

303: UNS S30300
 304/304L: UNS S30400/UNS S30403
 316/316L: UNS S31600/UNS S31603
 321/321H: UNS S32100
 347/347H: UNS S34700
 410: UNS S41000
 416: UNS S41600
 420: UNS S42000
 440C: UNS S44004
 630: UNS S17400 (17-4 PH Condition A)

BAR SPECIFICATIONS AND REQUIREMENTS BY GRADE

ALL MATERIAL MUST COMPLY WITH THE FOLLOWING SPECIFICATIONS AND REQUIREMENTS:

- ASTM, AMS and ASME to the latest edition and addendum
- Bars are expected to be certified to optional specifications when met
- Parameters allowed by applicable specifications, except as further modified by the more stringent or restrictive special requirements noted in this document.

303: UNS S30300

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| REQUIRED SPECIFICATIONS | ASTM A582, A484 AMS 5640R TYPE 1, EN10204 3.1 |
| OPTIONAL SPECIFICATIONS | ASTM A320/A320M Class 1B8F(>3/16" OD), ASTM A314 |

304/304L: UNS S30400/UNS S30403

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| REQUIRED SPECIFICATIONS | ASTM A276, A479, A182 (>1/2" OD), A262 Practice E (Practice A acceptable), A484, A193 B8 CL1(>3/16" OD), ASME SA479, SA182 (>1/2" OD), SA193 B8 CL1(>3/16" OD), SAE AMS-QQ-S-763B, AMS 5639, AMS 5647, NACE MR0175, NACE MR0103, EN 10204 3.1 |
| OPTIONAL SPECIFICATIONS | ASTM A320/A320M Class 1B8 (>3/16" OD), ASME SA320/SA320M Class 1B8 (>3/16" OD), ASTM A314 |

316/316L: UNS S31600/UNS S31603

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| REQUIRED SPECIFICATIONS | ASTM A276, A479, A182/SA182 (>1/2" OD), A262 Practice E, (Practice A acceptable) A484, ASME SA479, SA193/A193 B8M CL1 (>3/16" OD) SAE AMS-QQ-S-763B, AMS 5653, AMS 5648, NACE MR0175, NACE MR0103, EN 10204 3.1 |
| | ASTM A320/A320M Class 1B8M (>3/16" OD), ASME SA320/SA320M Class 1 B8M (>3/16" OD), |

OPTIONAL
SPECIFICATIONS

ASTM A314, AMS-S-7720 (Certify if met with Macroetch)

321/321H: UNS S32100

REQUIRED
SPECIFICATIONS

SAE AMS-QQ-S-763B, AMS 5645 Latest Revision, ASTM A193 GRADE B8T(>3/16" OD)
ASTM A276, A479, A484, ASTM A182 Supp S2 & S4 (>1/2" OD), ASTM A 479-99,
ASTM A262 Practice E, EN10204 3.1, NACE MR0175, NACE MR0103

OPTIONAL
SPECIFICATIONS

ASTM A320/A320M Class 1B8T (>3/16" OD),
ASME SA320/SA320M Class 1B8T (>3/16" OD),
ASTM A314

SOLUTION
ANNEALING
REQUIREMENT

2000 degree F min (1095C)

347/347H: UNS S34700

REQUIRED
SPECIFICATIONS

SAE AMS-QQ-S-763B, AMS 5646L, ASTM A193 GRADE B8C (>3/16" OD),
A276
A479, A484, ASTM A182 Supp S2 & S4 (>1/2" OD), ASTM A 479-99
ASTM A262 Practice E, EN 10204 3.1, NACE MR0175, NACE MR0103

OPTIONAL
SPECIFICATIONS

ASTM A320/A320M Class 1B8C (>3/16" OD),
ASME SA320/SA320M Class 1B8C (>3/16" OD),
ASTM A314

SOLUTION
ANNEALING
REQUIREMENT

2000 degree F min (1095C)

410: UNS S41000

REQUIRED
SPECIFICATIONS

ASTM A276, A479, A484, ASME SA479, AMS5613, AMS2303C
(MAG.PARTICLE TEST),
MACROETCH E340/E381, SAE AMS-QQ-S-763B, EN10204 3.1,
AMS 5612 (Required for orders to Chicago Warehouse only)

OPTIONAL
SPECIFICATIONS

ASTM A314

416: UNS S41600

REQUIRED
SPECIFICATIONS

ASTM A582, A484, MACROETCH E340/E381, AMS 5610L TYPE II,
EN10204 3.1

OPTIONAL
SPECIFICATIONS

ASTM A314

420: UNS S42000

REQUIRED SPECIFICATIONS ASTM A276, A484, MACROETCH E340/E381
AMS 5621, SAE AMS-QQ-S-763B, EN10204 3.1

OPTIONAL SPECIFICATIONS NONE

440C: UNS S44004

REQUIRED SPECIFICATIONS ASTM A276, A473, A484, A580, AMS 5630, AMS 5880, SAE AMS-QQ-S-763B,
MACROETCH E340/E381, EN10204 3.1

OPTIONAL SPECIFICATIONS JIS G4303 (SUS 440C)

630: UNS S17400 (17-4 PH Condition A)

REQUIRED SPECIFICATIONS ASTM A564 GR 630, A484, ASME SA564 GR630, MACROETCH
E340/E381
AMS 5643 COND A, AMS2303C (MAG.PARTICLE TEST), EN 10204 3.1

OPTIONAL SPECIFICATIONS NONE