

Alloy Index – Standards

| Alloy | UNS No. | W.Nr. No. | Standards | Pg |
|----------------------|------------------|-----------------------------|---|----|
| NICKEL ALLOYS | | | | |
| RA330® | N08330 | 1.4886 | ASTM B511,B512,B535,B536, B546, B710, B739,AMS 5592, 5716, B829, B726 | 8 |
| RA333® | N06333 | 2.4608 | ASTM B718, B719, B722, B723,AMS 5593,5717 | 8 |
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| 600 | N06600 | 2.4816 | ASTM B163,B166,B167, B168, B516, B517,B564,B366, AMS 5540,5665, B751, B775, B829 | 8 |
| 601 | N06601 | 2.4851 | ASTM B163,B166, B167,B168, B564, AMS 5715, 5870, B751, B775, B829 | 8 |
| 800H/HT | N08810 N08811 | 1.4876 1.4958, 1.4959 | ASTM B163, B407, B408, B409, B515, B564, B366 AMS 5766, 5871, B751, B775 & B829 | 8 |
| 36 | K93603 | 1.3912 | AFNOR NF A54-301, ASTM F 1684-06 | 8 |
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| 59 | N06059 | 2.4605 | ASTM B564, B574, B575, B619, B622, B626, B366, B462, B775 | 9 |
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| 400 | N04400 | 2.4630 | ASTM B127,B163, B164,B165,B564, B725, B730,B366 AMS 4675, 4730, AMS 4544, 4731 | 10 |
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| 718 | N07718 | 2.4668 | ASTM B637, B670, AMS 5596, 5662, 5663, 5832 | 10 |
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| 925 | N09925 | | NACE MR0175 | 11 |
| X750 | N07750 | 2.4669 | ASTM B637, AMS 5542,5598, 5670, 5671, 5247 | 11 |
| 230 | N06230 | 2.4733 | ASTM B435, B564, B572, B619, B622, B626, B366, AMS 5878, 5891 | 11 |
| 75 | N06075 | 2.4951/ 2.4630 | ASTM B637 MSRR 7004, 7022, 7063, 7070, 7162, 7193, 7952 BS: HR 203, 3HR1, HR3, HR4, BS4HR 601 | 11 |
| 80A | N07080 | 2.4952/ 2.4631 | | 11 |
| 90 | N07090 | 2.4632/ 2.4969 | | 12 |
| 105 | | 2.4634 | | 12 |
| 86 | | | | 12 |
| 617 | N06617 | 2.4663 | ASTM B166, B168, B546, B564, AMS 5887, 5888, 5889 | 12 |
| PE11/PE16/PK33 | | | MSRR 7070, 7952, 7181, 7182, 7166, 7195 | 12 |
| Alloy X | N06002 | 2.4665 | ASTM B435,B572, AMS 5536, 5754, 5798 | 13 |
| C263 | N07263 | 2.4650 | AMS 5966,5886,5872, 5872E, MSRR 7035, BS HR10 | 13 |
| Waspaloy | N07001 | 2.4654 | AMS 5544, 5828, 5708 | 13 |
| RENE 41 | N07041 | 2.4973 | AMS 5545,5712, 5713,5800 | 13 |

