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NOTE: Maximum allowable stress values in tension for the materials listed in the above tables are contained in Subpart 1 of Section II, Part D (see UG-23).

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TABLE UCS-23
CARBON AND LOW ALLOY STEEL

Spec. No.	Type/Grade
SA-36	...
SA-53	E/A, E/B, S/A, S/B
SA-105	...
SA-106	A, B, C
SA-135	A, B
SA-178	A, C
SA-179	...
SA-181	...
SA-182	FR, F1, F2, F3V, F5, F5a, F9, F11 Cl. 1 & 2, F12 Cl. 1 & 2, F21, F22 Cl. 1 & 3, F22V, F91
SA-192	...
SA-193	B5, B7, B7M, B16
SA-199	T5, T9, T11, T21, T22
SA-202	A, B
SA-203	A, B, D, E, F
SA-204	A, B, C
SA-209	T1, T1a, T1b
SA-210	A-1, C
SA-213	T2, T5, T5b, T5c, T9, T11, T12, T17, T21, T22, T91
SA-214	...
SA-216	WCA, WCB, WCC
SA-217	C12, C5, WC1, WC4, WC5, WC6, WC9
SA-225	C
SA-226	...
SA-234	WPB, WPC, WPR, WP1, WP5, WP9, WP11 Cl. 1, WP12 Cl. 1, WP22 Cl. 1
SA-250	T1, T1a, T1b
SA-266	1, 2, 3, 4
SA-283	A, B, C, D
SA-285	A, B, C
SA-299	...
SA-302	A, B, C, D
SA-307	B
SA-320	L7, L7A, L7M, L43
SA-325	1
SA-333	1, 3, 4, 6, 7, 9
SA-334	1, 3, 6, 7, 9
SA-335	P1, P2, P5, P5b, P5c, P9, P11, P12, P15, P21, P22, P91
SA-336	F1, F3V, F5, F5A, F9, F11 Cl. 2 & 3, F12, F21 Cl.1 & 3, F22 Cl. 1 & 3, F22V, F91
SA-350	LF1, LF2, LF3, LF5, LF9
SA-352	LCB, LC1, LC2, LC3
SA-354	BC, BD
SA-369	FP1, FP2, FP5, FP9, FP11, FP12, FP21, FP22
SA-372	A, B, C, D, E Cl.65 & 70, F Cl. 70, G Cl.70, H Cl.70, J Cl.65, 70, & 110, L, M Cl. A & B
SA-387	2, 5, 11, 12, 21, 22, 91
SA-414	A, B, C, D, E, F, G
SA-420	WPL 3, WPL 6, WPL 9
SA-423	1, 2
SA-437	B4B, B4C
SA-449	...
SA-455	...
SA-487	1 Cl. A & B, 2 Cl. A & B, 4 Cl. A, 8 Cl. A
SA-508	1, 1A, 2 Cl. 1, 2 Cl. 2, 3 Cl. 1, 3 Cl. 2, 3V, 4N Cl. 3, 22 Cl. 3
SA-515	60, 65, 70
SA-516	55, 60, 65, 70
SA-524	I, II
SA-533	A Cl. 1 & 2, B Cl. 1 & 2, C Cl. 1 & 2, D Cl. 2
SA-537	Cl.1, 2, & 3
SA-540	B21, B22, B23, B24, B24V
SA-541	1, 1A, 2 Cl. 1, 2 Cl. 2, 3 Cl. 1, 3 Cl. 2, 3V, 22 Cl. 3, 22V
SA-542	B Cl. 4, C Cl. 4a, D Cl. 4a
SA-556	A2, B2, C2
SA-557	A2, B2, C2
SA-562	...
SA-574	...
SA-587	...
SA-612	...
SA-620	...
SA-662	A, B, C
SA-675	45, 50, 55, 60, 65, 70
SA-695	B/35, B/40
SA-727	...
SA-737	B, C
SA-738	A, B, C
SA-739	B11, B22
SA-765	I, II, III
SA-812	65, 80
SA-832	21V, 22V
SA-836	...
SA/CSA-G40.21	38W
SA/EN 10028-2	P295GH

