

# Material Comparison Chart

## USA Standards - EN

The comparisons listed in this section take the American materials as a basis. However, comparison of American with European steel grades is generally problematic due to the lack of identity or quasi-identity with the result that the alternative suggested should not be used until the conditions of use have been checked.

This list shows the most commonly used American materials but dispenses with explanation of the different American systems and partial cross-linking thereof. The American materials numbering system UNS (Unified Numbering System) has also been disregarded since it is not widely known in Europe.

USA standards	Grade	W-No.	EN-Classification	USA standards	Grade	W-No.	EN-Classification
AISI	<b>1027</b>	1.1170	28Mn6	AISI	<b>430Cb</b>	1.4511	X3CrNb17
AISI	<b>1039</b>	1.1157	40Mn4	AISI	<b>430F</b>	1.4104	X14CrMoS17
AISI	<b>301</b>	1.4310	X9CrNi18-8	AISI	<b>430Ti</b>	1.4510	X3CrTi17
AISI	<b>303</b>	1.4305	X8CrNiS18-9	AISI	<b>431</b>	1.4057	X19CrNi17-2
AISI	<b>304</b>	1.4301	X4CrNi18-10	AISI	<b>434</b>	1.4113	X6CrMo17-1
AISI	<b>304H</b>	1.4301	X4CrNi18-10	AISI	<b>440C</b>	1.4125	X105CrMo17
AISI	<b>304H</b>	1.4948	X6CrNi18-11	AISI	<b>446</b>	1.4762	X10CrAl24
AISI	<b>304L</b>	1.4306	GX2CrNiN18-9	AISI	<b>446-1</b>	1.4749	X18CrN28
AISI	<b>304LN</b>	1.4311	X2CrNiN18-10	AISI	<b>5015</b>	1.7015	15Cr3
AISI	<b>305</b>	1.4303	X4CrNi18-12	AISI	<b>50B46</b>	1.7006	46Cr2
AISI	<b>308</b>	1.4303	X4CrNi18-12	AISI	<b>630</b>	1.4542	X 5 CrNiCuNb 17 4
AISI	<b>309</b>	1.4828	X15CrNiSi20-12	AISI	<b>B163</b>	1.4876	X10NiCrAlTi32-20
AISI	<b>309S</b>	1.4833	X12CrNi24-12	AISI	<b>CA6</b>	1.4313	X 4 CrNi 13 4
AISI	<b>310</b>	1.4841	X15CrNiSi25-20	API 5L	<b>5140H</b>	1.7045	42Cr4
AISI	<b>310</b>	1.4845	X12CrNi25-21	API 5L	<b>B</b>	1.0457	L245NB
AISI	<b>310</b>	1.4849	GX40NiCrSiNb38-18	API 5L	<b>X42</b>	1.0484	L290NB
AISI	<b>314</b>	1.4841	X15CrNiSi25-20	API 5L	<b>X52</b>	1.0545	S355N
AISI	<b>316</b>	1.4401	X4CrNiMo17-12-2	API 5L	<b>X52</b>	1.0562	P355N
AISI	<b>316</b>	1.4436	X4CrNiMo17-13-3	API 5LS	<b>B</b>	1.0457	L245NB
AISI	<b>316Cb</b>	1.4580	X6CrNiMoNb17-12-2	API 5LS	<b>X52</b>	1.0582	L360NB
AISI	<b>316H</b>	1.4919	X6CrNiMo17-13	API 5LS	<b>X60</b>	1.8902	S420N
AISI	<b>316L</b>	1.4404	GX2CrNiMoN18-10	API 5LX	<b>X42</b>	1.0484	L290NB
AISI	<b>316LN</b>	1.4406	X2CrNiMoN17-11-2	API 5LX	<b>X52</b>	1.0562	P355N
AISI	<b>316LN</b>	1.4429	X2CrNiMoN17-13-3	API 5LX	<b>X52</b>	1.0582	L360NB
AISI	<b>316Ti</b>	1.4571	X6CrNiMoTi17-12-2	API 5LX	<b>X60</b>	1.8902	S420N
AISI	<b>317L</b>	1.4438	X2CrNiMo18-15-4	ASTM A105	-	1.0038	S235JRG2
AISI	<b>321</b>	1.4541	X6CrNiTi18-10	ASTM A105	-	1.0460	C22G2
AISI	<b>321</b>	1.4878	X12CrNiTi18-9	ASTM A106	<b>A</b>	1.0305	P235G1TH
AISI	<b>327</b>	1.4821	X20CrNiSi25-4	ASTM A106	<b>A</b>	1.0405	P255G1TH
AISI	<b>329</b>	1.4460	X 4 CrNiMoN 27 5 2	ASTM A106	<b>B</b>	1.0305	P235G1TH
AISI	<b>330</b>	1.4864	X12NiCrSi36-16	ASTM A106	<b>B</b>	1.0405	P255G1TH
AISI	<b>330</b>	1.4865	GX40NiCrSi36-18	ASTM A106	<b>C</b>	1.0481	P295GH
AISI	<b>347</b>	1.4550	X6CrNiNb18-10	ASTM A106	<b>C</b>	1.0481	P295GH
AISI	<b>403</b>	1.4000	X6Cr13	ASTM A108	<b>1045</b>	1.1191	C45E
AISI	<b>405</b>	1.4002	X6CrAl13	ASTM A148	<b>80-50</b>	1.0552	GE260
AISI	<b>405</b>	1.4724	X10CrAl13	ASTM A157	<b>C1</b>	1.5419	22Mo4
AISI	<b>409</b>	1.4512	X2CrTi12	ASTM A157	<b>C6</b>	1.4027	GX20Cr14
AISI	<b>410</b>	1.4006	GX12Cr13	ASTM A157	<b>C6</b>	1.4312	GX10CrNi18-8
AISI	<b>420</b>	1.4021	X20Cr13	ASTM A161	<b>LC</b>	1.0305	P235G1TH
AISI	<b>430</b>	1.4016	X6Cr17	ASTM A161	<b>T1</b>	1.5415	16Mo3
AISI	<b>430</b>	1.4742	X10CrAl18				