| Alloy | UNS No. | W.Nr. No. | Standards | Pg |
|-------------------------------------|----------------------------|--|---|----|
| COBALT ALLOYS | | | | |
| L605/25 | R30605 | 2.4964 | AMS 5537, 5796 | 13 |
| MP35N | R30035 | | AMS 5844, 5845 | 13 |
| 188 | R30188 | 2.4683 | AMS 5608, 5801, AMS 5772 | 13 |
| 694 (CM-64) | | | GE: B58AB42B | |
| TRIBALLOY® T-800® | | | GE: B50TF19356 | |
| DUPLEX / SUPER DUPLEX ALLOYS | | | | |
| 2205 | S31803, S32205 | 1.4462 | ASTM A240, A276, A479, A790, A928, A182, A789, (Grade F51) Norsok | 14 |
| ZERON® 100 | S32760 | 1.4501 | ASTM A182, A240, A276, A314, A473, A479, A815, A790, A928, (Grade F55) Norsok | 14 |
| STAINLESS STEEL ALLOYS | | | | |
| AL-6XN® | N08367 | | ASTM A182, A240,A249, A276, A312, A479, B462, B472, B564, B675, B676, B688, B690, B691, B366, B804 | 14 |
| A286 | S66286 | 1.4980, 1.4943, 1.4944 | AMS 5525, AMS 5732, AMS 5804, BS HR100, BS HR51, M6RR6531, 6532, ASTM A453, A638, AMS 5526, 5731, 5734, 5737 | 14 |
| PH13-8Mo | S13800 | 1.4534 | ASTM A564, AMS 5629 | 14 |
| 15-5PH | S15500 | 1.4545 | ASTM A564, A693, A705 | 14 |
| 17-4PH | S17400 | 1.4542 / 1.4548 | ASTM A693, A564, A705, AMS 5604, 5622, 5643, 5825 | 15 |
| 310S | S31008 / S31009 | 1.4845 | ASTM A240, A276, A312, A479, AMS 5521, 5651 | 15 |
| 321 | S32100 | 1.4541 | ASTM A240, A276, A312, A479, AMS 5510, 5645 | 15 |
| 253MA | S30815 | 1.4835 | ASTM A182, A240, A276,A312, A479 | 15 |
| Nitronic 50(XM-19) | S20910 | 1.3964 | ASTM A193, A194,A262,A276,A479, AMS 5764 | 16 |
| Nitronic 60 | S21800 | | ASTM A193, A194, A262, A276, A479. AMS 5848 | 16 |
| Maraging 250/300/350 | K92890 K93120 K93160 | 1.6359 1.6354 / 1.6358 1.6356 | AMS 6514,6512,6515, S162. Mil S- 46850 | 15 |
| Aeromet 100 | K92580 | | AMS 6532 | 16 |
| ALLOY STEELS | | | | |
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| 300M / S155 | | | 4340M, AMS 6257,6417,6419 | 16 |
| S156 | | 1.5722 / 1.6733 | BS S156 1976, BS S82 | 16 |
| S99G | | | BS S99 | 17 |
| TITANIUM ALLOYS | | | | |
| Ti Gr2 | UNS R50400 | 3.7034 / 3.7035 | ASTM B265, 348,381, 363, B337,B338 | 17 |
| Ti Gr4 | R50700 | 3.7065 | ASTM B265,348,381 | 17 |
| Ti Gr5 6AL-4V | R56400 | 3.7164 / 3.7165 | ASTM B265,348, 381,363. MSRR8610, 8614, 8652, AMS 4911, 4920, 4928, 4934, 4935, 4965, 4967, 6930, 6931,6931B, B337,B338 | |
| Ti 6-2-4-2 | R56421 | 3.7164 | AMS 4919, 4952, 4975, 4976, 4979, MIL T-9046 & T-9047. | 17 |
| Ti 6-2-4-6 | R56260 | 3.7164 | AMS 4981, MIL T- 9047 | 17 |

Table of Alloys

NICKEL ALLOYS

| RA330® | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|----|----|------|--------------|-----|------|------|-----|--|-----|-------|-------|------|----------|---------|--------|------|
| UNS N08330 | | | | | W.Nr. 1.4886 | | | | | | √ | √ | √ | √ | | | | √ |
| | Ni | Cr | Cu | C | Mn | Si | P | S | Fe | | | | | | | | | |
| MIN | 34 | 18 | 0 | 0 | 0 | 1 | 0 | 0 | BAL | | | | | | | | | |
| MAX | 37 | 20 | 1 | 0.08 | 2 | 1.5 | 0.03 | 0.03 | BAL | | | | | | | | | |

| RA333® | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|----|-----|-----|--------------|------|----|------|-----|--|-----|-------|-------|------|----------|---------|--------|------|
| UNS N06333 | | | | | W.Nr. 2.4608 | | | | | | | | √ | | | | | √ |
| | Ni | Cr | Mo | W | Co | C | Mn | Si | Fe | | | | | | | | | |
| MIN | 44 | 24 | 2.5 | 2.5 | 2.5 | 0 | 0 | 0.75 | BAL | | | | | | | | | |
| MAX | 47 | 27 | 4 | 4 | 4 | 0.08 | 2 | 1.5 | BAL | | | | | | | | | |

| 602CA | | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|-----|----|-----|------|--------------|-----|------|----|-----|-----|------|-----|-------|-------|------|----------|---------|--------|------|
| UNS N06025 | | | | | W.Nr. 2.4633 | | | | | | | √ | √ | √ | | | | | √ |
| | Ni | Cr | Cu | C | Mn | Si | Y | Fe | Ti | Al | Zr | | | | | | | | |
| MIN | BAL | 24 | 0 | 0.15 | 0 | 0 | 0.05 | 8 | 0.1 | 1.8 | 0.01 | | | | | | | | |
| MAX | BAL | 26 | 0.1 | 0.25 | 0.15 | 0.5 | 0.12 | 11 | 0.2 | 2.4 | 0.1 | | | | | | | | |

| 600 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|----|-----|------|--------------|-----|-------|----|--|--|-----|-------|-------|------|----------|---------|--------|------|
| UNS N06600 | | | | | W.Nr. 2.4816 | | | | | | √ | √ | √ | √ | √ | | | √ |
| | Ni | Cr | Cu | C | Mn | Si | S | Fe | | | | | | | | | | |
| MIN | 72 | 14 | 0 | 0 | 0 | 0 | 0 | 6 | | | | | | | | | | |
| MAX | | 17 | 0.5 | 0.15 | 1 | 0.5 | 0.015 | 10 | | | | | | | | | | |

| 601 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|----|----|-----|--------------|-----|-------|-----|-----|--|-----|-------|-------|------|----------|---------|--------|------|
| UNS N06601 | | | | | W.Nr. 2.4851 | | | | | | √ | √ | √ | √ | | | | |
| | Ni | Cr | Cu | C | Mn | Si | S | Fe | Al | | | | | | | | | |
| MIN | 58 | 21 | 0 | 0 | 0 | 0 | 0 | BAL | 1 | | | | | | | | | |
| MAX | 63 | 25 | 1 | 0.1 | 1 | 0.5 | 0.015 | BAL | 1.7 | | | | | | | | | |

