

# AERONAUTICAL MATERIAL SPECIFICATION

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

## AMS 7304

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Revised

### STEEL SPRINGS, CARBON

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. **COMPOSITION:**

|            |             | Check Analysis |             |
|------------|-------------|----------------|-------------|
|            |             | Under Min      | or Over Max |
| Carbon     | 0.85 - 1.05 | 0.02           | 0.02        |
| Manganese  | 0.25 - 0.60 | 0.02           | 0.02        |
| Phosphorus | 0.030 max   | --             | 0.005       |
| Sulfur     | 0.030 max   | --             | 0.005       |

3. **TECHNICAL REQUIREMENTS:**

3.1 Springs shall be made from cold drawn and annealed wire, and shall be heat treated after forming.

3.2 **Hardness:** Unless otherwise specified, hardness of finished springs shall be Rockwell C 45-50.

3.3 **Decarburization:** Springs shall be free from decarburization to the extent that the increase in hardness from the surface to any point below the surface will be not more than four points on the Rockwell Superficial 30N scale.

4. **QUALITY:**

4.1 Springs 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.

4.2 Springs shall be subject to magnetic particle inspection in accordance with the latest issue of AMS 2640.

5. **REPORTS:** Unless otherwise specified, the vendor of springs shall furnish with each shipment three copies of a notarized report showing the purchase order number, material specification number, contractor or other direct supplier of wire, part number, and quantity. When wire for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of wire to determine conformance to the requirements of this specification, and shall include in the report a certification that the wire conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.

6. **IDENTIFICATION:** Unless otherwise agreed upon by purchaser and vendor, each spring shall be marked with coil number and part number on one end. Marking shall appear on chamfer or on ground face of dead coil. If springs are too small to be marked individually, part numbers shall appear on containers.