

List of Material Specifications

ASME B16.5 - List of ASTM Material Specifications

Material Group	Nominal Designation	Pressure Temp. Rating Table	Forgings	Castings	Plates
1.1	C-Mn-Si	2-1.1	A350 Gr. LF2		A516 Gr. 70
	C-Mn-Si	2-1.1			A537 Cl. 1
	C-Mn-Si-V	2-1.1	A350 Gr. LF6 Cl. 1		
	3½ Ni	2-1.1	A350 Gr. LF3		
1.2	C-Mn-Si	2-1.2		A216 Gr. WCC	
	C-Mn-Si	2-1.2		A352 Gr. LCC	
	C-Mn-Si-V	2-1.2	A350 Gr. LF6 Cl. 2		
	2½Ni	2-1.2		A352 Gr. LC2	A203 Gr. B
	3½Ni	2-1.2		A352 Gr. LC3	A203 Gr. E
1.3	C-Si	2-1.3		A352 Gr. LCB	A515 Gr. 65
	C-Mn-Si	2-1.3			A516 Gr. 65
	2½Ni	2-1.3			A203 Gr. A
	3½Ni	2-1.3			A203 Gr. D
	C-1/2Mo	2-1.3		A217 Gr. WC1	
	C-1/2Mo	2-1.3		A352 Gr. LC1	
1.4	C-Si	2-1.4			A515 Gr. 60
	C-Mn-Si	2-1.4	A350 Gr. LF1 Cl. 1		A516 Gr. 60
1.5	C-1/2Mo	2-1.5	A182 Gr. F1		A204 Gr. A
	C-1/2Mo	2-1.5			A204 Gr. B
Material Group	Nominal Designation	Pressure Temp. Rating Table	Forgings	Castings	Plates

1.7	1/2Cr-1/2Mo	2-1.7	A182 Gr. F2		
	Ni-1/2Cr-1/2Mo	2-1.7		A217 Gr. WC4	
	3/4Ni-3/4Cr-1Mo	2-1.7		A217 Gr. WC5	
1.9	1¼Cr-1/2Mo	2-1.9		A217 Gr. WC6	
	1¼Cr-1/2Mo-Si	2-1.9	A182 Gr. F11 CL.2		A387 Gr. 11 Cl. 2
1.10	2¼Cr-1Mo	2-1.10	A182 Gr. F22 Cl. 3	A 217 Gr. WC9	A387 Gr. 22 Cl. 2
1.11	C-1/2Mo	2-1.11			A204 Gr. C
1.13	5Cr-1/2Mo	2-1.13	A182 Gr. F5a	A217 Gr. C5	
1.14	9Cr-1Mo	2-1.14	A182 Gr. F9	A217 Gr. C12	
1.15	9Cr-1Mo-V	2-1.15	A182 Gr. F91	A217 Gr. C12A	A387 Gr. 91 Cl. 2
1.17	1Cr-1/2Mo	2-1.17	A182 Gr. F12 Cl. 2		
	5Cr-1/2Mo	2-1.17	A182 Gr. F5		
1.18	9Cr-2W-V	2-1.18	A182 Gr. F92		
2.1	18Cr-8Ni	2-2.1	A182 Gr. F304	A351 Gr. CF3	A240 Gr. 304
	18Cr-8Ni	2-2.1	A182 Gr. F304H	A351 Gr. CF8	A240 Gr. 304H
2.2	16Cr-12Ni-2Mo	2-2.2	A182 Gr. F316	A351 Gr. CF3M	A240 Gr. 316
	16Cr-12Ni-2Mo	2-2.2	A182 Gr. F316H	A351 Gr. CF8M	A240 Gr. 316H
	18Cr-13Ni-3Mo	2-2.2	A182 Gr. F317		A240 Gr. 317
	19Cr-10Ni-3Mo	2-2.2		A351 Gr. CG8M	

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2.3	18Cr-8Ni	2-2.3	A182 Gr. F304L		A240 Gr. 304L
	16Cr-12Ni-2Mo	2-2.3	A182 Gr. F316L		A240 Gr. 316L
	18Cr-13Ni-3Mo	2-2.3	A182 Gr. F317L		
2.4	18Cr-10Ni-Ti	2-2.4	A182 Gr. F321		A240 Gr. 321
	18Cr-10Ni-Ti	2-2.4	A182 Gr. F321H		A240 Gr. 321H
2.5	18Cr-10Ni-Cb	2-2.5	A182 Gr. F347		A240 Gr. 347
	18Cr-10Ni-Cb	2-2.5	A182 Gr. F347H		A240 Gr. 347H
	18Cr-10Ni-Cb	2-2.5	A182 Gr. F348		A240 Gr. 348
	18Cr-10Ni-Cb	2-2.5	A182 Gr. F348H		A240 Gr. 348H
2.6	23Cr-12Ni	2-2.6			A240 Gr. 309H
2.7	25Cr-20Ni	2-2.7	A182 Gr. F310		A240 Gr. 310H
2.8	20Cr-18Ni-6Mo	2-2.8	A182 Gr. F44	A 351 Gr. CK3MCuN	A240 Gr. S31254
	22Cr-5Ni-3Mo-N	2-2.8	A182 Gr. F51		A240 Gr. S31803
	25Cr-7Ni-4Mo-N	2-2.8	A182 Gr. F53		A240 Gr. S32750
	24Cr-10Ni-4Mo-V	2-2.8		A351 Gr. CE8MN	
	25Cr-5Ni-2Mo-3Cu	2-2.8		A995 Gr. CD4MCu	
	25Cr-7Ni-3.5Mo-W-Cb	2-2.8		A995 Gr. CD3MWCuN	
	25Cr-7.5Ni-3.5Mo-N-Cu-W	2-2.8	A182 Gr. F55		A240 Gr. S32760

