



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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