USA standards	Grade	W-No.	EN-Classification
ASTM A161	<b>T1</b>	1.5423	16Mo5
ASTM A178	<b>A</b>	1.0315	P235G2TH
ASTM A179	-	1.0254	P235T1
ASTM A179	<b>A</b>	1.0305	P235G1TH
ASTM A179	<b>LC</b>	1.0305	P235G1TH
ASTM A182	-	1.4006	GX12Cr13
ASTM A182	<b>F04L</b>	1.4306	GX2CrNiN18-9
ASTM A182	<b>F1</b>	1.5423	16Mo5
ASTM A182	<b>F11+F12</b>	1.7335	13CrMo4-5
ASTM A182	<b>F22</b>	1.7380	GS-12 CrMo 9 10
ASTM A182	<b>F304</b>	1.4301	X4CrNi18-10
ASTM A182	<b>F316</b>	1.4401	X4CrNiMo17-12-2
ASTM A182	<b>F316L</b>	1.4404	GX2CrNiMoN18-10
ASTM A182	<b>F316L</b>	1.4571	X6CrNiMoTi17-12-2
ASTM A182	<b>F316Ti</b>	1.4571	X6CrNiMoTi17-12-2
ASTM A182	<b>F321</b>	1.4541	X6CrNiTi18-10
ASTM A182	<b>F347</b>	1.4550	X6CrNiNb18-10
ASTM A182	<b>F347H</b>	1.4961	X8CrNiNb16-13
ASTM A182	<b>F5</b>	1.7362	X12CrMo5
ASTM A182	<b>F51</b>	1.4462	X2CrNiMoN22-5-3
ASTM A182	<b>F6NM</b>	1.4313	X 4 CrNi 13 4
ASTM A192	<b>A</b>	1.0305	P235G1TH
ASTM A192	<b>LC</b>	1.0305	P235G1TH
ASTM A193	<b>2H</b>	1.0501	C35
ASTM A193	<b>B16</b>	1.7711	40CrMoV4-7
ASTM A193	<b>B6</b>	1.4021	X20Cr13
ASTM A193	<b>B7</b>	1.7225	42CrMo4
ASTM A193	<b>B8</b>	1.4301	X4CrNi18-10
ASTM A193	<b>B8C</b>	1.4550	X6CrNiNb18-10
ASTM A193	<b>B8M</b>	1.4401	X4CrNiMo17-12-2
ASTM A193	<b>B8T</b>	1.4541	X6CrNiTi18-10
ASTM A194	<b>4</b>	1.0501	C35
ASTM A194	<b>4</b>	1.7258	24CrMo5
ASTM A194	<b>6</b>	1.4000	X6Cr13
ASTM A194	<b>8</b>	1.4301	X4CrNi18-10
ASTM A194	<b>8C</b>	1.4550	X6CrNiNb18-10
ASTM A194	<b>8M</b>	1.4401	X4CrNiMo17-12-2
ASTM A194	<b>8T</b>	1.4541	X6CrNiTi18-10
ASTM A199	<b>T5</b>	1.7362	X12CrMo5
ASTM A200	<b>T5</b>	1.7362	X12CrMo5
ASTM A201	<b>B</b>	1.0425	P265GH
ASTM A201	<b>B</b>	1.0435	H III
ASTM A202	<b>A+B</b>	1.0485	21Mn6
ASTM A202	<b>A+B</b>	1.8812	18MnMoV5-2
ASTM A203	<b>D</b>	1.5637	12Ni14
ASTM A204	<b>A+B+C</b>	1.5415	16Mo3
ASTM A204	<b>A+B+C</b>	1.8812	18MnMoV5-2
ASTM A209	<b>T1+T1a+T1b</b>	1.5415	16Mo3

USA standards	Grade	W-No.	EN-Classification
ASTM A209	<b>T1+T1a+T1b</b>	1.5423	16Mo5
ASTM A210	<b>A-1</b>	1.0405	P255G1TH
ASTM A210	<b>C</b>	1.0481	P295GH
ASTM A213	<b>T12</b>	1.7335	13CrMo4-5
ASTM A213	<b>T22</b>	1.7380	GS-12 CrMo 9 10
ASTM A213	<b>T5</b>	1.7362	X12CrMo5
ASTM A213	<b>T9</b>	1.7386	X12CrMo9-1
ASTM A213	<b>TP304</b>	1.4301	X4CrNi18-10
ASTM A213	<b>TP304L</b>	1.4306	GX2CrNiN18-9
ASTM A213	<b>TP316</b>	1.4401	X4CrNiMo17-12-2
ASTM A213	<b>TP316</b>	1.4436	X4CrNiMo17-13-3
ASTM A213	<b>TP316L</b>	1.4404	GX2CrNiMoN18-10
ASTM A213	<b>TP316L</b>	1.4571	X6CrNiMoTi17-12-2
ASTM A213	<b>TP316L</b>	1.4404	GX2CrNiMoN18-10
ASTM A213	<b>TP316L N</b>	1.4429	X2CrNiMoN17-13-3
ASTM A213	<b>TP316L N</b>	1.4541	X6CrNiTi18-10
ASTM A213	<b>TP347</b>	1.4550	X6CrNiNb18-10
ASTM A214	-	1.0315	P235G2TH
ASTM A216	-	1.0619	GP240GH
ASTM A216	<b>WCA</b>	1.0619	GP240GH
ASTM A216	<b>WCB</b>	1.0619	GP240GH
ASTM A216	<b>WCC</b>	1.0619	GP240GH
ASTM A217	<b>C12</b>	1.7389	G-X 12 CrMo 10 1
ASTM A217	<b>C5</b>	1.7363	GS-12 CrMo 19 5
ASTM A217	<b>CA15</b>	1.4008	GX8CrNi13
ASTM A217	<b>WC1</b>	1.5419	22Mo4
ASTM A217	<b>WC6</b>	1.7357	G17CrMo5-5
ASTM A217	<b>WC9</b>	1.7379	G17CrMo9-10
ASTM A225	<b>A+B</b>	1.8812	18MnMoV5-2
ASTM A225	<b>C</b>	1.8907	S500N
ASTM A225	<b>C</b>	1.8917	S500NL
ASTM A225	<b>C</b>	1.8937	P500NH
ASTM A226	-	1.0315	P235G2TH
ASTM A234	<b>WP1</b>	1.5423	16Mo5
ASTM A234	<b>WP12</b>	1.7335	13CrMo4-5
ASTM A234	<b>WP22</b>	1.7380	GS-12 CrMo 9 10
ASTM A234	<b>WPA</b>	1.0305	P235G1TH
ASTM A234	<b>WPB</b>	1.0402	C22
ASTM A234	<b>WPB</b>	1.0405	P255G1TH
ASTM A240	-	1.4462	X2CrNiMoN22-5-3
ASTM A240	<b>304</b>	1.4301	X4CrNi18-10
ASTM A240	<b>304L</b>	1.4306	GX2CrNiN18-9
ASTM A240	<b>304N</b>	1.4949	X3CrNiN18-11
ASTM A240	<b>316</b>	1.4401	X4CrNiMo17-12-2
ASTM A240	<b>316 Ti</b>	1.4571	X6CrNiMoTi17-12-2
ASTM A240	<b>316L</b>	1.4404	GX2CrNiMoN18-10
ASTM A240	<b>317</b>	1.4436	X4CrNiMo17-13-3