| 800H/HT | | | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|-------------------------|----|----|------|------|-------------------------------|----|-------|-------|------|------|------|--------|-----|-------|-------|------|----------|---------|--------|------|
| UNS N08810 - UNS N08811 | | | | | W.Nr. 1.4876, 1.4958 - 1.4959 | | | | | | | | √ | √ | √ | √ | √ | √ | | |
| | Ni | Cr | Cu | C | Mn | Si | P | S | Fe | Al | Ti | Al +Ti | | | | | | | | |
| MIN | 30 | 19 | 0 | 0.06 | 0 | 0 | 0 | 0 | 39.5 | 0.15 | 0.15 | 0.85 | | | | | | | | |
| MAX | 35 | 23 | 0.75 | 0.1 | 1.5 | 1 | 0.045 | 0.015 | | 0.6 | 0.6 | 1.2 | | | | | | | | |

| 36 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|-------------------------|----|-----|-----|-----|--------------|-----|------|-------|-------|-----|-----|-------|-------|------|----------|---------|--------|------|
| UNS K93600 - UNS K93603 | | | | | W.Nr. 1.3912 | | | | | | √ | √ | √ | | | | | √ |
| | Ni | Cr | Mo | Cu | C | Mn | Si | P | S | Fe | | | | | | | | |
| MIN | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | BAL | | | | | | | | |
| MAX | 37 | 0.5 | 0.5 | 0.5 | 0.1 | 0.6 | 0.35 | 0.025 | 0.025 | BAL | | | | | | | | |

Table of Alloys

NICKEL ALLOYS

| 400 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|----|-----|--------------|-----|-------|-----|--|--|--|-----|-------|-------|------|----------|---------|--------|------|
| UNS N04400 | | | | W.Nr. 2.4360 | | | | | | | √ | √ | √ | √ | √ | √ | | |
| | Ni | Cu | C | Mn | Si | S | Fe | | | | | | | | | | | |
| MIN | 63 | 28 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | | |
| MAX | 70 | 34 | 0.3 | 2 | 0.5 | 0.024 | 2.5 | | | | | | | | | | | |

| K500 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|----|------|--------------|-----|------|----|------|------|--|-----|-------|-------|------|----------|---------|--------|------|
| UNS N05500 | | | | W.Nr. 2.4375 | | | | | | | √ | | | | | | | |
| | Ni | Cu | C | Mn | Si | S | Fe | Ti | Al | | | | | | | | | |
| MIN | 63 | 27 | 0 | 0 | 0 | 0 | 0 | 0.35 | 2.3 | | | | | | | | | |
| MAX | 70 | 33 | 0.25 | 1.5 | 0.5 | 0.01 | 2 | 0.85 | 3.15 | | | | | | | | | |

| 625 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|----|----|--------------|-----|-----|-----|-------|-------|----|-----|-------|-------|------|----------|---------|--------|------|
| UNS N06625 | | | | W.Nr. 2.4856 | | | | | | | √ | √ | √ | √ | | | √ | √ |
| | Ni | Cr | Mo | Co | C | Mn | Si | P | S | Fe | Ti | Al | Nb+Ta | | | | | |
| MIN | 58 | 20 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.15 | | | | | |
| MAX | | 23 | 10 | 1 | 0.1 | 0.5 | 0.5 | 0.015 | 0.015 | 5 | 0.4 | 0.4 | 4.15 | | | | | |

| 625LCF (DDQ/HP) | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|-----------------|----|----|----|--------------|------|-----|------|-------|-------|----|-----|-------|-------|------|----------|---------|--------|------|
| UNS N06626 | | | | W.Nr. 2.4856 | | | | | | | | √ | | | | | | |
| | Ni | Cr | Mo | Co | C | Mn | Si | P | S | Fe | Ti | Al | Nb+Ta | N | | | | |
| MIN | 58 | 20 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.15 | 0 | | | | |
| MAX | | 23 | 10 | 1 | 0.03 | 0.5 | 0.15 | 0.015 | 0.015 | 5 | 0.4 | 0.4 | 4.15 | 0.02 | | | | |

| 718 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|-------|----|-----|--------------|----|------|------|------|-------|-------|-----|-------|-------|-------|----------|---------|--------|------|
| UNS N07718 | | | | W.Nr. 2.4668 | | | | | | | √ | √ | √ | | | | | √ |
| | Ni+Co | Cr | Mo | Cu | Co | C | Mn | Si | P | S | Fe | Ti | Al | Nb+Ta | | | | |
| MIN | 50 | 17 | 2.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | BAL | 0.65 | 0.2 | 4.75 | | | | |
| MAX | 55 | 21 | 3.3 | 0.3 | 1 | 0.08 | 0.35 | 0.35 | 0.015 | 0.015 | BAL | 1.15 | 0.8 | 5.5 | | | | |

