

The Induction air melting process used at Eagle Precision can accommodate most ferrous or nonferrous alloys.

## Eagle Precision Alloys Produced

### CARBON STEEL

#### ALLOY / SPECIFICATION

1010 / AISI 1010 IC 1010  
 1018 / AISI 1018 IC 1018  
 1020 / ASTM A732 IC 1020  
 1025 / ASTM A216 WCA/WCB/WCC  
 1025 / ASTM A216 LCA/LCB/LCC  
 1030 / ASTM A732 1030  
 1040 / ASTM A732 IC 1040  
 1045 / IC 1045  
 1050 / ASTM A732 IC 1050  
 1060 / ASTM A732 IC 1060

#### ANNEALED

50-55 Rb  
 65-80 Rb  
 80 Rb  
 80 Rb  
 80 Rb  
 75 Rb  
 85 Rb  
 100 Rb  
 100 Rb  
 100 Rb

#### HARDENED

N/A  
 N/A  
 N/A  
 20-50 Rc  
 20-50 Rc  
 20-50 Rc  
 22-52 Rc  
 25-57 Rc  
 30-60 Rc  
 33-60 Rc

#### CHARACTERISTICS

Electrical applications  
 Carburetizing steel for general applications  
 Inexpensive with wide range of applications  
 Valves, flanges, or other pressure containing parts  
 Valves, flanges, or other pressure containing parts. Higher impact resistance  
 Hardenable/Medium Strength  
 Hardenable/Medium Strength  
 Hardenable/Medium Strength  
 Hardenable/Medium Strength

### ALLOY STEEL

#### ALLOY / SPECIFICATION

4130 / ASTM A487 Gr 9  
 4140 / ASTM A732 IC 4140  
 4340 / ASTM A732 IC 4340  
 6150 / ASTM A732 IC 6150  
 8620 / ASTM A487 Gr 4  
 8630 / ASTM A732 IC 8630

#### ANNEALED

100 Rb  
 100 Rb  
 20 Rc  
 100 Rb  
 100 Rb  
 100 Rb

#### HARDENED

18-50 Rc  
 29-57 Rc  
 20-55 Rc  
 30-60 Rc  
 20-45 Rc  
 25-50 Rc

#### CHARACTERISTICS

Structural applications Good weldability  
 Good toughness and fatigue resistance  
 High strength with fatigue resistance  
 High abrasion and shock resistance  
 Carburetizing used for gears, crankshafts, etc  
 Often used for machine parts

### AUSTENITIC STAINLESS

#### ALLOY / SPECIFICATION

303 / ASTM A743 CF16Fa  
 304L / ASTM A351/A743 CF3  
 304 / ASTM A351/A743 CF8  
 316L / ASTM A351, A743 CF3M  
 316 / ASTM A351, A743 CF8M  
 347 / ASTM A351 CF8C  
 N60 / ASTM A351 CF10SMnN  
 CK3MCuN / ASTM A351 CK3MCuN  
 CN7M / ASTM A351 CN7M

#### ANNEALED

90 Rb  
 90 Rb  
 90 Rb  
 90 Rb  
 90 Rb  
 90 Rb  
 90 Rb  
 90 Rb  
 90 Rb  
 90 Rb

#### HARDENED

N/A  
 N/A  
 N/A  
 N/A  
 N/A  
 N/A  
 N/A  
 N/A  
 N/A  
 N/A

#### CHARACTERISTICS

Corrosion resistant Good machinability  
 Better corrosion resistance  
 Better corrosion resistance  
 Very good corrosion resistance  
 Very good corrosion resistance  
 Good corrosion resistance  
 Good corrosion resistance  
 Good corrosion resistance  
 Good corrosion resistance

### MARTENSITIC STAINLESS

#### ALLOY / SPECIFICATION

15-5 / ASTM A747 CB7Cu-2  
 17-4 / ASTM A747 CB7Cu-1  
 CA6NM / ASTM A352 CA6NM  
 410 / ASTM A743 CA15  
 420 / ASTM A743 CA40  
 440C / AMS 5352 IC 440C