USA standards	Grade	W-No.	EN-Classification
ASTM A240	<b>317L</b>	1.4435	X2CrNiMo18-14-3
ASTM A240	<b>321</b>	1.4541	X6CrNiTi18-10
ASTM A240	<b>347</b>	1.4550	X6CrNiNb18-10
ASTM A240	<b>405</b>	1.4002	X6CrAl13
ASTM A240	<b>410S</b>	1.4000	X6Cr13
ASTM A249	<b>TP304</b>	1.4301	X4CrNi18-10
ASTM A249	<b>TP304H</b>	1.4948	X6CrNi18-11
ASTM A249	<b>TP304L</b>	1.4306	GX2CrNiN18-9
ASTM A249	<b>TP316</b>	1.4401	X4CrNiMo17-12-2
ASTM A249	<b>TP316L</b>	1.4404	GX2CrNiMoN18-10
ASTM A249	<b>TP321</b>	1.4541	X6CrNiTi18-10
ASTM A249	<b>TP347</b>	1.4550	X6CrNiNb18-10
ASTM A249	<b>TP347H</b>	1.4961	X8CrNiNb16-13
ASTM A250	<b>T1+T1a+T1b</b>	1.5423	16Mo5
ASTM A268	<b>TP405</b>	1.4002	X6CrAl13
ASTM A268	<b>TP410</b>	1.4006	GX12Cr13
ASTM A268	<b>TP430</b>	1.4016	X6Cr17
ASTM A268	<b>TP430Ti</b>	1.4510	X3CrTi17
ASTM A27	-	1.0420	GE200
ASTM A27	<b>65-35</b>	1.0446	GE240
ASTM A271	<b>TP347H</b>	1.4961	X8CrNiNb16-13
ASTM A276	<b>304</b>	1.4301	X4CrNi18-10
ASTM A276	<b>304L</b>	1.4306	GX2CrNiN18-9
ASTM A276	<b>308</b>	1.4303	X4CrNi18-12
ASTM A276	<b>309</b>	1.4828	X15CrNiSi20-12
ASTM A276	<b>309S</b>	1.4833	X12CrNi24-12
ASTM A276	<b>310S</b>	1.4845	X12CrNi25-21
ASTM A276	<b>314</b>	1.4841	X15CrNiSi25-20
ASTM A276	<b>316</b>	1.4401	X4CrNiMo17-12-2
ASTM A276	<b>316</b>	1.4436	X4CrNiMo17-13-3
ASTM A276	<b>316Cb</b>	1.4580	X6CrNiMoNb17-12-2
ASTM A276	<b>316L</b>	1.4404	GX2CrNiMoN18-10
ASTM A276	<b>316L</b>	1.4406	X2CrNiMoN17-11-2
ASTM A276	<b>316L</b>	1.4429	X2CrNiMoN17-13-3
ASTM A276	<b>316Ti</b>	1.4571	X6CrNiMoTi17-12-2
ASTM A276	<b>317L</b>	1.4438	X2CrNiMo18-15-4
ASTM A276	<b>321</b>	1.4541	X6CrNiTi18-10
ASTM A276	<b>321</b>	1.4878	X12CrNiTi18-9
ASTM A276	<b>327</b>	1.4821	X20CrNiSi25-4
ASTM A276	<b>347</b>	1.4550	X6CrNiNb18-10
ASTM A276	<b>403</b>	1.4000	X6Cr13
ASTM A276	<b>405</b>	1.4002	X6CrAl13
ASTM A276	<b>405</b>	1.4724	X10CrAl13
ASTM A276	<b>410</b>	1.4006	GX12Cr13
ASTM A276	<b>410</b>	1.4024	X15Cr13
ASTM A276	<b>420</b>	1.4021	X20Cr13
ASTM A276	<b>420</b>	1.4028	X30Cr13
ASTM A276	<b>430</b>	1.4016	X6Cr17

