

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
29 West 39th Street  
New York City

## AMS 7245

Issued 5-1-48

Revised

### INSERTS, THREAD FORM Corrosion Resistant Steel

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number 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 nonmetals, 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. **CONDITION:** Wire shall be cold-drawn, formed to the shape specified on drawing and coiled to produce inserts.

6. **TECHNICAL REQUIREMENTS:**

6.1 Shaped wire before coiling into inserts shall have tensile strength not lower than 150,000 psi.

6.2 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 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 performance of parts.

7.2 Edges of wire in inserts shall be continuous and uniformly smooth.

8. **SAMPLES:** When so specified, vendor shall supply with each shipment of inserts three straight, 12-in. long samples of the shaped wire representative of that used for making parts.

Section 1 of the SAE Technical Board rules provides that: "All technical reports, including standards of practice, are advisory only. Their use is not intended to be engaged in industry or trade is entirely voluntary. There is no agreement to adhere to any standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."