#### ANNEALED

90 Rb  
 90 Rb  
 90 Rb  
 100 Rb  
 25 Rc  
 35 Rc

#### HARDENED

29-42 Rc  
 29-42 Rc  
 13-25 Rc  
 15-45 Rc  
 30-52 Rc  
 40-60 Rc

#### CHARACTERISTICS

High strength, Corrosion resistant and machinable  
 High strength, Corrosion resistant and machinable  
 Good corrosion resistance utilized for valves, flanges, or other pressure containing parts  
 Good hardness with corrosion resistance  
 Higher hardness with corrosion resistance  
 Good toughness, Higher hardness

### SUPER DUPLEX

#### ALLOY / SPECIFICATION

F255 / UNS S32550

#### ANNEALED

90 Rb

#### HARDENED

20-28 Rc

#### CHARACTERISTICS

Higher strength, corrosion resistance, and wear resistance

### NICKEL BASE

#### ALLOY / SPECIFICATION

Hastelloy C / ASTM A494 CW6M  
 Inconel 625 / ASTM A494 CW6MC  
 CW12MW / ASTM A494 CW12MW  
 Monel / ASTM A494 M35-1  
 Monel / ASTM A494 M30C

#### ANNEALED

90 Rb  
 90 Rb  
 90 Rb  
 90 Rb (as cast)  
 90 Rb (as cast)

#### HARDENED

N/A  
 N/A  
 N/A  
 N/A  
 N/A

#### CHARACTERISTICS

Heat and corrosion resistant  
 Heat and corrosion resistant  
 Heat and corrosion resistant  
 Highly corrosion resistant  
 Highly corrosion resistant

### TOOL STEEL

#### ALLOY / SPECIFICATION

A2 / ASTM A597 CA-2  
 A6 / ASTM A597 CA-2  
 D2 / ASTM A597 CD-2  
 H13 / ASTM A597 CH-13  
 S7 / ASTM A597 CS-7

#### ANNEALED

20 Rc  
 20 Rc  
 35 Rc  
 100 Rb  
 100 Rb

#### HARDENED

47-60 Rc  
 47-60 Rc  
 50-59 Rc  
 45-53 Rc  
 35-57 Rc

#### CHARACTERISTICS

Medium machinability, toughness and wear resistance  
 Medium machinability, toughness and wear resistance  
 Medium machinability, toughness and wear resistance  
 Very good wear resistance. Lower machinability and toughness  
 Medium machinability and wear resistance. Very good toughness  
 Medium machinability and wear resistance. Very good toughness

### ALUMINUM

#### ALLOY / SPECIFICATION

A356 AL / ASTM B26 A356

#### TENSILE

38-48 ksi

#### YIELD

28-36 ksi

#### CHARACTERISTICS

Good castability, weldability, and corrosion resistance

### BRONZES

#### ALLOY / SPECIFICATION

C95400 / ASTM B148 C95400 (Al-Bz)

#### TENSILE (ksi)

As-cast: 75 min  
 Heat treated: 90 min

#### YIELD (ksi)

As-cast: 30 min  
 Heat treated: 45 min

#### CHARACTERISTICS

Good corrosion resistance, heat treatable  
 Good corrosion resistance

C95500 / ASTM B148 C95500 (Ni-Al-Bz)

As-cast: 90 min  
 Heat treated: 110 min

As-cast: 40 min  
 Heat treated: 60 min

Good corrosion resistance, heat treatable  
 Good corrosion resistance

C87500 / ASTM B271 C87500 (Si-Bz)

As-cast: 60 min

As-cast: 24 min

Good corrosion resistance, fair castability

C86500 / ASTM B271 C86500 (Mn-Bz)

As-cast: 65 min

As-cast: 25 min

Good corrosion resistance, fair castability

The values listed are for informational purposes only.

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