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TABLE UNF-23.1
NONFERROUS METALS — ALUMINUM AND ALUMINUM ALLOY PRODUCTS

Spec. No.	Alloy Design./UNS No.	Spec. No.	Alloy Desig./UNS No.
SB-26	A02040, A03560, A24430	SB-221	A91060, A91100, A92024, A93003, A95083, A95086, A95154, A95454, A95456, A96061, A96063
SB-108	A02040, A03560		
SB-209	Alclad 3003, 3004, 6061; A91060, A91100, A93003, A93004, A95052, A95083, A95086, A95154, A95254, A95454, A95456, A95652, A96061	SB-234	Alclad 3003; A91060, A93003, A95052, A95454, A96061
		SB-241	Alclad 3003; A91060, A91100, A93003, A95052, A95083, A95086, A95454,A95456, A96061, A96063
SB-210	Alclad 3003; A91060, A93003, A95052, A95154, A96061, A96063	SB-247	A92014, A93003, A95083, A96061
SB-211	A92014, A92024, A96061	SB-308	A96061

TABLE UNF-23.2
NONFERROUS METALS — COPPER AND COPPER ALLOYS

Spec. No.	UNS No.	Spec. No.	UNS No.
SB-42	C10200, C12000, C12200	SB-171	C36500, C44300, C44400, C44500, C46400, C46500, C61400, C63000, C70600, C71500
SB-43	C23000		
SB-61	C92200	SB-187	C10200, C11000
SB-62	C83600	SB-271	C95200
SB-75	C10200, C12000, C12200, C14200	SB-283	C37700, C64200
SB-96	C65500	SB-315	C65500
SB-98	C65100, C65500, C66100	SB-359	C70600
SB-111	C10200,C12000, C12200, C14200, C19200, C23000, C28000, C44300, C44400, C44500, C60800, C68700, C70400, C70600, C71000, C71500, C72200	SB-395	C10200, C12000, C12200, C14200, C19200, C23000, C44300, C44400, C44500, C60800, C68700, C70600, C71000, C71500
		SB-466	C70600, C71000, C71500
SB-135	C23000	SB-467	C70600
SB-148	C95200, C95400	SB-543	C12200, C19400, C23000, C44300, C44400, C44500, C68700, C70400, C70600, C71500
SB-150	C61400, C62300, C63000, C64200	SB-584	C92200, C93700, C97600
SB-152	C10200, C10400, C10500, C10700, C11000, C12200, C12300		
SB-169	C61400		

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TABLE UNF-23.3 01
NONFERROUS METALS — NICKEL AND HIGH NICKEL ALLOYS

Spec. No.	UNS No.
SA-351	J94651
SA-494	N26022, N30002, N30012
SB-127	N04400
SB-160	N02200, N02201
SB-161	N02200, N02201
SB-162	N02200, N02201
SB-163	N02200, N02201, N04400, N06600, N08800, N08810, N08811, N08825
SB-164	N04400, N04405
SB-165	N04400
SB-166	N06045, N06600, N06690
SB-167	N06045, N06600, N06690
SB-168	N06045, N06600, N06690
SB-333	N10001, N10629, N10665, N10675
SB-335	N10001, N10629, N10665, N10675
SB-366	N02200, N02201, N04400, N06002, N06007, N06022, N06030, N06045, N06059, N06230, N06455, N06600, N06625, N06985, N08020, N08031, N08330, N08800, N08825, N10001, N10003, N10276, N10629, N10665, N10675, R20033
SB-407	N08800, N08810, N08811
SB-408	N08800, N08810, N08811
SB-409	N08800, N08810, N08811
SB-423	N08825
SB-424	N08825
SB-425	N08825
SB-434	N10003
SB-435	N06002, N06230, R30556
SB-443	N06625
SB-444	N06625
SB-446	N06625
SB-462	N08020, N08367
SB-463	N08020, N08024, N08026
SB-464	N08020, N08024, N08026
SB-468	N08020, N08024, N08026
SB-473	N08020
SB-511	N08330
SB-514	N08800, N08810
SB-515	N08800, N08810, N08811
SB-516	N06045, N06600
SB-517	N06045, N06600
SB-525	N08330
SB-536	N08330
SB-564	N04400, N06022, N06045, N06059, N06230, N06600, N06625, N08031, N08367, N08800, N08810, N08811, N10276, N10629, N10675, R20033
SB-572	N06002, N06230, R30556
SB-573	N10003
SB-574	N06022, N06030, N06059, N06455, N10276
SB-575	N06022, N06059, N06455, N10276
SB-581	N06007, N06030, N06975, N06985, N08031
SB-582	N06007, N06030, N06975, N06985
SB-599	N08700
SB-619	N06002, N06007, N06022, N06030, N06059, N06230, N06455, N06975, N06985, N08031, N08320, N10001, N10276, N10629, N10665, N10675, R20033, R30556
SB-620	N08320
SB-621	N08320
SB-622	N06002, N06007, N06022, N06030, N06059, N06230 N06455, N06975, N06985, N08031, N08320, N10001, N10276, N10629, N10665, N10675, R20033, R30556