| 718 API | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|----|-----|--------------|----|-------|------|------|------|------|-----|-------|-------|-------|----------|------------|----------|------------|
| UNS N07718 | | | | W.Nr. 2.4668 | | | | | | | √ | | | | | | √ | |
| | Ni | Cr | Mo | Cu | Co | C | Mn | Si | P | S | Fe | Ti | Al | Nb+Ta | B | Se | Pb | Mg |
| MIN | 50 | 17 | 2.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | BAL | 0.8 | 0.4 | 4.87 | 0 | 0 | 0 | 0 |
| MAX | 55 | 21 | 3.3 | 0.23 | 1 | 0.045 | 0.35 | 0.35 | 0.01 | 0.01 | BAL | 1.15 | 0.6 | 5.2 | 50ppm | 0.0005 ppm | 1000 ppm | 0.0006 ppm |

Table of Alloys

NICKEL ALLOYS

| 725 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|------|-----|------|------|-----|-------|------|-----|-----|------|-------|-------|------|----------|---------|--------|------|
| UNS N07725 | | | | | | | | | | | √ | | | | | | | |
| | Ni | Cr | Mo | C | Mn | Si | P | S | Fe | Ti | Al | Nb | | | | | | |
| MIN | 55 | 19 | 7 | 0 | 0 | 0 | 0 | 0 | BAL | 1 | 0 | 2.75 | | | | | | |
| MAX | 59 | 22.5 | 9.5 | 0.03 | 0.35 | 0.2 | 0.015 | 0.01 | BAL | 1.7 | 0.35 | 4 | | | | | | |

| 825 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|--------------|----|------|-----|-----|------|----|-----|------|------|-----|-----|-------|-------|------|----------|---------|--------|------|
| UNS N08825 | | | | | | | | | | | √ | √ | | | | | | |
| W.Nr. 2.4858 | | | | | | | | | | | | | | | | | | |
| | Ni | Cr | Mo | Cu | C | Mn | Si | P | S | Fe | Ti | Al | | | | | | |
| MIN | 38 | 19.5 | 2.5 | 1.5 | 0 | 0 | 0 | 0 | 0 | BAL | 0.6 | 0 | | | | | | |
| MAX | 46 | 23.5 | 3.5 | 3 | 0.05 | 1 | 0.5 | 0.02 | 0.01 | | 1.2 | 0.2 | | | | | | |

| 925 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|------|-----|-----|------|----|-----|------|-----|-----|-----|-------|-------|------|----------|---------|--------|------|
| UNS N09925 | | | | | | | | | | | √ | | | | | | | |
| | Ni | Cr | Mo | Cu | C | Mn | Si | S | Fe | Ti | Al | Nb | | | | | | |
| MIN | 42 | 19.5 | 2.5 | 1.5 | 0 | 0 | 0 | 0 | 22 | 1.9 | 0.1 | 0 | | | | | | |
| MAX | 46 | 22.5 | 3.5 | 3 | 0.03 | 1 | 0.5 | 0.03 | BAL | 2.4 | 0.5 | 0.5 | | | | | | |

| X750 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|--------------|----|----|-----|------|----|-----|------|----|------|------|-------|-------|-------|------|----------|---------|--------|------|
| UNS N07750 | | | | | | | | | | | √ | √ | | | | | | |
| W.Nr. 2.4669 | | | | | | | | | | | | | | | | | | |
| | Ni | Cr | Cu | C | Mn | Si | S | Fe | Ti | Al | Nb+Ta | Co | | | | | | |
| MIN | 70 | 14 | 0 | 0 | 0 | 0 | 0 | 5 | 2.25 | 0.40 | 0.70 | 0 | | | | | | |
| MAX | | 17 | 0.5 | 0.08 | 1 | 0.5 | 0.01 | 9 | 2.75 | 1.00 | 1.20 | 1.00 | | | | | | |

| 230 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|--------------|----|----|----|----|-----|----|------|-----|------|------|-------|-------|-------|------|----------|---------|--------|------|
| UNS N06230 | | | | | | | | | | | | √ | √ | | | | | √ |
| W.Nr. 2.4733 | | | | | | | | | | | | | | | | | | |
| | Ni | Cr | Mo | W | Cu | Co | C | Mn | Si | P | S | Fe | Ti | Al | La | B | | |
| MIN | 47 | 20 | 1 | 13 | 0 | 0 | 0.05 | 0.3 | 0.25 | 0 | 0 | 0 | 0 | 0.2 | 0.005 | 0 | | |
| MAX | 65 | 24 | 3 | 15 | 0.5 | 5 | 0.15 | 1 | 0.75 | 0.03 | 0.015 | 3 | 0.1 | 0.5 | 0.05 | 0.015 | | |

| 75 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|----------------------|-----|----|-----|------|----|----|----|-----|--|--|-----|-------|-------|------|----------|---------|--------|------|
| UNS N06075 | | | | | | | | | | | √ | √ | | | | | | |
| W.Nr. 2.4951, 2.4630 | | | | | | | | | | | | | | | | | | |
| | Ni | Cr | Cu | C | Mn | Si | Fe | Ti | | | | | | | | | | |
| MIN | BAL | 18 | 0 | 0.08 | 0 | 0 | 0 | 0.2 | | | | | | | | | | |
| MAX | BAL | 21 | 0.5 | 0.15 | 1 | 1 | 5 | 0.6 | | | | | | | | | | |