USA standards	Grade	W-No.	EN-Classification
ASTM A276	<b>430</b>	1.4742	X10CrAl18
ASTM A276	<b>430Ti</b>	1.4510	X3CrTi17
ASTM A276	<b>431</b>	1.4057	X19CrNi17-2
ASTM A276	<b>446</b>	1.4762	X10CrAl24
ASTM A276	<b>XM-21</b>	1.4311	X2CrNiN18-10
ASTM A283	<b>A</b>	1.0035	S185
ASTM A283	<b>B</b>	1.0038	S235JRG2
ASTM A283	<b>C</b>	1.0037	S235JR
ASTM A283	<b>C</b>	1.0038	S235JRG2
ASTM A283	<b>C</b>	1.0114	S235J0
ASTM A283	<b>D</b>	1.0044	S275JR
ASTM A284	<b>D</b>	1.0116	S235J2G3
ASTM A285	<b>B</b>	1.0425	P265GH
ASTM A29	-	1.1191	C45E
ASTM A295	<b>52100</b>	1.3505	100Cr6
ASTM A296	-	1.4138	GX120CrMo29-2
ASTM A296	-	1.4463	GX6CrNiMo24-8-2
ASTM A296	<b>CB30</b>	1.4059	GX22CrNi17
ASTM A296	<b>CC50</b>	1.4085	GX70Cr29
ASTM A296	<b>CC50</b>	1.4086	GX120Cr29
ASTM A296	<b>CC50</b>	1.4340	GX40CrNi27-4
ASTM A296	<b>CF16F</b>	1.4312	GX10CrNi18-8
ASTM A296	<b>CF8</b>	1.4308	GX5CrNi19-10
ASTM A296	<b>CF8</b>	1.6902	G-X 6 CrNi 18 10
ASTM A296	<b>CF8M</b>	1.4408	GX5CrNiMo19-11
ASTM A297	<b>CF20</b>	1.4825	GX25CrNiSi18-9
ASTM A297	<b>HC</b>	1.4823	GX40CrNiSi27-4
ASTM A297	<b>HF</b>	1.4826	GX40CrNiSi22-9
ASTM A297	<b>HH</b>	1.4837	GX40CrNiSi25-12
ASTM A297	<b>HI</b>	1.4846	X40CrNi25-21
ASTM A297	<b>HK</b>	1.4848	GX40CrNiSi25-20
ASTM A297	<b>HU</b>	1.4865	GX40NiCrSi36-18
ASTM A299	<b>A+B</b>	1.0485	21Mn6
ASTM A299	<b>A+B</b>	1.0545	S355N
ASTM A299	<b>A+B</b>	1.0562	P355N
ASTM A302	<b>A</b>	1.8812	18MnMoV5-2
ASTM A302	<b>A</b>	1.8815	18MnMoV6-3
ASTM A302	<b>B+C+D</b>	1.5403	17MnMoV6-4
ASTM A302	<b>B+C+D</b>	1.6368	15NiCuMoNb5
ASTM A302	<b>B+C+D</b>	1.8815	18MnMoV6-3
ASTM A304	<b>1541H</b>	1.7003	38Cr2
ASTM A304	<b>1541H</b>	1.7034	37Cr4
ASTM A304	<b>1547</b>	1.7035	41Cr4
ASTM A304	<b>4118H</b>	1.7027	20Cr4
ASTM A304	<b>4118H</b>	1.7131	G16MnCr5
ASTM A304	<b>4135H</b>	1.7220	34CrMo4
ASTM A304	<b>4145H</b>	1.3563	43CrMo4
ASTM A304	<b>4320H</b>	1.6587	17CrNiMo6
ASTM A304	<b>8620H</b>	1.6523	21NiCrMo2
ASTM A304	<b>8720H</b>	1.7321	20MoCr4
ASTM A304	<b>8822H</b>	1.6587	17CrNiMo6
ASTM A312	-	1.4361	X 1 CrNiSi 18 15
ASTM A312	-	1.4439	GX3CrNiMoN17-13-5
ASTM A312	<b>TP304</b>	1.4301	X4CrNi18-10