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2.9	23Cr-12Ni	2-2.9			A240 Gr. 309S
	25Cr-12Ni	2-2.9			A240 Gr. 310S
2.1	25Cr-12Ni	2-2.10		A351 Gr. CH8	
	25Cr-12Ni	2-2.10		A351 Gr. CH20	
2.11	18Cr-10Ni-Cb	2-2.11		A351 Gr. CF8C	
2.12	25Cr-20Ni	2-2.12		A351 Gr. CK20	
3.1	35Ni-35Fe-20Cr-Cb	2-3.1	B462 Gr. N08020		B463 Gr. N08020
3.2	99.0Ni	2-3.2	B564 Gr. N02200		B162 Gr. N02200
3.3	99.0Ni-Low C	2-3.3			B162 Gr. N02201
3.4	67Ni-30Cu	2-3.4	B564 Gr. N04400		B127 Gr. N04400
3.5	72Ni-15Cr-8Fe	2-3.5	B564 Gr. N06600		B168 Gr. N06600
3.6	33Ni-42Fe-21Cr	2-3.6	B564 Gr. N08800		B409 Gr. N08800
3.7	65Ni-28Mo-2Fe	2-3.7	B462 Gr. N10665		B333 Gr. N10665
	64Ni-29.5Mo-2Cr-2Fe-Mn-W	2-3.7	B462 Gr. N10675		B333 Gr. N10675
3.8	54Ni-16Mo-15Cr	2-3.8	B462 Gr. N10276		B575 Gr. N10276

	60Ni-22Cr-9Mo-3.5Cb	2-3.8	B564 Gr. N06625		B443 Gr. N06625
	62Ni-28Mo-5Fe	2-3.8			B333 Gr. N10001
	70Ni-16Mo-7Cr-5Fe	2-3.8			B434 Gr. N10003
	61Ni-16Mo-16Cr	2-3.8			B575 Gr. N06455
	42Ni-21.5Cr-3Mo-2.3Cu	2-3.8	B564 Gr. N08825		B424 Gr. N08825
	55Ni-21Cr-13.5Mo	2-3.8	B462 Gr. N06022		B575 Gr. N06022
	55Ni-23Cr-16Mo-1.6Cu	2-3.8	B462 Gr. N06200		B575 Gr. N06200
Material Group	Nominal Designation	Pressure Temp. Rating Table	Forgings	Castings	Plates
3.9	47Ni-22Cr-9Mo-18Fe	2-3.9			B435 Gr. N06002
	21Ni-30Fe-22Cr-18Co-3Mo-3W	2-3.9	B572 Gr. R30556		B435 Gr. R30556
3.1	25Ni-47Fe-21Cr-5Mo	2-3.10			B599 Gr. N08700
3.11	44Fe-25Ni-21Cr-Mo	2-3.11	A479 Gr. N08904		A240 Gr. N08904
3.12	26Ni-43Fe-22Cr-5Mo	2-3.12			B620 Gr. N08320
	47Ni-22Cr-20Fe-7Mo	2-3.12			B582 Gr. N06985
	46Fe-24Ni-21Cr-6Mo-Cu-N	2-3.12	B462 Gr. N08367	A351 Gr. CN3MN	B688 Gr. N08367
3.13	49Ni-25Cr-18Fe-6Mo	2-3.13			B582 Gr. N06975

	Ni-Fe-Cr-Mo-Cu-Low C	2-3.13	B564 Gr. N08031		B625 Gr. N08031
3.14	47Ni-22Cr-19Fe-6Mo	2-3.14			B582 Gr. N06007
	40Ni-29Cr-15Fe-5Mo	2-3.14	B462 Gr. N06030		B582 Gr. N06030
	58Ni-33Cr-8Mo	2-3.14	B462 Gr. N06035		B575 Gr. N06035
3.15	42Ni-42Fe-21Cr	2-3.15	B564 Gr. N08810		B409 Gr. N08810
3.16	35Ni-19Cr-1¼Si	2-3.16	B511 Gr. N08330		B536 Gr. N08330
3.17	29Ni-20.5Cr-3.5Cu-2.5Mo	2-3.17		A351 Gr. CN7M	
3.19	57Ni-22CR-14W-2Mo-La	2-3.19	B564 Gr. N06230		B435 Gr. N06230
Material Group	Nominal Designation	Pressure Temp. Rating Table	Forgings	Castings	Plates

General notes:

- For temperature limitations, see notes in ASME B16.5 Tables II-2-1.1 through II-2-3.17 of Mandatory Appendix II.
- Plate materials are listed only for use as blind flanges and reducing flanges without hubs (ASME B16.5 see para. 5.1). Additional plate materials listed in ASME B16.34 may also be used with corresponding B16.34, Standard Class ratings.

Note:

- ASME Boiler and Pressure Vessel Code, Section II materials may also be used, provided the requirements of the ASME specification are identical to or more stringent than the corresponding ASTM specification for the Grade, Class, or Type listed.