| 80A | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|----------------------|-----|----|-----|----|-----|----|----|-------|----|-----|-----|-------|-------|------|----------|---------|--------|------|
| UNS N07080 | | | | | | | | | | | √ | | | | | | | |
| W.Nr. 2.4952, 2.4631 | | | | | | | | | | | | | | | | | | |
| | Ni | Cr | Cu | Co | C | Mn | Si | S | Fe | Ti | Al | B | Zr | | | | | |
| MIN | BAL | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.8 | 1 | 0 | 0 | | | | | |
| MAX | BAL | 21 | 0.2 | 2 | 0.1 | 1 | 1 | 0.015 | 3 | 2.7 | 1.8 | 0.008 | 0.15 | | | | | |

Table of Alloys

NICKEL ALLOYS

| 86 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|-----|----|----|------|----|------|--|--|--|--|--|-----|-------|-------|------|----------|---------|--------|------|
| | | | | | | | | | | | √ | | | | | | | |
| | Ni | Mo | C | Cr | Ce | | | | | | | | | | | | | |
| MIN | 65 | 10 | 0 | 25 | 0 | | | | | | | | | | | | | |
| MAX | | | 0.05 | | 0.03 | | | | | | | | | | | | | |

| 90 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|-----|----|-----|----|----------------------|----|----|-------|-----|----|-----|-------|-------|-------|----------|---------|--------|------|
| UNS N07090 | | | | | W.Nr. 2.4632, 2.4969 | | | | | | √ | | | | | | | |
| | Ni | Cr | Cu | Co | C | Mn | Si | S | Fe | Ti | Al | Zr | B | Pb | | | | |
| MIN | BAL | 18 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | | | | |
| MAX | BAL | 21 | 0.2 | 21 | 0.12 | 1 | 1 | 0.015 | 1.5 | 3 | 2 | 0.15 | 0.02 | 0.002 | | | | |

| 105 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire | | | |
|-----|-----|------|-----|-----|------|----|-----|------|--|--|--------------|-------|-------|------|----------|---------|--------|------|--|--|--|
| | | | | | | | | | | | W.Nr. 2.4634 | | | | | | √ | | | | |
| | Ni | Cr | Mo | Cu | C | Mn | Si | S | | | | | | | | | | | | | |
| MIN | BAL | 14 | 4.5 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | |
| MAX | BAL | 15.7 | 5.5 | 0.2 | 0.17 | 1 | 0.1 | 0.01 | | | | | | | | | | | | | |

| 617 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|------|----|----|-----|--------------|------|----|----|-------|----|-----|-------|-------|------|----------|---------|--------|------|
| UNS N06617 | | | | | W.Nr. 2.4856 | | | | | | √ | √ | √ | | | | | |
| | Ni | Cr | Mo | Cu | Co | C | Mn | Si | S | Fe | Ti | Al | B | | | | | |
| MIN | 44.5 | 20 | 8 | 0 | 10 | 0.05 | 0 | 0 | 0 | 0 | 0 | 0.8 | 0 | | | | | |
| MAX | | 24 | 10 | 0.5 | 15 | 0.15 | 1 | 1 | 0.015 | 3 | 0.6 | 1.5 | 0.006 | | | | | |

| PE11 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------|----|----|------|-----|----|------|-----|-----|-------|-----|-----|-------|-------|-------|----------|---------|--------|------|
| | | | | | | | | | | | √ | | | | | | | |
| | Ni | Cr | Mo | Cu | Co | C | Mn | Si | S | Fe | Ti | Al | Zr | B | | | | |
| MIN | 37 | 17 | 4.75 | 0 | 0 | 0.03 | 0 | 0 | 0 | BAL | 2.2 | 0.7 | 0.02 | 0 | | | | |
| MAX | 41 | 19 | 5.75 | 0.5 | 1 | 0.08 | 0.2 | 0.5 | 0.015 | BAL | 2.5 | 1 | 0.05 | 0.001 | | | | |

| PE16 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------|-------|------|-----|-----|----|------|-----|-----|-------|-----|-----|-------|-------|-------|----------|---------|--------|------|
| | | | | | | | | | | | √ | | | | | | | |
| | Ni+Co | Cr | Mo | Cu | Co | C | Mn | Si | S | Fe | Ti | Al | Zr | B | | | | |
| MIN | 42 | 15.5 | 2.8 | 0 | 0 | 0.04 | 0 | 0 | 0 | BAL | 1.1 | 1.1 | 0.02 | 0 | | | | |
| MAX | 45 | 17.5 | 3.8 | 0.5 | 2 | 0.08 | 0.2 | 0.5 | 0.015 | BAL | 1.3 | 1.3 | 0.04 | 0.005 | | | | |

| PK33 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------|-----|----|----|-----|----|------|-----|-----|-------|----|-----|-------|-------|------|----------|---------|--------|------|
| | | | | | | | | | | | √ | √ | | | | | | |
| | Ni | Cr | Mo | Cu | Co | C | Mn | Si | S | Fe | Ti | Al | Zr | | | | | |
| MIN | BAL | 16 | 5 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 1.5 | 1.7 | 0 | | | | | |
| MAX | BAL | 20 | 9 | 0.2 | 16 | 0.07 | 0.5 | 0.5 | 0.015 | 1 | 3 | 2.5 | 0.06 | | | | | |

