

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 7010

May 2020

ICS 49.030.20

English Version

**Aerospace series - Configuration - Definition and
designation for product standards for externally threaded
fasteners**

Série aérospatiale - Configuration - Définition et
désignation des normes de produits d'éléments de
fixation à filetage extérieur

Luft- und Raumfahrt - Konfiguration - Definition und
Bezeichnung für Produktnormen von
Verbindungselementen mit Außengewinde

This European Standard was approved by CEN on 14 July 2019.

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European foreword

This document (EN 7010:2020) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2020, and conflicting national standards shall be withdrawn at the latest by November 2020.

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EN 7010:2020 (E)**1 Scope**

This document is the configuration master for the content and structure of externally threaded fastener product standards.

This document

- defines the content of externally threaded fastener product standards;
- is referenced in product standards;
- defines part numbering and title.

This configuration master defines externally threaded fasteners, metric and inch series.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2133, *Aerospace series — Cadmium plating of steels with specified tensile strength $\leq 1\,450$ MPa, copper, copper alloys and nickel alloys*

EN 2137, *Aerospace series — Steel FE-PL75 — $1\,100\text{ MPa} \leq R_m \leq 1\,250\text{ MPa}$ — Bars — $D_e \leq 100\text{ mm}$*

EN 2205, *Aerospace series — Steel FE-PL1502 (25CrMo4) — $900\text{ MPa} \leq R_m \leq 1\,100\text{ MPa}$ — Bars — $D_e \leq 40\text{ mm}$*

EN 2304, *Aerospace series — Heat resisting alloy FE-PA2601 (X6NiCrTiMoV26-15) — Solution treated and precipitation treated — Forgings — $D_e \leq 100\text{ mm}$ — $R_m \geq 960\text{ MPa}$ ¹*

EN 2398, *Aerospace series — Heat resisting steel FE-PA2601 (X6NiCrTiMoV26-15) — $R_m \geq 900\text{ MPa}$ — Bars for machined bolts — $D \leq 25\text{ mm}$*

EN 2399, *Aerospace series — Heat resisting steel FE-PA2601 (X4NiCrTiMoV26-15) — $R_m \geq 900\text{ MPa}$ — Bars for forged bolts — $D \leq 25\text{ mm}$*

EN 2438, *Aerospace series — Steel FE-PL2102 (35NiCr6) — $900\text{ MPa} \leq R_m \leq 1\,100\text{ MPa}$ — Bars — $D_e \leq 40\text{ mm}$*

EN 2439, *Aerospace series — Steel FE-PL2102 (35NiCr6) — $900\text{ MPa} \leq R_m \leq 1\,100\text{ MPa}$ — Forgings — $D_e \leq 40\text{ mm}$*

EN 2446, *Aerospace series — Steel FE-PL1503 (35CrMo4) — $1\,100\text{ MPa} \leq R_m \leq 1\,300\text{ MPa}$ — Bars — $D_e \leq 25\text{ mm}$*

¹ Published as ASD-STAN Prestandard at the date of publication of this standard by AeroSpace and Defence Industries Association of Europe – Standardization (ASD-STAN) (www.asd-stan.org).

EN 2448, *Aerospace series — Steel FE-PL1503 (35CrMo4) — 900 MPa ≤ R_m ≤ 1 100 MPa — Bars — D_e ≤ 40 mm*

EN 2475, *Aerospace series — Steel 30CrNiMo8 (1.6580) — Air melted hardened and tempered — Bar for machining — D_e ≤ 100 mm — 1 100 MPa ≤ R_m ≤ 1 300 MPa*

EN 2478, *Aerospace series — Steel FE-PL2107 (30NiCrMo16) — 1 220 MPa ≤ R_m ≤ 1 370 MPa — Bars — D_e ≤ 40 mm*

EN 2480, *Aerospace series — Steel FE-PL2108 (36NiCrMo16) — 1 250 MPa ≤ R_m ≤ 1 400 MPa — Bars — D_e ≤ 75 mm*

EN 2481, *Aerospace series — Steel FE-PL2108 (36NiCrMo16) — 1 250 MPa ≤ R_m ≤ 1 400 MPa — Forgings — D_e ≤ 75 mm*