USA standards	Grade	W-No.	EN-Classification
ASTM A312	<b>TP304L</b>	1.4306	GX2CrNiN18-9
ASTM A312	<b>TP304L N</b>	1.4311	X2CrNiN18-10
ASTM A312	<b>TP316</b>	1.4401	X4CrNiMo17-12-2
ASTM A312	<b>TP316</b>	1.4436	X4CrNiMo17-13-3
ASTM A312	<b>TP316L</b>	1.4404	GX2CrNiMoN18-10
ASTM A312	<b>TP316L</b>	1.4571	X6CrNiMoTi17-12-2
ASTM A312	<b>TP316L N</b>	1.4404	GX2CrNiMoN18-10
ASTM A312	<b>TP316L N</b>	1.4429	X2CrNiMoN17-13-3
ASTM A312	<b>TP316Ti</b>	1.4571	X6CrNiMoTi17-12-2
ASTM A312	<b>TP321</b>	1.4541	X6CrNiTi18-10
ASTM A312	<b>TP347</b>	1.4550	X6CrNiNb18-10
ASTM A312	<b>TP347H</b>	1.4961	X8CrNiNb16-13
ASTM A313	<b>302</b>	1.4310	X9CrNi18-8
ASTM A322	<b>1330</b>	1.1170	28Mn6
ASTM A322	<b>4130</b>	1.7218	25CrMo4
ASTM A322	<b>4137</b>	1.7220	34CrMo4
ASTM A322	<b>4140</b>	1.7223	41CrMo4
ASTM A322	<b>4140</b>	1.7225	42CrMo4
ASTM A322	<b>4150</b>	1.7228	GS-50 CrMo 4
ASTM A322	<b>4320</b>	1.5919	G15CrNi6
ASTM A322	<b>4320</b>	1.6587	17CrNiMo6
ASTM A322	<b>4340</b>	1.6511	G36CrNiMo4
ASTM A322	<b>4615</b>	1.7016	17Cr3
ASTM A322	<b>5120</b>	1.7147	G20MnCr5
ASTM A322	<b>5130</b>	1.7030	28Cr4
ASTM A322	<b>5135</b>	1.7033	34Cr4
ASTM A322	<b>5135</b>	1.7034	37Cr4
ASTM A322	<b>5140</b>	1.7035	41Cr4
ASTM A322	<b>51B60</b>	1.7701	51CrMoV4
ASTM A322	<b>6150</b>	1.8159	GS-50 CrV 4
ASTM A322	<b>8620</b>	1.6523	21NiCrMo2
ASTM A322	<b>8620</b>	1.7321	20MoCr4
ASTM A322	<b>9260</b>	1.5028	65Si7
ASTM A322	<b>E4330</b>	1.2714	G56NiCrMoV7
ASTM A322	<b>E4330</b>	1.6562	40 NiCrMo 8 4
ASTM A322	<b>E4340</b>	1.6580	30CrNiMo8
ASTM A322	<b>E4340</b>	1.6582	34CrNiMo6
ASTM A333	<b>1</b>	1.0356	P215NL
ASTM A333	<b>3</b>	1.5637	12Ni14
ASTM A333	<b>6</b>	1.0437	P310NB
ASTM A333	<b>6</b>	1.0546	S355NL
ASTM A333	<b>6</b>	1.0566	P355NL1
ASTM A333	<b>8</b>	1.5662	X8Ni9
ASTM A334	<b>1</b>	1.0356	P215NL
ASTM A334	<b>1</b>	1.5662	X8Ni9
ASTM A334	<b>3</b>	1.5637	12Ni14
ASTM A335	<b>P1</b>	1.5423	16Mo5
ASTM A335	<b>P12</b>	1.7335	13CrMo4-5
ASTM A335	<b>P22</b>	1.7380	GS-12 CrMo 9 10
ASTM A335	<b>P5</b>	1.7362	X12CrMo5
ASTM A335	<b>P9</b>	1.7386	X12CrMo9-1
ASTM A350	<b>LF2</b>	1.0546	S355NL
ASTM A350	<b>LF2</b>	1.0566	P355NL1
ASTM A350	<b>LF3</b>	1.5637	12Ni14
ASTM A351	<b>CF8</b>	1.4308	GX5CrNi19-10

USA standards	Grade	W-No.	EN-Classification
ASTM A351	<b>CF8M</b>	1.4408	GX5CrNiMo19-11
ASTM A351	<b>CK20</b>	1.4849	GX40NiCrSiNb38-18
ASTM A351	<b>HT30</b>	1.4865	GX40NiCrSi36-18
ASTM A352	<b>LC2</b>	1.5621	GS-10 Ni 6
ASTM A352	<b>LC3</b>	1.5638	G10Ni14
ASTM A352	<b>LCB</b>	1.1165	30Mn5
ASTM A353	-	1.5662	X8Ni9
ASTM A357	-	1.7362	X12CrMo5
ASTM A36	-	1.0037	S235JR
ASTM A366	<b>1012</b>	1.0330	DC01
ASTM A387	<b>11</b>	1.7335	13CrMo4-5
ASTM A387	<b>12</b>	1.7335	13CrMo4-5
ASTM A387	<b>22</b>	1.7380	GS-12 CrMo 9 10
ASTM A387	<b>5</b>	1.7362	X12CrMo5
ASTM A403	<b>WP304</b>	1.4301	X4CrNi18-10
ASTM A403	<b>WP304H</b>	1.4948	X6CrNi18-11
ASTM A403	<b>WP304L</b>	1.4306	GX2CrNiN18-9
ASTM A403	<b>WP316</b>	1.4401	X4CrNiMo17-12-2
ASTM A403	<b>WP316L</b>	1.4404	GX2CrNiMoN18-10
ASTM A403	<b>WP316L</b>	1.4571	X6CrNiMoTi17-12-2
ASTM A403	<b>WP316T i</b>	1.4571	X6CrNiMoTi17-12-2
ASTM A403	<b>WP321</b>	1.4541	X6CrNiTi18-10
ASTM A403	<b>WP347</b>	1.4550	X6CrNiNb18-10
ASTM A403	<b>WP347H</b>	1.4961	X8CrNiNb16-13
ASTM A405	<b>P24</b>	1.7715	14MoV6-3
ASTM A409	-	1.4876	X10NiCrAlTi32-20
ASTM A414	<b>C</b>	1.0345	P235GH
ASTM A414	<b>C</b>	1.0425	P265GH
ASTM A414	<b>C</b>	1.0435	H III
ASTM A414	<b>F1</b>	1.0481	P295GH
ASTM A414	<b>G</b>	1.0473	P355GH
ASTM A414	<b>G</b>	1.0481	P295GH
ASTM A42	<b>55</b>	1.0345	P235GH
ASTM A420	<b>WPL6</b>	1.0546	S355NL
ASTM A420	<b>WPL6</b>	1.0566	P355NL1
ASTM A423	<b>1</b>	1.8962	9CrNiCuP3-2-4
ASTM A426	<b>CP1</b>	1.5423	16Mo5
ASTM A426	<b>CP5</b>	1.7362	X12CrMo5
ASTM A440	<b>75</b>	1.0547	S355J0H
ASTM A442	<b>60</b>	1.0425	P265GH
ASTM A442	<b>60</b>	1.0435	H III
ASTM A455	-	1.0485	21Mn6
ASTM A470	<b>Class B</b>	1.7735	14CrMoV6-9
ASTM A470	<b>Class B</b>	1.7735	14CrMoV6-9
ASTM A473	<b>420</b>	1.4021	X20Cr13
ASTM A473	<b>431</b>	1.4057	X19CrNi17-2
ASTM A479	<b>316L</b>	1.4571	X6CrNiMoTi17-12-2
ASTM A479	<b>316Ti</b>	1.4571	X6CrNiMoTi17-12-2
ASTM A479	<b>321</b>	1.4541	X6CrNiTi18-10
ASTM A501	-	1.0038	S235JRG2
ASTM A508	<b>Class 2+3</b>	1.5403	17MnMoV6-4
ASTM A508	<b>Class 2+3</b>	1.6368	15NiCuMoNb5
ASTM A508	<b>Class 2+3</b>	1.6755	22NiMoCr4-7
ASTM A510	<b>1023</b>	1.0010	C8D