(continued)

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TABLE UNF-23.3 (CONT'D)
NONFERROUS METALS — NICKEL AND HIGH NICKEL ALLOYS

Spec. No.	UNS No.	Spec. No.	UNS No.
SB-625	N08031, N08904, N08925, R20033	SB-676	N08366, N08367
SB-626	N06002, N06007, N06022, N06030, N06059, N06230, N06455, N06975, N06985, N08031, N08320, N10001, N10276, N10629, N10665, N10675, R20033, R30556	SB-677	N08904, N08925
		SB-688	N08366, N08367
		SB-690	N08366, N08367
SB-637	N07718, N07750	SB-691	N08366, N08367
SB-649	N08904, N08925, R20033	SB-704	N06625, N08825
SB-668	N08028	SB-705	N06625, N08825
SB-672	N08700	SB-709	N08028
SB-673	N08904, N08925	SB-710	N08330
SB-674	N08904, N08925	SB-729	N08020
SB-675	N08366, N08367	SB-804	N08367

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TABLE UNF-23.4
NONFERROUS METALS — TITANIUM AND TITANIUM ALLOYS

Spec. No.	UNS No.	Spec. No.	UNS No.
SB-265	R50250, R50400, R50550, R52250, R52252, R52400, R52402, R53400, R56320	SB-367	R50400, R50550
		SB-381	R50250, R50400, R50550, R52400, R52402, R53400
SB-338	R50250, R50400, R50550, R52400, R52402, R53400, R56320	SB-861	R50250, R50400, R50550, R52400, R53400, R56320
SB-348	R50250, R50400, R50550, R52400, R52402, R53400	SB-862	R50250, R50400, R50550, R52400, R53400, R56320
SB-363	R50250, R50400, R50550, R52400, R53400		

TABLE UNF-23.5
NONFERROUS METALS — ZIRCONIUM

Spec. No.	UNS No.	Spec. No.	UNS No.
SB-493	R60702, R60705	SB-551	R60702, R60705
SB-523	R60702, R60705	SB-658	R60702, R60705
SB-550	R60702, R60705		

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TABLE UHA-23
HIGH ALLOY STEEL