EN 2482, *Aerospace series — Steel FE-PL2108 (36NiCrMo16) — 1 100 MPa ≤ R_m ≤ 1 300 MPa — Bars — D_e ≤ 100 mm*

EN 2483, *Aerospace series — Steel FE-PL2108 (36NiCrMo16) — 1 100 MPa ≤ R_m ≤ 1 300 MPa — Forgings — D_e ≤ 100 mm*

EN 2491, *Aerospace series — Molybdenum disulphide dry lubricants — Coating methods*

EN 2516, *Aerospace series — Passivation of corrosion resistant steels and decontamination of nickel base alloys*

EN 2786, *Aerospace series — Electrolytic silver plating of fasteners*

EN 2808, *Aerospace series — Anodizing of titanium and titanium alloys*

EN 2952, *Aerospace series — Heat resisting alloy NI-PH2601, Solution treated and cold worked — Bar for forged fasteners D ≤ 50 mm — 1 270 MPa ≤ R_m ≤ 1 550 MPa*

EN 2961, *Aerospace series — Heat resisting alloy NI-PH2601 — Solution treated — Bar for machined fasteners — D ≤ 50 mm — R_m ≥ 1 270 MPa¹*

EN 3219, *Aerospace series — Heat resisting nickel base alloy (Ni-P100 HT) — Cold worked and softened — Bar and wire for continuous forging or extrusion for fasteners — 3 mm ≤ D ≤ 30 mm*

EN 3330, *Aerospace series — Steel FE-PL1503 (35CrMo4) — Annealed — Bar and wire — D_e ≤ 40 mm — For prevailing torque nuts*

EN 3513, *Aerospace series — Steel FE-PL711 — Hardened and tempered — 900 ≤ R_m ≤ 1 100 MPa — Bar and wire — D_e ≤ 45 mm¹*

EN 3514, *Aerospace series — Steel FE-PL711 — Hardened and tempered — 1 100 ≤ R_m ≤ 1 300 MPa — Bar and wire for bolts — D_e ≤ 25 mm¹*

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EN 3639, Aerospace series — Heat resisting alloy FE-PA2601 — Softened and cold worked — Wire for forged fasteners — $D \leq 15 \text{ mm}$ — $900 \text{ MPa} \leq R_m \leq 1\,100 \text{ MPa}$ ¹

EN 3666, Aerospace series — Heat resisting alloy NI-PH2601 — Solution treated and cold worked — Bar for forged fasteners — $D \leq 50 \text{ mm}$ — $1\,550 \text{ MPa} \leq R_m \leq 1\,830 \text{ MPa}$

EN 3761, Aerospace series — Heat resisting alloy FE-PA2601 — Softened and cold worked — Bar for forged fasteners — $D \leq 50 \text{ mm}$ — $1\,100 \text{ MPa} \leq R_m \leq 1\,300 \text{ MPa}$

EN 3813, Aerospace series — Titanium alloy TI-P64001 (Ti-6Al-4V) — Annealed — Bar and wire for forged fasteners — $D_e \leq 50 \text{ mm}$

EN 3833, Aerospace series — Bolts, MJ threads, in heat resisting nickel base alloy NI-PH2601 (Inconel 718), passivated — Classification: $1\,550 \text{ MPa}$ (at ambient temperature) / 650 °C — Technical specification

EN 3911, Aerospace series — Six lobe recess — Geometrical definition

EN 4315, Aerospace series — Heat resisting alloy FE-PA2601 (X6NiCrTiMoV26-15) — Solution treated and precipitation treated, bar and section a or $D \leq 100 \text{ mm}$, $R_m \geq 900 \text{ MPa}$

EN 4317, Aerospace series — Heat resisting alloy FE-PA2601 (X6NiCrTiMoV26-15) — Non heat treated, forging stock a or $D \leq 200 \text{ mm}$

EN 4318, Aerospace series — Heat resisting alloy FE-PA2601 (X6NiCrTiMoV26-15) — Solution treated and precipitation treated, bar and section $D_e \leq 100 \text{ mm}$, $R_m \geq 960 \text{ MPa}$

EN 4376, Aerospace series — Heat resisting alloy NiCr19Fe19Nb5Mo3 (2.4668) solution treated and precipitation treated — Bar and section, $D_e \leq 200 \text{ mm}$

