



AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5032B

Superseding AMS 5032A

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STEEL WIRE (0.18-0.23C)(SAE 1020) Annealed

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **FORM:** Wire not exceeding 0.249 in. in diameter.
3. **APPLICATION:** Primarily for safety wire.
4. **COMPOSITION:**

	min	max
Carbon	0.18	0.23
Manganese	0.30	0.60
Phosphorus	--	0.040
Sulphur	--	0.050

- 4.1 **Check Analysis:** Composition variations shall meet the requirements of the latest issue of AMS 2259, paragraph titled "Carbon Steels".

5. **CONDITION:** Unless otherwise ordered, the product shall be supplied cold drawn and bright annealed.

6. **TECHNICAL REQUIREMENTS:**

- 6.1 **Tensile Properties:**

Tensile Strength, psi	50,000 - 75,000
Elongation, % in 10 in.	15 min

- 6.2 **Bending:** A straight length of wire not less than 12 in. long shall withstand being wrapped in a closed helix for at least 6 complete turns around a cylindrical mandrel having a diameter equal to the nominal diameter of the wire and then unwrapped, without splitting or breaking.

7. **QUALITY:** Wire shall be uniform in quality and condition, clean, sound, and free from foreign materials and from internal and external imperfections detrimental to fabrication or to performance of parts.

8. **TOLERANCES:** Unless otherwise specified, diameter tolerances shall conform to the following:

Nominal Diameter Inch	Tolerance, Inch Plus and Minus
Up to 0.076, excl	0.001
0.076 to 0.249, incl	0.002

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