Spec. No.	UNS No.	Type/Grade
SA-182	S20910	FXM-19
	S21904	FXM-11
	S30400	F304
	S30403	F304L
	S30409	F304H
	S30815	F45
	S31000	F310
	S31254	F44
	S31600	F316
	S31603	F316L
	S31609	F316H
	S31700	F317
	S31703	F317L
	S31803	F51
	S32100	F321
	S32109	F321H
	S34700	F347
	S34709	F347H
	S34800	F348
	S34809	F348H
	S41000	F6a Cl. 1 & 2
	S44627	FXM-27Cb
SA-193	S21800	B8S, B8SA
	S30400	B8 Cl. 1 & 2
	S30451	B8NA Cl. 1A
	S30500	B8P Cl. 1 & 2
	S31600	B8M Cl. 1 & 2, B8M2 Cl. 2
	S31651	B8MNA Cl. 1A
	S32100	B8T Cl. 1 & 2
	S34700	B8C Cl. 1 & 2
	S41000	B6
SA-213	S20910	XM-19
	S30400	TP304
	S30403	TP304L
	S30409	TP304H
	S30451	TP304N
	S30815	...
	S30908	TP309S
	S30909	TP309H
	S30940	TP309Cb
	S31008	TP310S
	S31009	TP310H
	S31040	TP310Cb
	S31050	TP310MoLN
	S31600	TP316
	S31603	TP316L
	S31609	TP316H
	S31651	TP316N
	S31725	...
	S32100	TP321
	S32109	TP321H
	S34700	TP347
	S34709	TP347H
	S34800	TP348
	S34809	TP348H
	S38100	XM-15
SA-217	J91150	CA15
SA-240	S20100	201-1, 201-2
	S20400	204
	S20910	XM-19
	S24000	XM-29
	S30200	302
	S30400	304
	S30403	304L
	S30409	304H
	S30451	304N
	S30815	...
	S30908	309S
	S30909	309H
	S30940	309Cb
	S31008	310S
	S31009	310H
	S31040	310Cb
	S31050	310MoLN
	S31200	...
	S31254	...
	S31260	...
	S31600	316
	S31603	316L
	S31609	316H
	S31635	316Ti
	S31640	316Cb
	S31651	316N
	S31700	317
	S31703	317L
	S31725	...
	S31803	...
	S32100	321
	S32304	...
	S32550	...
	S32900	329
	S32950	...
	S34700	347
	S34709	347H
	S34800	348
	S38100	XM-15
	S40500	405
	S40900	409
	S41000	410
	S41008	410S
	S42900	429
	S43000	430
	S44000	...
	S44626	XM-33
	S44627	XM-27
	S44635	...
	S44660	26-3-3
	S44700	...
	S44800	...
SA-249	S20910	TPXM-19
	S24000	TPXM-29
	S30400	TP304
	S30403	TP304L
	S30409	TP304H
	S30451	TP304N
	S30815	...
	S30908	TP309S
	S30909	TP309H
	S30940	TP309Cb
	S31008	TP310S
	S31009	TP310H
	S31040	TP310Cb
	S31050	TP310MoLN
	S31254	...
	S31600	TP316
	S31603	TP316L
	S31609	TP316H
	S31651	TP316N
	S31700	TP317
	S31703	TP317L
	S31725	...
	S32100	TP321
	S32109	TP321H
	S34700	TP347
	S34709	TP347H
	S34800	TP348
	S34809	TP348H
	S38100	TPXM-15
SA-268	S40500	TP405
	S40800	...
	S40900	TP409
	S41000	TP410
	S42900	TP429
	S43000	TP430
	S43035	TP439
	S44400	...
	S44600	TP446-1, TP446-2
	S44626	XM-33
	S44627	XM-27
	S44635	...
	S44660	26-3-3
	S44700	29-4
	S44735	...
	S44800	29-4-2
SA-312	S20910	TPXM-19
	S21904	TPXM-11
	S24000	TPXM-29
	S30400	TP304
	S30403	TP304L

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TABLE UHA-23 (CONT'D)
HIGH ALLOY STEEL