EN 4377, Aerospace series — Heat resisting alloy NiCr19Fe19Nb5Mo3 (2.4668) — Non heat treated — Forging stock — a or $D \leq 300 \text{ mm}$

EN 4473, Aerospace series — Aluminium pigmented coatings for fasteners — Technical specification

EN 4609, Aerospace series — Spiral drive recesses for threaded fasteners — Geometrical definition and technical requirements

EN 4826, Aerospace series — Zinc-Nickel (12 % to 16 % Ni) plating of steels with specified tensile strength $\leq 1\,450 \text{ MPa}$, copper alloys, nickel alloys and aluminium alloys for parts and fasteners

EN 4852, Aerospace series — External spiral drive heads for threaded fasteners — Geometrical definition and wrenching configuration

EN 6117, Aerospace series — Specification for lubrication of fasteners with cetyl alcohol¹

EN 6118, Aerospace series — Process specification — Aluminium base protection for fasteners¹

EN 7030, Aerospace series — Technical specification for externally threaded fasteners²

EN 9100, *Quality Management Systems — Requirements for Aviation, Space and Defence Organizations*

EN 9133, *Aerospace series — Quality Management Systems — Qualification Procedure for Aerospace Standard Products*

EN 10088-3, *Stainless steels — Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes*

ISO 68-1, *ISO general purpose screw threads — Basic profile — Part 1: Metric screw threads*

ISO 1891, *Fasteners — Terminology*

ISO 3161, *Aerospace — UNJ threads — General requirements and limit dimensions*

ISO 3353-1, *Aerospace — Lead and runout threads — Part 1: Rolled external threads*

ISO 4757, *Cross recesses for screws*

ISO 5855-1, *Aerospace — MJ threads — Part 1: General requirements*

ISO 5855-2, *Aerospace — MJ threads — Part 2: Limit dimensions for bolts and nuts*

ISO 7689, *Aerospace — Bolts, with MJ threads, made of alloy steel, strength class 1 100 MPa — Procurement specification*

ISO 7913, *Aerospace — Bolts and screws, metric — Tolerances of form and position*

ISO 8080, *Aerospace — Anodic treatment of titanium and titanium alloys — Sulfuric acid process*

ISO 10664, *Hexalobular internal driving feature for bolts and screws*

ISO 14276, *Aerospace — Drives, internal, offset cruciform — Metric series*

LN 9163-1, *Aerospace — ISO Metric Threads — Basic deviations and tolerances*

LN 9163-6, *Aerospace — ISO Metric Threads — Limits*

LN 65010-1, *Specification for screws and bolts of low alloyed steel with minimum tensile strength up to 90 kg/mm²*

LN 65010-2, *Specification for screws and bolts of low alloyed steel with minimum tensile strength up to 90 kg/mm² — Minimum tensile breaking loads, proof loads*

WL 1.4534-1, *Aerospace series — High-strength precipitation-hardening stainless chromium-nickel-molybdenum-aluminium steel with approx. 0,04 C - 13 Cr - 8 Ni - 2,2 Mo - 1 Al — Part 1: Bars and forgings*

WL 1.4944-3, *High temperature precipitation-hardening nickel-chromium-titanium steel with about 0.06 C - 25 Ni - 15 Cr - 2.1Ti - 1.2 Mo — Rods and wire for screws and nuts*

² In preparation at the date of publication of this standard.

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WL 1.6604-1, *Heat-treatable chromium-nickel-molybdenum steel with about 0,3 C - 2 Cr - 2 Ni - 0,4 Mo — Rods and forgings*

WL 1.7224-1, *Aerospace — Hardened and tempered chromium-molybdenum steel with approx. 0,35 C - 1 Cr - 2 Mo — Bars and wire for bolts and nuts to be cold or hot formed*

WL 1.7784-3, *Aerospace series — Ultrahigh-strength chromium-molybdenum-vanadium steel with approx. 0,4 C - 5 Cr - 1,3 Mo - 0,5 V — Part 3: Bar and wire for cold-or-hot-formed bolts and nuts*

