



# AEROSPACE STRUCTURAL METALS DATABASE (ASMD)

# CINDAS LLC

## GRADE UNS

### ALUMINUM ALLOYS

#### Cast

355/C355 .....	A33550
A201 .....	A02010
A356/356 .....	A03560/A13560
A357 .....	A13570

#### Wrought/Heat Treatable

2014 & Clad 2014 .....	A92014
2024 .....	A92024
2024 Clad .....	A92024
2048 .....	A92048
2090 .....	A92090
2098 .....	A92098
2124 .....	A92124
2195 .....	A92095
2219 & Clad 2219 .....	A92219
2297 .....	A92297
2519 .....	A92519
2618 .....	A92618
2624/2026 .....	A92624/A92026
6013 .....	A96013
6061 .....	A96061
6069 .....	A96069
6082 .....	A96082
7005 .....	A97005
7049 .....	A97049
7050 .....	A97050
7055 .....	A97055
7075 & Clad 7075 .....	A97075
7085 .....	A97085
7150 .....	A97150
7175 .....	A97175
7475 .....	A97475
8090 .....	A98090

#### Wrought/Non-Heat Treatable

5052 .....	A95052
5059 .....	A95059
5083 .....	A95083
5090 .....	None
5456 .....	A95456
905XL .....	None

## GRADE UNS

### STAINLESS STEELS

#### Austenitic

19-9DL .....	J92843/K63198/K63199
203EZ .....	S20300
21-6-9 .....	S21904
CF8C-Plus .....	J92604
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

#### Martensitic

410Cb .....	S41040
AM-363 .....	S36300
Ferrium S53 .....	S10500
Greek Ascoloy .....	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)

#### Precipitation Hardening

15-5 PH® .....	J92110/S15500
17-4 PH .....	S17400
17-7 PH .....	S17700
AFC77 .....	S65770
AM 362 .....	None
AM 350® .....	S35000
AM 355 .....	S35500
Custom 455® .....	S45500
HNM .....	None
PH13-8 MO .....	S13800
PH14-8 MO .....	S14800
PH15-7 MO .....	S15700
Stainless W .....	None

#### Ferritic

INCOLOY® MA 956 .....	S67956
430 .....	S43000

## GRADE UNS

### ULTRA 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 .....	K813403
9Ni-4Co .....	K91283
AerMet 100 .....	K92580
AF 1410 .....	K92571
D6A/D6AC .....	K24728/K24729
E9310 .....	G93106
H-11 Mod .....	T20811
H-13 .....	T20813
Hy-130/140/5Ni-Cr-Mo-V .....	K51255
Hy-Tuf .....	K32550
M50/M50 NiL Steels .....	K88165/T11350
Maraging T-250 .....	K92150
Nitralloy 135 Mod .....	K24065

### LOW ALLOY STEELS

T-1 .....	None
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### BERYLLIUM ALLOYS

Beryllium .....	None
Lockalloy .....	None

### COLUMBIUM (NIOBIUM) ALLOYS

Commercially Pure .....	None
B-66 .....	S31266
Cb-129 Y .....	None
Cb-132/132M .....	None
Cb-752 .....	None
FS-85 .....	None

**GRADE UNS****NICKEL BASED ALLOYS <5% CO**

D979	N09979
HASTELLOY® X	N06002
HAYNES® 230™	N06230
HAYNES® 242™	N10242
INCOLOY® 601	N06601
INCOLOY® 901	N09901
INCONEL® 600	N06600
INCONEL® 625	N06625
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
RA-333	N06333
TD Nickel	N03260
TD NiCr	None

**NICKEL BASED ALLOYS >5% CO**

ATI 718Plus®	N07818
ATI M-252™	N07252
B-1900	None
CMSX-4®	None
HAYNES® 263	N06231/N07263
HAYNES® 282	N07208
IN® 100	N13100
IN-738	None
INCOLOY® 909	N19909
INCONEL® 617	N06617
Mar-M-246	None
Mar-M-247®	None
Nicrotung	None
NIMONIC® 105	None
NIMONIC® 115	None
NIMONIC® 90	N07090
René® 41	N07041
René® 80	None
René® 95	None
UDIMET® 500	N07500
UDIMET® 700	N07700
UDIMET® 720	N07720
WASPALOY™	N07001

**GRADE UNS****NICKEL CHROMIUM STEELS**

16-15-6	None
INCOLOY®	None
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

**COBALT ALLOYS**

HAYNES® 188	R30188
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

**TITANIUM ALLOYS****Wrought**

Commercially Pure	R50250/R50400/ R50550/R50700
10-2-3	R56410
15-3	None
17	R58650
1Al-8V-5Fe	None
21S	R58210
3Al-2.5V	R56320
38-644	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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**GRADE UNS****MAGNESIUM ALLOYS****Cast**

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

**Wrought/Heat Treatable**

AZ80A	M11800
EK31XA	None
HK31A	M13310
HM21A	M13210
HM31A	M13312
LA91A	None
ZK60A	M16600

**Wrought/Non-Heat Treatable**

AZ31A, C & D	M11311/M11312
AZ31B	M11311/M11312
AZ61A	M11610
ZE10A	M16100

**MOLYBDENUM ALLOYS**

Commercially Pure	None
Mo-0.5Ti	None
TZM	R03630

**COPPER ALLOYS**

GRCop-84	None
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**TANTALUM ALLOYS**

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

**TUNGSTEN ALLOYS**

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

**ZIRCONIUM ALLOYS**

Zircaloy-2	R60802
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