Spec. No.	UNS No.	Type/Grade
	S30409	TP304H
	S30451	TP304N
	S30815	...
	S30908	TP309S
	S30909	TP309H
	S30940	TP309Cb
	S31008	TP310S
	S31009	TP310H
	S31040	TP310Cb
	S31050	TP310MoLN
	S31254	...
	S31600	TP316
	S31603	TP316L
	S31609	TP316H
	S31651	TP316N
	S31700	TP317
	S31703	TP317L
	S31725	...
	S32100	TP321
	S32109	TP321H
	S34700	TP347
	S34709	TP347H
	S34800	TP348
	S34809	TP348H
	S38100	TPXM-15
SA-320	S30323	B8F Cl. 1, B8FA Cl. 1A
	S30400	B8 Cl. 1 & 2, B8A Cl. 1A
	S31600	B8M Cl. 1 & 2, B8MA Cl. 1A
	S32100	B8T Cl. 1 & 2
	S34700	B8C Cl. 1 & 2, B8CA Cl. 1A
SA-336	S21904	FXM-11
	S30400	F304
	S30403	F304L
	S30409	F304H
	S30451	F304N
	S31000	F310
	S31600	F316
	S31603	F316L
	S31609	F316H
	S31651	F316N
	S32100	F321
	S32109	F321H
	S34700	F347
	S34709	F347H
	S34800	F348
	S34809	F348H
SA-351	J92500	CF3, CF3A
	J92590	CF10
	J92600	CF8, CF8A
	J92710	CF8C
	J92800	CF3M
	J92900	CF8M
	J93000	CG8M
	J93254	CK3MCuN
	J93345	CE8MN
	J93400	CH8
	J93402	CH20
	J93790	CG6MMN
	J94202	CK20
	...	CT15C
	J94651	CN-3MN
SA-358	S31254	...
	S31725	...
SA-376	S30400	TP304
	S30409	TP304H
	S30451	TP304N
	S31600	TP316
	S31609	TP316H
	S31651	TP316N
	S31725	...
	S32100	TP321
	S32109	TP321H
	S34700	TP347
	S34709	TP347H
	S34800	TP348
SA-403	S20910	XM-19
	S30400	304
	S30403	304L
	S30409	304H
	S30451	304N
	S30900	309
	S31000	310
	S31600	316
	S31603	316L
	S31609	316H
	S31651	316N
	S31700	317
	S31703	317L
	S32100	321
	S32109	321H
	S34700	347
	S34709	347H
	S34800	348
	S34809	348H
SA-409	S31725	...
SA-430	S30400	FP304
	S30409	FP304H
	S30451	FP304N
	S31600	FP316
	S31609	FP316H
	S31651	FP316N
	S32100	FP321
	S32109	FP321H
	S34700	FP347
	S34709	FP347H
SA-452	S30409	TP304H
	S31609	TP316H
	S34709	TP347H
SA-453	S63198	651 Cl. A & B
	S66286	660 Cl. A & B
SA-479	S20910	XM-19
	S24000	XM-29
	S30200	302
	S30400	304
	S30403	304L
	S30409	304H
	S30815	...
	S30908	309S
	S30909	309H
	S30940	309Cb
	S31008	310S
	S31009	310H
	S31040	310Cb
	S31600	316
	S31603	316L
	S31725	...
	S32100	321
	S32550	...
	S34700	347
	S34800	348
	S40500	405
	S41000	410
	S43000	430
	S43035	439
	S44627	XM-27
	S44700	...
	S44800	...
SA-564	S17400	630
SA-666	S20100	201-1, 201-2
	S21904	XM-11
SA-688	S24000	TPXM-29
	S30400	TP304
	S30403	TP304L
	S30451	TP304N
	S31600	TP316
	S31603	TP316L
SA-705	S17400	630

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TABLE UHA-23 (CONT'D)
HIGH ALLOY STEEL

Spec. No.	UNS No.	Type/Grade	Spec. No.	UNS No.	Type/Grade	Spec. No.	UNS No.	Type/Grade
SA-731	S44626	TPXM-33	SA-790	S31260	...	SA-813	S30908	TP309S
	S44627	TPXM-27		S31500	...		S30940	TP309Cb
				S31803	...		S31008	TP310S
SA-747	J92180	CB7Cu-1		S32304	...		S31040	TP310Cb
				S32550	...			
SA-789	S31260	...		S32750	...	SA-814	S30908	TP309S
	S31500	...		S32900	...		S30940	TP309Cb
	S31803	...		S32950	...		S31008	TP310S
	S32304	...					S31040	TP310Cb
	S32550	...	SA-803	S43035	TP439			
	S32750	...		S44660	26-3-3	SA-815	S31803	...
	S32900	...						
	S32950	...						

TABLE UHT-23
FERRITIC STEELS WITH PROPERTIES ENHANCED BY HEAT TREATMENT

Spec. No.	Type/Grade	Spec. No.	Type/Grade
SA-333	8	SA-522	I
SA-334	8	SA-533	B Cl. 3, D Cl. 3
SA-353	...	SA-543	B, C
SA-420	WPL8	SA-553	I, II
SA-487	4 Cl. B & E, CA6NM Cl. A	SA-592	A, E, F
SA-508	4N Cls. 1, 2	SA-645	...
SA-517	A, B, E, F, J, P	SA-724	A, B, C

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