WL 2.4668-2, *High temperature nickel alloy with about 0.05 C - 19 Cr - 18 Fe - 5 Nb - 3 Mo — Rods and forgings*

WL 3.7164-2, *Aerospace — Titanium alloy with approx. 6Al-4V; Bars and forgings*

AIR 9160, *Conditions générales de recette et d'emploi des aciers corroyés utilisés dans les constructions aéronautiques*

AIR 9165, *Conditions générales de recette et d'emploi des aciers et alliages corroyés résistant à chaud utilisés dans les constructions aéronautiques*

AIR 9167, *Conditions d'homologation et de contrôle des vis résistant à chaud*

AIR 9169, *Conditions d'homologation et de réception des vis en acier à très haute résistance (classe 1 550 MPa and 1 800 MPa)*

AIR 9173, *Spécifications techniques générales et conditions de contrôle des vis en acier (Classes 600, 900, 1 100 et 1 250 MPa)*

AIR 9183, *Conditions de recette des barres, profilés et pièces de forge en alliages de titane*

AS 8879, *Screw Threads — UNJ Profile, Inch Controlled Radius Root with Increased Minor Diameter*

ASME Y14.5, *Dimensioning and Tolerancing*

DTD 5638, *Heat Resisting Nickel Base Alloy Fe - 52.5Ni - 19Cr - 3Mo - 5(Nb+Ta) - 0.9Ti - 0.5Al Vacuum Melted Bar and Wire for Fasteners Maximum Diameter or Sectional Dimension 50 mm*

NAS1800, *Recess, Six lobe drive, Internal, Dimensions for recess and gages*

NFL 05-224, *Aircraft and aerospace — ISO M thread — Limiting profiles and ISO tolerances for bolts and nuts*

SAE AMS2700, *Passivation of Corrosion Resistant Steels*

SAE AMS4928, *Titanium Alloy Bars, Wire, Forgings, Rings, and Drawn Shapes 6Al - 4V Annealed*

SAE AMS4965, *Titanium Alloy, Bars, Wire, Forgings, and Rings 6.0Al - 4.0V Solution Heat Treated and Aged*

SAE AMS4967, *Titanium Alloy, Bars, Wire, Forgings, and Rings 6.0Al - 4.0V Annealed, Heat Treatable*

SAE AMS4971, *Titanium Alloy, Bars, Wire, Forgings, and Rings 6Al - 6V - 2Sn Annealed, Heat Treatable*

SAE AMS5622, *Steel, Corrosion-Resistant, Bars, Wire, Forgings, Tubing, and Rings 16Cr - 4.0Ni - 0.30Cb - 4.0Cu Solution Heat Treated, Precipitation Hardenable Consumable Electrode Remelted*

SAE AMS5629, *Steel, Corrosion-Resistant, Bars, Wire, Forgings, Rings, and Extrusions 13Cr - 8.0Ni - 2.2Mo - 1.1Al Vacuum Induction Plus Consumable Electrode Melted Solution Heat Treated, Precipitation Hardenable*

SAE AMS5636, *Steel, Corrosion-Resistant, Bars and Wire 18Cr - 9.0Ni (302) Solution Heat Treated and Cold Drawn 100 ksi (689 MPa) Tensile Strength*

SAE AMS5637, *Steel, Corrosion Resistant, Bars and Wire 18Cr - 9.0Ni (302) Solution Heat Treated, Cold Drawn and Stress Relieved, 125 ksi (862 MPa) Tensile Strength*

SAE AMS5639, *Steel, Corrosion-Resistant, Bars, Wire, Forgings, Mechanical Tubing, and Rings 19Cr - 10Ni Solution Heat Treated*

SAE AMS5643, *Steel, Corrosion-Resistant, Bars, Wire, Forgings, Mechanical Tubing, and Rings 16Cr - 4.0Ni - 0.30Cb (Nb) - 4.0Cu Solution Heat Treated, Precipitation Hardenable*

SAE AMS5645, *Steel, Corrosion and Heat Resistant, Bars, Wire, Forgings, Tubing, and Rings 18Cr - 10Ni - 0.40Ti (321) Solution Heat Treated*

SAE AMS5646, *Steel, Corrosion and Heat-Resistant, Bars, Wire, Forgings, Tubing, and Rings, 18Cr - 11Ni - 0.60Cb (Nb) (347) Solution Heat Treated*