USA standards	Grade	W-No.	EN-Classification
ASTM A514	<b>1015</b>	1.1140	C15R
ASTM A514	<b>A+B+C+ E+F</b>	1.8907	S500N
ASTM A514	<b>H+J+K+ M+P</b>	1.8907	S500N
ASTM A515	<b>60</b>	1.0425	P265GH
ASTM A515	<b>65</b>	1.0345	P235GH
ASTM A515	<b>65</b>	1.0435	H III
ASTM A515	<b>70</b>	1.0481	P295GH
ASTM A515	<b>70</b>	1.0482	P310GH
ASTM A516	<b>55</b>	1.0345	P235GH
ASTM A516	<b>55</b>	1.0425	P265GH
ASTM A516	<b>55</b>	1.0461	S255N
ASTM A516	<b>55</b>	1.0462	P255NH
ASTM A516	<b>55</b>	1.0463	S255NL
ASTM A516	<b>60</b>	1.0425	P265GH
ASTM A516	<b>65</b>	1.0345	P235GH
ASTM A516	<b>65</b>	1.0435	H III
ASTM A516	<b>65</b>	1.0570	S355J2G3
ASTM A516	<b>65</b>	1.0576	S355J2H
ASTM A516	<b>70</b>	1.0481	P295GH
ASTM A517	<b>A+B+C+ E+F</b>	1.8937	P500NH
ASTM A517	<b>H+J+K+ M+P</b>	1.8937	P500NH
ASTM A519	<b>1008</b>	1.0301	C10
ASTM A519	<b>1010</b>	1.1121	C10E
ASTM A519	<b>1015</b>	1.0401	C15
ASTM A519	<b>1016</b>	1.1140	C15R
ASTM A519	<b>1020</b>	1.0254	P235T1
ASTM A519	<b>1020</b>	1.0402	C22
ASTM A519	<b>1026</b>	1.1133	20Mn5
ASTM A519	<b>1035</b>	1.0256	P275T1
ASTM A519	<b>1035</b>	1.0501	C35
ASTM A519	<b>1035</b>	1.0511	C40
ASTM A519	<b>1040</b>	1.0511	C40
ASTM A519	<b>1040</b>	1.1157	40Mn4
ASTM A519	<b>1050</b>	1.0421	P355T1
ASTM A519	<b>1524</b>	1.1160	22Mn6
ASTM A519	<b>4130</b>	1.7213	25CrMoS4
ASTM A519	<b>4130</b>	1.7216	30CrMo4
ASTM A519	<b>4130</b>	1.7218	25CrMo4
ASTM A519	<b>4135</b>	1.7220	34CrMo4
ASTM A519	<b>4135H</b>	1.7226	34CrMoS4
ASTM A519	<b>4140</b>	1.7223	41CrMo4
ASTM A519	<b>4140H</b>	1.7227	42CrMoS4
ASTM A519	<b>4142</b>	1.7225	42CrMo4
ASTM A519	<b>4340</b>	1.6562	40 NiCrMo 8 4
ASTM A519	<b>4340</b>	1.6582	34CrNiMo6
ASTM A519	<b>4340H</b>	1.6562	40 NiCrMo 8 4
ASTM A519	<b>5015</b>	1.7015	15Cr3
ASTM A519	<b>5015</b>	1.7016	17Cr3
ASTM A519	<b>5046</b>	1.7006	46Cr2
ASTM A519	<b>5115</b>	1.7016	17Cr3
ASTM A519	<b>5120</b>	1.7016	17Cr3
ASTM A519	<b>5120</b>	1.7131	G16MnCr5
ASTM A519	<b>5120</b>	1.7147	G20MnCr5
ASTM A519	<b>5132</b>	1.7033	34Cr4

