



## AEROSPACE AND HIGH PERFORMANCE ALLOYS DATABASE (AHAD)

### GRADE UNS

#### STAINLESS STEELS

<b><u>Austenitic</u></b>	
19-9DL .....	J92843/K63198/K63199
203Ez .....	S20300
21-6-9 .....	S21904
<b>22Cr-13Ni-5Mn, NITRONIC® 50</b> .....	<b>S20910</b>
<b>254 SMO</b> .....	<b>S31254</b>
<b>654 SMO</b> .....	<b>S32654</b>
CF8C-Plus .....	J92604
<b>Datalloy 2®, 15-15 HS &amp; LC, SCF 260</b> .....	<b>None</b>
Nitronic® 60 .....	S20162/S21800
Type 201 .....	S20100
Types 301 & 302 .....	S30100/S30200
Types 303/303 Se .....	S30300/S30323
Types 304/304L .....	S30400/S30403
Type 305 .....	S30500
Types 310/310S .....	S31000/S31008
Type 314 .....	S31400
Types 316 & 317 .....	S31600/S31603 & S31700/S31703
Type 321 .....	S32100
Types 347 & 348 .....	S34700/S34800
<b><u>Martensitic</u></b>	
410Cb .....	S41040
<b>9Cr-1Mo</b> .....	<b>S50400</b>
<b>F6NM, 1.4313</b> .....	<b>S41500</b>
Ferrium S53 .....	S10500
Greek Ascology .....	S41800
Types 403, 410 & 416 .....	S40300/S41000/S41600
Type 420 .....	S42000
Type 422 .....	S42200
Type 431 .....	S43100
Type 440 A/B/C & F .....	S44002(A)/S44004(C)
<b><u>Precipitation Hardening</u></b>	
15-5 PH® .....	J92110/S15500
17-4 PH .....	S17400
17-7 PH .....	S17700
AFC77 .....	S65770
AM 350® .....	S35000
AM 355 .....	S35500
AM 362 .....	None
AM 363 .....	S36300
Custom 455® .....	S45500
<b>Custom 465®</b> .....	<b>S46500</b>
HNM .....	None
PH13-8MO .....	S13800
PH14-8MO .....	S14800
PH15-7MO .....	S15700
Stainless W .....	None
<b><u>Duplex</u></b>	
<b>Lean duplex family 2202, 2003, 2304, 2102</b> .....	<b>S32202/S32003/S32304/S82011</b>
<b>2205</b> .....	<b>S31803/S32205</b>

### GRADE UNS

#### STAINLESS STEELS (continued)

<b><u>Duplex (continued)</u></b>	
<b>2507, Zeron 100</b> .....	<b>S32750/S32760</b>
<b>FERRALLIUM® 255</b> .....	<b>S32550</b>
<b><u>Ferritic</u></b>	
<b>AL 29-4C</b> .....	<b>S44735</b>
<b>430</b> .....	<b>S43000</b>
INCOLOY® MA 956 .....	S67956

#### ALUMINUM ALLOYS

<b><u>Cast</u></b>	
355/C355/A355 .....	A03550/A33550/A13550
356/A356 .....	A03560/A13560
<b>380</b> .....	<b>A13380</b>
<b>390</b> .....	<b>A13390</b>
A201 .....	A02010
A357 .....	A13570
<b><u>Wrought/Heat Treatable</u></b>	
2014 & Clad 2014 .....	A92014
2024 Clad .....	A92024
2024 .....	A92024
2048 .....	A92048
2050 .....	A92050
2090 .....	A92090
2098 .....	A92098
2099 .....	A92099
2124 .....	A92124
2195 .....	A92195
2219 & Clad 2219 .....	A92219
2297 .....	None
2519 .....	A92519
2618 .....	A92618
2624/2026 .....	A92624/A92026
6013 .....	A96013
6061 .....	A96061
6069 .....	A96069
6082 .....	A96082
<b>7029/7129</b> .....	<b>A97129</b>
7049 .....	A97049
7050 .....	A97050
7055 .....	A97055
7075 & Clad 7075 .....	A97075
7085 .....	None
7150 .....	A97150
7175 .....	A97175
7475 .....	A97475
8090 .....	A98090
Al2198 .....	A92198
X7005 .....	A97005
<b><u>Wrought/Non-Heat Treatable</u></b>	
5052 .....	A95052
5059 .....	A95059
5083 .....	A95083
5456 .....	A95456
905XL .....	None
X5090 .....	None

### GRADE UNS

#### LOW ALLOY STEELS

T-1 .....	None
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#### HIGH STRENGTH STEELS

17-22A(S)/17-22A(V) .....	K23015
18Ni Maraging (200 Grade) .....	K92810
18Ni Maraging (250 Grade) .....	K92890/K92940
18Ni Maraging (300 Grade) .....	K93120/K93160
300-M .....	K44220/K44540
4130 .....	G41300
4140 .....	G41400/J14046
4330V .....	J23260/K23080
4335V Mod .....	K33517
4340 .....	G43400
52100 .....	G52986
8630 .....	G86300/J13042/J13050
9Ni Steel .....	K81340
9Ni-4Co .....	K91283
AerMet 100 .....	K92580
AF 1410 .....	K92571
D6A/D6AC .....	K24728/K24729
E9310 .....	G93106
Ferrium C61 .....	K93061
Ferrium C64 .....	K92731
Ferrium M54 .....	K91973
H-11 Mod .....	T20811
H-13 .....	T20813
Hy-130/5Ni-Cr-Mo-V .....	K51255
Hy-Tuf .....	K32550
M50/M50 NiL Steels .....	K88165/T11350
Maraging T-250 .....	K92150
Nitralloy 135 Mod .....	K24065