SAE AMS5647, *Steel, Corrosion-Resistant, Bars, Wire, Forgings, Tubing, and Rings, 19Cr - 9.5Ni Solution Heat Treated*

SAE AMS5648, *Steel, Corrosion and Heat-Resistant, Bars, Wire, Forgings, Tubing, and Rings, 17Cr - 12Ni - 2.5Mo (316) Solution Heat Treated*

SAE AMS5659, *Steel, Corrosion-Resistant, Bars, Wire, Forgings, Rings, and Extrusions 15Cr - 4.5Ni - 0.30Cb (Nb) - 3.5Cu*

SAE AMS5662, *Nickel Alloy, Corrosion and Heat-Resistant, Bars, Forgings, and Rings 52.5Ni - 19Cr - 3.0Mo - 5.1Cb (Nb) - 0.90Ti - 0.50Al - 18Fe Consumable Electrode or Vacuum Induction Melted 1 775 °F (968 °C) Solution Heat Treated, Precipitation-Hardenable*

SAE AMS5663, *Nickel Alloy, Corrosion and Heat-Resistant, Bars, Forgings, and Rings 52.5Ni - 19Cr - 3.0Mo - 5.1Cb (Nb) - 0.90Ti - 0.50Al - 18Fe Consumable Electrode or Vacuum Induction Melted 1 775 °F (968 °C) Solution and Precipitation Heat Treated*

SAE AMS5683, *Alloy Welding Wire, Corrosion and Heat Resistant 75Ni - 15.5Cr - 8.0Fe*

SAE AMS5719, *Steel Bars, Wire, Forgings, Tubing, Rings, and Extrusions, Corrosion-Resistant 11.8Cr - 2.5Ni - 1.8Mo - 0.33V (0.08 - 0.15C) Annealed, Vacuum Arc or Electroslag Remelted*

SAE AMS5726, *Steel, Corrosion and Heat-Resistant, Bars and Wire 15Cr - 25.5Ni - 1.2Mo - 2.1Ti - 0.006B - 0.30V 1 800 °F (982 °C) Solution Heat Treated and Work-Strengthened Consumable Electrode Remelted 200 ksi (1 379 MPa) Tensile Strength Capability*

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SAE AMS5731, *Steel, Corrosion and Heat-Resistant, Bars, Wire, Forgings, Tubing, and Rings 15Cr - 25.5Ni - 1.2Mo - 2.1Ti - 0.006B - 0.30V Consumable Electrode Melted, 1 800 °F (982 °C) Solution Heat Treated*

SAE AMS5732, *Steel, Corrosion and Heat-Resistant, Bars, Wire, Forgings, Tubing, and Rings 15Cr - 25.5Ni - 1.2Mo - 2.1Ti - 0.006B - 0.30V Consumable Electrode Melted 1 800 °F (982 °C) Solution and Precipitation Heat Treated*

SAE AMS5734, *Steel, Corrosion and Heat-Resistant, Bars, Wire, Forgings, and Tubing 15Cr - 25.5Ni - 1.2Mo - 2.1Ti - 0.006B - 0.30V Consumable Electrode Melted, 1 650 °F (899 °C) Solution Heat Treated*

SAE AMS5737, *Steel, Corrosion and Heat-Resistant, Bars, Wire, Forgings, and Tubing 15Cr - 25.5Ni - 1.2Mo - 2.1Ti - 0.006B - 0.30V Consumable Electrode Melted 1 650 °F (899 °C) Solution and Precipitation Heat Treated*

SAE AMS5842, *Cobalt-Nickel Alloy, Corrosion and Heat-Resistant, Bars 19Cr - 36Co - 25Ni - 7.0Mo - 0.50Cb (Nb) - 2.9Ti - 0.20Al - 9.0Fe Vacuum Induction Plus Vacuum Consumable Electrode Melted Solution Heat Treated and Work Strengthened*

SAE AMS5844, *Alloy, Corrosion-Resistant, Round Bars 20Cr - 35Ni - 35Co - 10Mo Vacuum Induction Plus Consumable Electrode Vacuum Remelted Solution Heat Treated and Work Strengthened*

