 ¹⁷ / ₃₂	9 ¹ / ₃₂	15,665
	20.00	IEU-X95	NC46	6 ¹ / ₄	2 ³ / ₄	26,615 P	5 ²¹ / ₃₂	21 ¹ / ₆₄	18,083	5 ⁹ / ₁₆	9 ¹ / ₃₂	15,787
	20.00	EU-X95	NC50	6 ⁵ / ₈	3 ¹ / ₂	26,674 P	5 ¹⁵ / ₁₆	17 ¹ / ₆₄	17,497	5 ⁷ / ₈	15 ¹ / ₆₄	15,776
	20.00	IEU-X95	4 ¹ / ₂ H-90	6	3	26,969 P	5 ⁹ / ₁₆	19 ¹ / ₆₄	17,929	5 ¹⁵ / ₃₂	1 ¹ / ₄	15,441

(Table continued on next page.)