



# AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
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## AMS 5080D

Superseding AMS 5080C

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### STEEL BARS, FORGINGS, AND TUBING 0.31 - 0.38C (SAE 1035)

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

2. **FORM:** Bars, forgings, mechanical tubing, and forging stock.

3. **COMPOSITION:**

		min	max
Ø	Carbon	0.31 - 0.38	
	Manganese	0.60 - 0.90	
	Silicon	0.15 - 0.30	
	Phosphorus	--	0.040
	Sulfur	--	0.050

3.1 When permitted by purchaser, carbon may be as high as 0.44.

3.2 **Check Analysis:** Composition variations shall meet the requirements of the latest issue of AMS 2259, paragraph titled "Carbon Steels, Bars, Forgings, and Forging Stock".

4. **CONDITION:** Unless otherwise ordered, the product shall be supplied in the following condition.

4.1 **Bars:** In a machinable condition and hot finished having hardness not higher than Brinell 229 or equivalent, except that bars ordered cold finished may have hardness as high as Brinell 241 or equivalent.

4.2 **Forgings:** As ordered.

4.3 **Tubing:** In a machinable condition and cold finished having hardness not higher than Brinell 241 or equivalent, except that tubing ordered hot finished shall have hardness not higher than Brinell 229 or equivalent.

4.4 **Forging Stock:** As ordered by the forging manufacturer.

5. **QUALITY:** The product 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.

6. **TOLERANCES:** Unless otherwise specified, tolerances shall conform to all applicable requirements of the following:

6.1 **Bars:** The latest issue of AMS 2231; for all hexagons, tolerances for cold finished shall apply.

6.2 **Tubing:** The latest issue of AMS 2253.

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