SAE AMS5845, *Alloy, Corrosion-Resistant, Round Bars 20Cr - 35Ni - 35Co - 10Mo Vacuum Induction Plus Consumable Electrode Vacuum Remelted Solution Heat Treated, Work Strengthened, and Aged*

SAE AMS 5853, *Steel, Corrosion and Heat-Resistant, Bars and Wire 15Cr - 25.5Ni - 1.2Mo - 2.1Ti - 0.006B - 0.30V Consumable Electrode Melted 1 800 °F (982 °C) Solution Treated and Work-Strengthened 160 ksi (1 103 MPa) Tensile Strength*

SAE AMS 5928, *Steel, Corrosion-Resistant, Bars, Wire, and Forgings 12Cr - 9Ni - 2Mo - 0.7Al - 0.3Ti Vacuum Induction Plus Vacuum Consumable Electrode Melted Solution Heat Treated, Precipitation Hardenable*

SAE AMS 5937, *Steel, Corrosion-Resistant, Bars, Wire, and Forgings 12Cr - 11Ni - 2Mo - 1.5Al 0.3Ti Vacuum Induction Plus Vacuum Consumable Electrode Melted Solution Heat Treated, Precipitation Hardenable*

SAE AMS 5962, *Nickel Alloy, Corrosion and Heat-Resistant, Round Bars and Wire 52.5Ni - 19Cr - 3.0Mo - 5.1Cb - 0.90Ti - 0.50Al - 18Fe Consumable Electrode or Vacuum Induction Melted 1 775 °F (968 °C) Solution Treated and Work Strengthened Precipitation Hardenable*

SAE AMS 6322, *Steel Bars, Forgings, and Rings 0.50Cr - 0.55Ni - 0.25Mo (0.38 - 0.43C) (SAE 8740)*

SAE AMS 6325, *Steel, Bars, and Forgings 0.50Cr - 0.55Ni - 0.25Mo (0.38 - 0.43C) (SAE 8740) Heat Treated, 105 ksi (724 MPa) Tensile Strength*

SAE AMS 6346, *Steel Bars 0.95Cr - 0.20Mo (0.28 to 0.33C) (SAE 4130) Hardened and Tempered, 125 Ksi (862 MPa) Tensile Strength*

SAE AMS6348, *Steel Bars 0.95Cr - 0.20Mo (0.28 to 0.33C) (SAE 4130) Normalized*

SAE AMS6360, *Steel Tubing, Seamless 0.95Cr - 0.20Mo (0.28 - 0.33C) (SAE 4130) Normalized or Stress Relieved*

SAE AMS6370, *Steel, Bars, Forgings, and Rings 0.95Cr - 0.20Mo (0.28 - 0.33C) (SAE 4130)*

SAE AMS6414, *Steel, Bars, Forgings, and Tubing 0.80Cr - 1.8Ni - 0.25Mo (0.38 - 0.43C) (SAE 4340) Vacuum Consumable Electrode Remelted*

SAE AMS6415, *Steel, Bars, Forgings, and Tubing 0.80Cr - 1.8Ni - 0.25Mo (0.38 - 0.43C) (SAE 4340)*

SAE AMS6484, *Steel, Bars, Forgings, and Tubing 0.80Cr - 1.8Ni - 0.25Mo (0.38 - 0.43C) (SAE 4340) Normalized and Tempered*

SAE AMS6487, *Steel, Bars, and Forgings 5.0Cr - 1.3Mo - 0.50V (0.38 - 0.43C) (H-11) Consumable Electrode Vacuum Melted*

SAE AMS6528, *Steel, Bars, 0.95Cr - 0.20Mo (0.28 - 0.33C) (SAE 4130) Special Aircraft Quality Cleanliness Normalized*

SAE AMS6758, *Steel, Chrome-Molybdenum (4130) Bars and Reforging Stock (Aircraft Quality)*

SAE AMS6947, *Titanium Alloy, Bars, Wire, Forgings, Rings, and Drawn Shapes 4Al - 2.5V - 1.5Fe Annealed, Heat Treatable*

SAE AMS-QQ-S-763, *Steel, Corrosion Resistant, Bars, Wire, Shapes, and Forgings*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN