



# AEROSPACE STRUCTURAL METALS DATABASE (ASMD)

# CINDAS LLC

## GRADE UNS

### ALUMINUM ALLOYS

#### Cast

355/C355/A355	A03550/A33550/A13550
A201	A02010
A356/356	A03560/A13560
A357	A13570

#### Wrought/Heat Treatable

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	A92297
2519	A92519
2618	A92618
2624/2026	A92624/A92026
6013	A96013
6061	A96061
6069	A96069
6082	A96082
7049	A97049
7050	A97050
7055	A97055
7075 & Clad 7075	A97075
7085	A97085
7150	A97150
7175	A97175
7475	A97475
8090	A98090
Al2198	Axxxxxx
X7005	A97005

#### Wrought/Non-Heat Treatable

5052	A95052
5059	A95059
5083	A95083
5456	A95456
905XL	None
X5090	None

### ADDITIVE MANUFACTURING

AlSi10Mg	A13600/A13601/A13602
Titanium 6Al-4V	R3400/R56400/R56401

## 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
9Cr-1Mo	S50400
Ferrium S53	S10500
Greek Ascology	S41800
Type 420	S42000
Type 422	S42200
Type 431	S43100
Type 440 A/B/C & F	S44002(A)/S44004(C)
Types 403, 410 & 416	S40300/S41000/S41600

#### Precipitation Hardening

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
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

### 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
Ferrium C61	K93061
Ferrium C64	K92731
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
Ferrium M54	None

### LOW ALLOY STEELS

T-1	None
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### BERYLLIUM ALLOYS

Beryllium	None
Lockalloy	None

### COLUMBIUM (NIOBIUM) ALLOYS

Commercially Pure	None
B-66	None
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-2/3 .....	None
CMSX-4® .....	None
HAYNES® 263 .....	N06231/N07263
HAYNES® 282® .....	N07208
IN® 100 .....	N13100
IN-738 .....	N07738
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
INCONEL® 783 .....	R30783

**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
38-644/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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**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, B, 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 .....	R05200
Ta-111 .....	None
Ta-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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