

# AERONAUTICAL MATERIAL SPECIFICATION

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## INSERTS, THREAD FORM Corrosion Resistant Steel

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. FORM: Closely wound wire helices, the insides of which, after assembly, provide threads of diameter and pitch specified on drawing.
3. APPLICATION: Primarily to provide hard, wear-resistant, interchangeable threads in metals and non-metals, and for salvaging worn or damaged threads.
4. COMPOSITION:

|            |               | Check Analysis |             |
|------------|---------------|----------------|-------------|
|            |               | Under Min      | or Over Max |
| Carbon     | 0.15 max      | --             | 0.01        |
| Manganese  | 2.00 max      | --             | 0.04        |
| Silicon    | 1.00 max      | --             | 0.05        |
| Phosphorus | 0.17 max      | --             | 0.01        |
| Sulfur     | 0.35 max      | --             | 0.01        |
| Chromium   | 17.00 - 20.00 | 0.20           | 0.20        |
| Nickel     | 7.00 - 11.00  | 0.15           | 0.15        |
| Selenium   | 0.35 max      | --             | 0.03        |
| Molybdenum | 0.60 max      | --             | 0.03        |

5. FABRICATION: Inserts shall be coiled from cold drawn and shaped wire.
6. TECHNICAL REQUIREMENTS:
  - 6.1 Tensile Properties: Shaped wire before coiling into inserts shall have tensile strength not lower than 150,000 psi.
  - 6.2 Bending: Wire shall withstand, without cracking, bending at room temperature through an angle of 180 degrees around a diameter equal to twice the cross sectional dimension of the wire in the plane of bend.
  - 6.3 Spacing: Any insert shall be capable of stretching with approximately equal spacing between coils when extended axially beyond its elastic limit.
7. QUALITY:
  - 7.1 Inserts shall be uniform in quality and condition, clean, sound, smooth, and free from foreign materials and from internal and external defects detrimental to their performance.
  - 7.2 Edges of wire in inserts shall be continuous and uniformly smooth.