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# AEROSPACE MATERIAL SPECIFICATION

AMS 5741D

Issued 6-15-59  
Revised 10-1-82

UNS K66545

STEEL BARS AND FORGINGS, CORROSION AND HEAT RESISTANT  
13.5Cr - 26Ni - 1.8Mo - 3.0Ti - 0.02B  
Consumable Electrode Vacuum Melted  
Solution, Stabilization, and Precipitation Heat Treated

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of 10-1-82. This cover sheet should be attached to the "D" revision of the subject specification.

This alloy is obsolete and no longer available. This alloy was deleted from MIL-HDBK-5 by Change Notice 1, dated 15 December 1978.

This specification is under the jurisdiction of AMS Committee "F".

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CANCELED



# AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc

485 Lexington Ave., New York, N. Y. 10017

AMS 5741D

Issued 6-15-59  
Revised 3-15-66

## STEEL BARS AND FORGINGS, CORROSION AND HEAT RESISTANT

13.5Cr - 26Ni - 1.75Mo - 3Ti  
Consumable Electrode Vacuum Melted

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. FORM: Bars, forgings, forging stock, and heading stock.
3. APPLICATION: Primarily for parts, such as turbine discs and rotors, shafts, buckets or blades, vanes, bolts, dowels, flanges, and fittings, requiring high strength up to 1350 F (732 C) and oxidation resistance up to 1500 F (816 C).
4. COMPOSITION:

|            | min   | max     |
|------------|-------|---------|
| Carbon     | --    | 0.08    |
| Manganese  | 1.25  | - 2.00  |
| Silicon    | 0.10  | - 0.80  |
| Phosphorus | --    | 0.040   |
| Sulfur     | --    | 0.030   |
| Chromium   | 12.00 | - 15.00 |
| Nickel     | 24.00 | - 28.00 |
| Molybdenum | 1.25  | - 2.25  |
| Titanium   | 2.80  | - 3.30  |
| Boron      | 0.010 | - 0.030 |
| Aluminum   | --    | 0.25    |
| Copper     | --    | 0.25    |

- 4.1 Check Analysis: Composition variations shall meet the requirements of the latest issue of AMS 2248.

### 5. CONDITION:

- 5.1 Bars: Solution and precipitation heat treated, unless otherwise specified. Bars 2.75 in. and less in diameter or distance between parallel sides shall be cold finished.
- 5.2 Forgings: Solution and precipitation heat treated and descaled, unless otherwise specified.
- 5.3 Stock for Forging or Heading: As ordered by the forging or heading manufacturer.

### 6. TECHNICAL REQUIREMENTS:

#### 6.1 Bars and Forgings:

- 6.1.1 Heat Treatment: Unless otherwise specified, the product shall be heat treated as follows to produce the properties specified in 6.1.2, 6.1.3, and 6.1.4.

- 6.1.1.1 Solution Heat Treatment: Heat to a temperature within the range of 1800 - 1950 F (982.2 - 1065.6 C), hold at the selected temperature within + 25 F (+ 14 C) for 1 - 3 hr, and quench in oil or water. Bars 0.25 in. and less in diameter or distance between parallel sides may be air cooled rapidly.

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