USA standards	Grade	W-No.	EN-Classification
ASTM A519	<b>5135</b>	1.7034	37Cr4
ASTM A519	<b>5135</b>	1.7037	34CrS4
ASTM A519	<b>5140</b>	1.7035	41Cr4
ASTM A519	<b>5140</b>	1.7039	41CrS4
ASTM A519	<b>70</b>	1.0485	21Mn6
ASTM A519	<b>8617</b>	1.6526	21NiCrMoS2
ASTM A519	<b>8620</b>	1.6523	21NiCrMo2
ASTM A522	<b>I</b>	1.5662	X8Ni9
ASTM A522	<b>I</b>	1.5662	X8Ni9
ASTM A53	<b>A</b>	1.0305	P235G1TH
ASTM A533	<b>A</b>	1.8815	18MnMoV6-3
ASTM A533	<b>B</b>	1.6311	20MnMoNi4-5
ASTM A533	<b>B+C+D</b>	1.6310	20MnMoNi5-5
ASTM A533	<b>B+C+D</b>	1.6368	15NiCuMoNb5
ASTM A533	<b>B+C+D</b>	1.8815	18MnMoV6-3
ASTM A533	<b>Class 1</b>	1.8815	18MnMoV6-3
ASTM A533	<b>Class 1+2</b>	1.6310	20MnMoNi5-5
ASTM A533	<b>Class 1+2</b>	1.6368	15NiCuMoNb5
ASTM A537	-	1.0485	21Mn6
ASTM A541	<b>Class 2</b>	1.6755	22NiMoCr4-7
ASTM A541	<b>Class 3</b>	1.0545	S355N
ASTM A541	<b>Class 3</b>	1.0546	S355NL
ASTM A541	<b>Class 3</b>	1.0562	P355N
ASTM A541	<b>Class 3</b>	1.0566	P355NL1
ASTM A542	<b>Class 1-4</b>	1.7380	GS-12 CrMo 9 10
ASTM A553	<b>I</b>	1.5662	X8Ni9
ASTM A556	<b>A2</b>	1.0305	P235G1TH
ASTM A556	<b>B2</b>	1.0405	P255G1TH
ASTM A570	<b>33</b>	1.0036	S235JRG1
ASTM A570	<b>36</b>	1.0036	S235JRG1
ASTM A570	<b>36</b>	1.0038	S235JRG2
ASTM A570	<b>36</b>	1.0116	S235J2G3
ASTM A570	<b>40</b>	1.0044	S275JR
ASTM A570	<b>50</b>	1.0050	E295
ASTM A570	<b>90</b>	1.0254	P235T1
ASTM A572	<b>42</b>	1.0138	S275J2H
ASTM A572	<b>42</b>	1.0143	S275J0
ASTM A572	<b>50</b>	1.0050	E295
ASTM A572	<b>50</b>	1.0547	S355J0H
ASTM A572	<b>50</b>	1.0553	S355J0
ASTM A572	<b>50</b>	1.0570	S355J2G3
ASTM A572	<b>50</b>	1.0576	S355J2H
ASTM A572	<b>55</b>	1.8900	S380N
ASTM A572	<b>55</b>	1.8910	S380NL
ASTM A572	<b>55</b>	1.8930	P380NH
ASTM A572	<b>60</b>	1.8902	S420N
ASTM A572	<b>65</b>	1.0060	E335
ASTM A572	<b>65</b>	1.8901	S460N
ASTM A572	<b>65</b>	1.8905	P460N
ASTM A573	<b>58</b>	1.0116	S235J2G3
ASTM A573	<b>70</b>	1.0138	S275J2H
ASTM A573	<b>Class 1</b>	1.0473	P355GH
ASTM A576	<b>1010</b>	1.0301	C10
ASTM A576	<b>1010</b>	1.1121	C10E
ASTM A576	<b>1015</b>	1.0401	C15

USA standards	Grade	W-No.	EN-Classification	USA standards	Grade	W-No.	EN-Classification
ASTM A576	<b>1015</b>	1.1141	C15E	ASTM A633	<b>C</b>	1.0545	S355N
ASTM A576	<b>1020</b>	1.0402	C22	ASTM A633	<b>C</b>	1.0562	P355N
ASTM A576	<b>1020</b>	1.1149	C22R	ASTM A633	<b>D</b>	1.0545	S355N
ASTM A576	<b>1020</b>	1.1151	C22E	ASTM A633	<b>D</b>	1.0546	S355NL
ASTM A576	<b>1022</b>	1.1151	C22E	ASTM A633	<b>D</b>	1.0562	P355N
ASTM A576	<b>1025</b>	1.0406	C25	ASTM A633	<b>D</b>	1.0565	P355NH
ASTM A576	<b>1025</b>	1.1158	C25E	ASTM A633	<b>D</b>	1.0566	P355NL1
ASTM A576	<b>1025</b>	1.1163	C25R	ASTM A633	<b>E</b>	1.8900	S380N
ASTM A576	<b>1030</b>	1.0528	C30	ASTM A633	<b>E</b>	1.8901	S460N
ASTM A576	<b>1030</b>	1.1178	C30E	ASTM A633	<b>E</b>	1.8902	S420N
ASTM A576	<b>1030</b>	1.1179	C30R	ASTM A633	<b>E</b>	1.8903	S460NL
ASTM A576	<b>1035</b>	1.0501	C35	ASTM A633	<b>E</b>	1.8905	P460N
ASTM A576	<b>1035</b>	1.1180	C35R	ASTM A633	<b>E</b>	1.8910	S380NL
ASTM A576	<b>1035</b>	1.1181	C35E	ASTM A633	<b>E</b>	1.8912	S420NL
ASTM A576	<b>1035</b>	1.1191	C45E	ASTM A633	<b>E</b>	1.8913	S420NL1
ASTM A576	<b>1035</b>	1.1203	C55E	ASTM A633	<b>E</b>	1.8915	P460NL1
ASTM A576	<b>1040</b>	1.0511	C40	ASTM A633	<b>E</b>	1.8930	P380NH
ASTM A576	<b>1040</b>	1.1183	C35G	ASTM A633	<b>E</b>	1.8932	P420NH
ASTM A576	<b>1040</b>	1.1186	C40E	ASTM A633	<b>E</b>	1.8935	P460NH
ASTM A576	<b>1040</b>	1.1189	C40R	ASTM A656	-	1.8917	S500NL
ASTM A576	<b>1042</b>	1.1191	C45E	ASTM A662	<b>A</b>	1.0486	P275N
ASTM A576	<b>1045</b>	1.0503	C45	ASTM A662	<b>A</b>	1.0487	P275NH
ASTM A576	<b>1045</b>	1.1181	C35E	ASTM A662	<b>A</b>	1.0488	P275NL1
ASTM A576	<b>1045</b>	1.1191	C45E	ASTM A662	<b>A</b>	1.0490	S275N
ASTM A576	<b>1045</b>	1.1201	C45R	ASTM A662	<b>A</b>	1.0491	S275NL
ASTM A576	<b>1045</b>	1.1203	C55E	ASTM A662	<b>B</b>	1.0505	P315N
ASTM A576	<b>1049</b>	1.1191	C45E	ASTM A662	<b>B</b>	1.0506	P315NH
ASTM A576	<b>1050</b>	1.1203	C55E	ASTM A662	<b>B</b>	1.0508	P315NL
ASTM A576	<b>1050</b>	1.1206	C50E	ASTM A662	<b>B</b>	1.0545	S355N
ASTM A576	<b>1050</b>	1.1241	C50R	ASTM A662	<b>B</b>	1.0546	S355NL
ASTM A576	<b>1055</b>	1.0535	C55	ASTM A662	<b>B</b>	1.0562	P355N
ASTM A576	<b>1055</b>	1.0540	C50	ASTM A662	<b>B</b>	1.0566	P355NL1
ASTM A576	<b>1055</b>	1.1181	C35E	ASTM A672	<b>C55</b>	1.0315	P235G2TH
ASTM A576	<b>1055</b>	1.1191	C45E	ASTM A678	<b>C</b>	1.8917	S500NL
ASTM A576	<b>1055</b>	1.1203	C55E	ASTM A689	<b>9260</b>	1.5028	65Si7
ASTM A576	<b>1055</b>	1.1209	C55R	ASTM A691	<b>1CR</b>	1.7335	13CrMo4-5
ASTM A576	<b>1060</b>	1.0601	C60	ASTM A691	<b>Class 32</b>	1.7335	13CrMo4-5
ASTM A576	<b>1060</b>	1.1221	C60E	ASTM A705	<b>630</b>	1.4542	X 5 CrNiCuNb 17 4
ASTM A576	<b>1060</b>	1.1223	C60R	ASTM A705	<b>630</b>	1.4542	X 5 CrNiCuNb 17 4
ASTM A576	<b>1536</b>	1.7033	34Cr4	ASTM A738	<b>C</b>	1.0577	S355J2G4
ASTM A576	<b>1547</b>	1.7035	41Cr4	ASTM A743	<b>CA15</b>	1.4008	GX8CrNi13
ASTM A576	<b>1548</b>	1.1203	C55E	ASTM A744	<b>CF8</b>	1.4308	GX5CrNi19-10
ASTM A586	<b>18</b>	1.1830	C85U	ASTM A744	<b>CF8C</b>	1.4552	GX5CrNiNb19-10
ASTM A586	<b>A</b>	1.1830	C85U	ASTM A744	<b>CF8M</b>	1.4408	GX5CrNiMo19-11
ASTM A588	-	1.0545	S355N	ASTM A83	<b>A</b>	1.0305	P235G1TH
ASTM A588	-	1.0562	P355N	ASTM A336	<b>F1</b>	1.5423	16Mo5
ASTM A611	<b>C</b>	1.0116	S235J2G3	ASTM A336	<b>F1</b>	1.5423	16Mo5
ASTM A611	<b>D</b>	1.0138	S275J2H	ASTM B 407	-	1.4558	X2NiCrAlTi32-20
ASTM A612	-	1.0473	P355GH	ASTM B 668	-	1.4563	X 1 NiCrMoCuN 31 27 4
ASTM A612	-	1.8935	P460NH	ASTM B 677	-	1.4529	X 1 NiCrMoCuN 25 20 6
ASTM A618	<b>I</b>	1.0545	S355N	ASTM B 677	-	1.4539	X1NiCrMoCu25-20-5
ASTM A618	<b>I</b>	1.0562	P355N	SAE J 1268	<b>1541H</b>	1.7003	38Cr2
ASTM A618	<b>I</b>	1.0570	S355J2G3	SAE J 1268	<b>1541H</b>	1.7034	37Cr4
ASTM A618	<b>I</b>	1.0576	S355J2H	SAE J 1268	<b>4118H</b>	1.7027	20Cr4
ASTM A618	<b>II</b>	1.8963	S355J2G1W	SAE J 1268	<b>4118H</b>	1.7131	G16MnCr5
ASTM A619	<b>1008</b>	1.0333	USt 3, USt 13				
ASTM A620	<b>1008</b>	1.0338	DC04				

USA standards	Grade	W-No.	EN-Classification
SAE J 1268	<b>4135H</b>	1.7220	34CrMo4
SAE J 1268	<b>4145H</b>	1.3563	43CrMo4
SAE J 1268	<b>4320H</b>	1.6587	17CrNiMo6
SAE J 1268	<b>8620H</b>	1.6523	21NiCrMo2
SAE J 1268	<b>8720H</b>	1.7321	20MoCr4
SAE J 1268	<b>8822H</b>	1.6587	17CrNiMo6
SAE J 1392	<b>1213</b>	1.0715	11SMn30
SAE J 1392	<b>1213</b>	1.0736	11SMn37
SAE J 1397	<b>1108</b>	1.0721	10S20
SAE J 1397	<b>1108</b>	1.0722	10SPb20
SAE J 1397	<b>1146</b>	1.0727	46S20
SAE J 1397	<b>1151</b>	1.0728	60S22
SAE J 1397	<b>12L14</b>	1.0718	11SMnPb30
SAE J 1397	<b>12L14</b>	1.0737	11SMnPb37
SAE J 403	<b>1042</b>	1.1191	C45E
SAE J 403	<b>1049</b>	1.1191	C45E
SAE J 403	<b>1050</b>	1.1203	C55E

USA standards	Grade	W-No.	EN-Classification
SAE J 403	<b>1141</b>	1.0726	35S20
SAE J 403	<b>1146</b>	1.0727	46S20
SAE J 403	<b>1213</b>	1.0715	11SMn30
SAE J 403	<b>1213</b>	1.0736	11SMn37
SAE J 403	<b>1215</b>	1.0736	11SMn37
SAE J 403	<b>1536</b>	1.7033	34Cr4
SAE J 403	<b>1548</b>	1.1203	C55E
SAE J 403	<b>12L14</b>	1.0718	11SMnPb30
SAE J 403	<b>12L14</b>	1.0737	11SMnPb37
SAE J 405	<b>30303</b>	1.4305	X8CrNiS18-9
SAE J 405	<b>51434</b>	1.4104	X14CrMoS17
SAE J 409	<b>1015</b>	1.0401	C15
SAE J 409	<b>1045</b>	1.1191	C45E
SAE J 435C	<b>30</b>	1.0446	GE240
SAE J 435C	<b>80</b>	1.0558	GE300