#### COBALT ALLOYS

HAYNES® 188 .....	R30188
INCONEL® 783 .....	R30783
L-605, HAYNES® 25 .....	R30605
Mar-M-509 .....	None
STELLITE® 21 .....	R30021
STELLITE® 6 .....	R30006
VM-103 .....	None
WI-52 .....	None
X40/X45 (STELLITE® 31) .....	R30031

#### TUNGSTEN ALLOYS

Commercially Pure .....	None
W-HfC & W-4Re-HfC .....	None

#### ADDITIVE MANUFACTURING

AlSi10Mg .....	A13600/A13601/A13602
Titanium 6Al-4V .....	R3400/R56400/R56401
INCONEL® 718 .....	N07718

**BOLD = High Performance Alloys Database  
only alloys**



# AEROSPACE AND HIGH PERFORMANCE ALLOYS DATABASE (AHAD)

## GRADE UNS

### NICKEL BASED ALLOYS <5% CO

625 Plus®	N07716
D979	N09979
HASTELLOY® B-3®	N10675
HASTELLOY® C-22HS®	N07022
HASTELLOY® C-276	N10276
HASTELLOY® C-2000®	N06200
HASTELLOY® X	N06002
HAYNES® G-35®	N06035
HAYNES® 230®	N06230
HAYNES® 242®	None
INCOLOY® 601	N06601
INCOLOY® 825	N08825
INCOLOY® 901	N09901
INCOLOY® 925	N09925
INCONEL® 600	N06600
INCONEL® 625	N06625
INCONEL® 690	N06690
INCONEL® 702	N07702
INCONEL® 706	N09706
INCONEL® 713 LC	N07713
INCONEL® 713C	N07713
INCONEL® 718	N07718
INCONEL® 722™	N07722
INCONEL® MA 6000	None
INCONEL® MA 754	N07754
INCONEL® X-750	N07750
MONEL® K-500	N05500
NIMONIC® 80A	N07080
RA-333	N06333
TD Nickel	N03260
TD NiCr	None

### NICKEL CHROMIUM STEELS

16-15-6	None
20Cb-3®, INCOLOY® 20	N08020
20Mo-6® HS	N08036
904L	N08904
AL-6XN®	N08367/J94651
HAYNES® HR-120®	N08120
INCOLOY®	None
INCOLOY® 28	N08028
INCOLOY® 800	N08800
INCOLOY® 800H	N08810
INCOLOY® 801	N08801
INCOLOY® 802	N08802
INCOLOY® A-286	K66286/S66286
N-155	R30155
NASA-23	None
NASA-HR-1	None
RA330	N08330
RA-330HC	None
V-57	None

### COPPER ALLOYS

GRCop-84	None
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## GRADE UNS

### NICKEL BASED ALLOYS ≥5% CO

ATI 718Plus®	N07818
ATI M-252™	N07252
B-1900	None
CMSX-2/3	None
CMSX-4®	None
HAYNES® 263	N06231/N07263
HAYNES® 282®	N07208
HAYNES® HR-160®	N12160
IN® 100	N13100
IN-738	N07738
INCOLOY® 909	N19909
INCONEL® 617	N06617
Mar-M-246	None
Mar-M-247®	None
MP35N®	R30035
Nicrotung	None
NIMONIC® 105	None
NIMONIC® 115	None
NIMONIC® 90	N07090
René® 41	N07041
René® 80	None
René® 95	None
René® 104	None
UDIMET® 500	N07500
UDIMET® 700	None
UDIMET® 720	None
WASPALOY™	N07001

### MAGNESIUM ALLOYS

<u>Cast</u>	
AM100A	M10100
AZ63A	M11630
AZ91	M11910
AZ92A	M11920
EZ33A	M12330
HZ32A	M13320
QE22A	M18220/M18221
ZH62A	M16620
ZK51A	M16510/M16511
ZK61A	M16610/M16611

<u>Wrought/Heat Treatable</u>	
AZ80A	M11800
EK31XA	None
HK31A	M13310
HM21A	M13210
HM31A	M13312
LA91A	None
ZK60A	M16600

<u>Wrought/Non-Heat Treatable</u>	
AZ31A, C & D	M11311/M11312
AZ31B	M11311/M11312
AZ61A	M11610
ZE10A	M16100

## GRADE UNS

### BERYLLIUM ALLOYS

Beryllium	None
Lockalloy	None

### TITANIUM ALLOYS

#### Wrought

Commercially Pure	R50250/R50400/ R50550/R50700
10-2-3	R56410
15-3-3-3	None
17	R58650
1Al-8V-5Fe	None
21S	R58210
3Al-2.5V	R56320
38-6-44/Beta-C	R58640
48-2-2	None
5Al-2.5Sn	R54520/R54521
6-2-2-2-2	R56222
6-2-4-2	R54620
6-2-4-6	R56260
6-6-2	R56620
679	R54790
6Al-2Cb-1Ta-0.8Mo	R56210
6Al-4V	R53400/R56400/R56401
7Al-4Mo	R56740
8Al-1Mo-IV	R54810
8Mn	R56080
8Mo-8V-2Fe-3Al	None
B120 VCA	None
Beta III	R58030

#### Cast

6Al-4V/Cast	R56400/R56401
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### COLUMBIUM (NIOBIUM) ALLOYS

Commercially Pure	None
B-66	None
Cb-129 Y	None
Cb-132/132M	None
Cb-752	None
FS-85	None

### MOLYBDENUM ALLOYS

Commercially Pure	None
Mo-0.5Ti	None
TZM	R03630

### TANTALUM ALLOYS

Commercially Pure	R05200
Ta-111	None
Ta-222	None
Ta-10W	R05255

### ZIRCONIUM ALLOYS

700, 702, 704, 705, 706, 702C & 705C	R60702/R60705
Zircaloy-2	R60802