Table of Alloys

NICKEL ALLOYS

| X | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire | |
|------------|-----|------|----|--------------|-----|-----|------|----|----|------|------|-------|-------|------|----------|---------|--------|------|---|
| UNS N06002 | | | | W.Nr. 2.4665 | | | | | | | √ | √ | √ | | | | | | √ |
| | Ni | Cr | Mo | W | Cu | Co | C | Mn | Si | P | S | Fe | Ti | Al | B | | | | |
| MIN | BAL | 20.5 | 8 | 0.2 | 0 | 0.5 | 0.05 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | | | | |
| MAX | BAL | 23 | 10 | 1 | 0.5 | 2.5 | 0.15 | 1 | 1 | 0.04 | 0.03 | 20 | 0.15 | 0.5 | 0.01 | | | | |

| C263 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire | |
|------------|-----|----|-----|--------------|----|------|-----|-----|-------|-------|-----|-------|-------|-------|----------|---------|--------|-------|--|
| UNS N07263 | | | | W.Nr. 2.4650 | | | | | | | √ | √ | | | | | | | |
| | Ni | Cr | Mo | Cu | Co | C | Mn | Si | P | S | Fe | Ti | Al | Al+Ti | B | Bi | Ag | Pb | |
| MIN | BAL | 19 | 5.6 | 0 | 19 | 0.01 | 0 | 0 | 0 | 0 | 0 | 1.9 | 0.3 | 2.4 | 0 | 0 | 0 | 0 | |
| MAX | BAL | 21 | 6.1 | 0.2 | 21 | 0.08 | 0.6 | 0.4 | 0.015 | 0.007 | 0.7 | 2.4 | 0.6 | 2.8 | 0.005 | 0.0001 | 0.0005 | 0.002 | |

| Waspaloy | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire | |
|------------|-----|----|-----|--------------|----|------|-----|------|-------|-------|-----|-------|-------|-------|----------|---------|--------|------|---|
| UNS N07001 | | | | W.Nr. 2.4654 | | | | | | | √ | √ | | | | | | | √ |
| | Ni | Cr | Mo | Cu | Co | C | Mn | Si | P | S | Fe | Ti | Al | B | | | | | |
| MIN | BAL | 18 | 3.5 | 0 | 12 | 0.02 | 0 | 0 | 0 | 0 | 0 | 2.75 | 1.2 | 0.003 | | | | | |
| MAX | BAL | 21 | 5 | 0.1 | 15 | 0.1 | 0.1 | 0.15 | 0.015 | 0.015 | 2 | 3.25 | 1.6 | 0.01 | | | | | |

| Rene 41 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire | |
|------------|-----|----|------|--------------|------|----|-----|-----|-------|-----|------|-------|-------|------|----------|---------|--------|------|---|
| UNS N07041 | | | | W.Nr. 2.4973 | | | | | | | √ | √ | | | | | | | √ |
| | Ni | Cr | Mo | Co | C | Fe | Ti | Al | B | Mn | Si | S | Cu | | | | | | |
| MIN | BAL | 18 | 9 | 10 | 0 | 0 | 3 | 1.4 | 0.003 | 0 | 0 | 0 | 0 | | | | | | |
| MAX | BAL | 20 | 10.5 | 12 | 0.12 | 5 | 3.3 | 1.8 | 0.01 | 0.1 | 0.50 | 0.015 | 0.50 | | | | | | |

COBALT ALLOYS

| L605/25 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire | |
|------------|----|----|----|--------------|------|----|-----|------|------|----|-----|-------|-------|------|----------|---------|--------|------|---|
| UNS R30605 | | | | W.Nr. 2.4964 | | | | | | | | √ | | | | | | | √ |
| | Ni | Cr | W | Co | C | Mn | Si | P | S | Fe | | | | | | | | | |
| MIN | 9 | 19 | 14 | BAL | 0.05 | 1 | 0 | 0 | 0 | 0 | | | | | | | | | |
| MAX | 11 | 21 | 16 | BAL | 0.15 | 2 | 0.4 | 0.04 | 0.03 | 3 | | | | | | | | | |

| MP35N | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire | |
|------------|----|-----|----|------|----|----|------|------|------|------|------|-------|-------|------|----------|---------|--------|------|--|
| UNS R30035 | | | | | | | | | | | √ | | | | | | | | |
| | Ni | Co | Cr | Mo | Ti | Fe | Si | Mn | p | B | S | C | | | | | | | |
| MIN | 33 | BAL | 19 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| MAX | 37 | BAL | 21 | 10.5 | 1 | 1 | 0.15 | 0.15 | 0.15 | 0.15 | 0.10 | 0.03 | | | | | | | |

| 188 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire | |
|------------|----|----|-----|--------------|------|----|------|------|-------|-----|------|-------|-------|------|----------|---------|--------|------|---|
| UNS R30188 | | | | W.Nr. 2.4683 | | | | | | | √ | √ | | | | | | | √ |
| | Ni | W | Co | C | Mn | Fe | Cr | La | B | Si | P | S | | | | | | | |
| MIN | 20 | 13 | BAL | 0.05 | 0 | 0 | 20.0 | 0.02 | 0 | 0.2 | 0 | 0 | | | | | | | |
| MAX | 24 | 16 | BAL | 0.15 | 1.25 | 3 | 24.0 | 0.12 | 0.015 | 0.5 | 0.02 | 0.015 | | | | | | | |

Table of Alloys

STAINLESS ALLOYS

| 17-4PH | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire | |
|------------|----|------|------|-------------------|------|-----|----|------|------|-----|-------|-------|-------|------|----------|---------|--------|------|---|
| UNS S17400 | | | | W.Nr. 1.4542-4548 | | | | | | | √ | √ | √ | | | | | | √ |
| | Ni | Cr | Mo | Cu | C | Mn | Si | P | S | Fe | Nb+Ta | | | | | | | | |
| MIN | 3 | 15 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | BAL | 5 x C | | | | | | | | |
| MAX | 5 | 17.5 | 0.50 | 5 | 0.07 | 1.0 | 1 | 0.04 | 0.03 | BAL | 0.45 | | | | | | | | |

| 310S | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire | |
|------------------------|----|----|------|--------------|------|----|------|-------|------|-----|-----|-------|-------|------|----------|---------|--------|------|--|
| UNS S31008 -UNS S31009 | | | | W.Nr. 1.4845 | | | | | | | √ | √ | √ | √ | | | | | |
| | Ni | Cr | Mo | Cu | C | Mn | Si | P | S | Fe | | | | | | | | | |
| MIN | 19 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | BAL | | | | | | | | | |
| MAX | 22 | 26 | 0.75 | 0.5 | 0.08 | 2 | 0.75 | 0.045 | 0.03 | BAL | | | | | | | | | |

| 321 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|----|------|--------------|------|-----|----|------|------|------|-----|-----------|-------|------|----------|---------|--------|------|
| UNS S32100 | | | | W.Nr. 1.4541 | | | | | | | √ | √ | √ | √ | √ | √ | | |
| | Ni | Cr | Mo | Cu | C | N | Mn | Si | P | S | Fe | Ti | | | | | | |
| MIN | 9 | 17 | 0 | 0 | 0 | 0 | 0 | 0.25 | 0 | 0 | BAL | 5 x (C+N) | | | | | | |
| MAX | 12 | 19 | 0.75 | 0.75 | 0.08 | 0.1 | 2 | 1 | 0.04 | 0.03 | BAL | 0.7 | | | | | | |

| 253MA | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|----|----|------|--------------|-----|-----|------|------|-----|------|-----|-------|-------|------|----------|---------|--------|------|
| UNS S30815 | | | | W.Nr. 1.4835 | | | | | | | √ | √ | √ | √ | √ | √ | √ | √ |
| | Ni | Cr | C | N | Mn | Si | P | S | Fe | Ce | | | | | | | | |
| MIN | 10 | 20 | 0.05 | 0.14 | 0 | 1.4 | 0 | 0 | BAL | 0.03 | | | | | | | | |
| MAX | 12 | 22 | 0.1 | 0.2 | 0.8 | 2 | 0.04 | 0.03 | BAL | 0.08 | | | | | | | | |

| Maraging 250 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|--------------|----|-----|-----|--------------|------|-----|------|------|----|-----|------|-------|-------|------|----------|---------|--------|------|
| UNS K92890 | | | | W.Nr. 1.6359 | | | | | | | √ | | | | | | | |
| | Ni | Mo | Co | C | Mn | Si | P | S | Fe | Ti | Al | | | | | | | |
| MIN | 17 | 4.6 | 7 | 0 | 0 | 0 | 0 | 0 | 68 | 0.3 | 0.05 | | | | | | | |
| MAX | 19 | 5.2 | 8.5 | 0.3 | 0.10 | 0.1 | 0.01 | 0.01 | | 0.5 | 0.15 | | | | | | | |

| Maraging 300 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|--------------|----|-----|-----|---------------------------|-----|------|-----|-----|------|------|-----|-------|-------|------|----------|---------|--------|------|
| UNS K93120 | | | | W.Nr. 1.6354 W.Nr. 1.6358 | | | | | | | √ | | | | | | | |
| | Ni | Cr | Mo | Cu | Co | C | Mn | Si | P | S | Fe | Ti | Al | | | | | |
| MIN | 18 | 0 | 4.6 | 0 | 8.5 | 0 | 0 | 0 | 0 | 0 | BAL | 0.5 | 0.05 | | | | | |
| MAX | 19 | 0.5 | 5.2 | 0.5 | 9.5 | 0.03 | 0.1 | 0.1 | 0.01 | 0.01 | BAL | 0.8 | 0.15 | | | | | |

| Maraging 350 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|--------------|----|-----|-----|--------------|------|------|-----|-----|------|------|-----|-------|-------|------|----------|---------|--------|------|
| UNS K93160 | | | | W.Nr. 1.6356 | | | | | | | √ | | | | | | | |
| | Ni | Cr | Mo | Cu | Co | C | Mn | Si | P | S | Ti | Al | | | | | | |
| MIN | 18 | 0 | 4.6 | 0 | 11.5 | 0 | 0 | 0 | 0 | 0 | 1.3 | 0.05 | | | | | | |
| MAX | 19 | 0.5 | 5.2 | 0.5 | 12.5 | 0.03 | 0.1 | 0.1 | 0.01 | 0.01 | 1.6 | 0.15 | | | | | | |

Table of Alloys

ALLOY STEELS

| S99G Steel | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|-----|-----|------|------|------|------|-------|------|-------|-----|-----|-------|-------|------|----------|---------|--------|------|
| | | | | | | | | | | | √ | | | | | | | |
| | Ni | Cr | Mo | C | Mn | Si | P | S | Al | Fe | | | | | | | | |
| MIN | 2.3 | 0.5 | 0.45 | 0.36 | 0.45 | 0.1 | 0 | 0 | 0.015 | BAL | | | | | | | | |
| MAX | 2.8 | 0.8 | 0.65 | 0.44 | 0.7 | 0.35 | 0.025 | 0.02 | 0.05 | BAL | | | | | | | | |

TITANIUM ALLOYS

| Ti Grade 2 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|------|------|------|---------------------|-----|-----|--|--|--|--|-----|-------|-------|------|----------|---------|--------|------|
| UNS R50400 | | | | W.Nr. 3.7034,3.7035 | | | | | | | √ | √ | √ | √ | √ | √ | | |
| | C | N | O | H | Fe | Ti | | | | | | | | | | | | |
| MIN | 0 | 0 | 0 | 0 | 0 | BAL | | | | | | | | | | | | |
| MAX | 0.08 | 0.03 | 0.25 | 0.015 | 0.3 | BAL | | | | | | | | | | | | |

| Ti Grade 4 | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|------|------|------|--------------|-----|-----|--|--|--|--|-----|-------|-------|------|----------|---------|--------|------|
| UNS R50700 | | | | W.Nr. 3.7065 | | | | | | | √ | | | | | | | √ |
| | C | N | O | H | Fe | Ti | | | | | | | | | | | | |
| MIN | 0 | 0 | 0 | 0 | 0 | BAL | | | | | | | | | | | | |
| MAX | 0.08 | 0.05 | 0.40 | 0.015 | 0.5 | BAL | | | | | | | | | | | | |

| Ti Grade 5 | | | | Ti 6AL-4V | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire | |
|------------|------|------|-----|-------------------|-----|-----|------|-----|--|--|-----|-------|-------|------|----------|---------|--------|------|---|
| UNS R56400 | | | | W.Nr. 3.7164-7165 | | | | | | | √ | √ | √ | | | | | | √ |
| | C | N | O | H | Fe | Ti | Al | V | | | | | | | | | | | |
| MIN | 0 | 0 | 0 | 0 | 0 | BAL | 5.5 | 3.5 | | | | | | | | | | | |
| MAX | 0.08 | 0.05 | 0.2 | 0.125 | 0.4 | BAL | 6.75 | 4.5 | | | | | | | | | | | |

| Ti 6-2-4-2 | | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|-----|------|------|--------------|-------|------|-------|------|-----|-----|-----|-----|-------|-------|------|----------|---------|--------|------|
| UNS R56421 | | | | W.Nr. 3.7164 | | | | | | | | √ | | | | | | | |
| | Mo | C | N | Si | Y | O | H | Fe | Ti | Al | Sn | Zr | | | | | | | |
| MIN | 1.8 | 0 | 0 | 0.06 | 0 | 0 | 0 | 0 | BAL | 5.5 | 1.8 | 3.6 | | | | | | | |
| MAX | 2.2 | 0.05 | 0.05 | 0.1 | 0.005 | 0.12 | 0.015 | 0.25 | BAL | 6.5 | 2.2 | 4.4 | | | | | | | |

| Ti 6-2-4-6 | | | | | | | | | | | | Bar | Sheet | Plate | Pipe | Fittings | Flanges | Billet | Wire |
|------------|-----|------|------|--------------|--------|------|-----|-----|------|-----|--|-----|-------|-------|------|----------|---------|--------|------|
| UNS R56260 | | | | W.Nr. 3.7164 | | | | | | | | √ | | | | | | | |
| | Mo | C | N | O | H | Fe | Ti | Al | Sn | Zr | | | | | | | | | |
| MIN | 5.5 | 0 | 0 | 0 | 0 | 0 | BAL | 5.5 | 1.75 | 3.5 | | | | | | | | | |
| MAX | 6.5 | 0.04 | 0.04 | 0.15 | 0.0125 | 0.15 | BAL | 6.5 | 2.25 | 4.5 | | | | | | | | | |