

# Material Specification



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Specification: B222-1  
Revision Date: 12/15/89

## ALLOY STEEL - CARBURIZING GRADE - SAE 94B17H

1. General Specification: Material Specification B-1.
2. Scope: This specification covers a high grade alloy steel suitable for use in the manufacture of gearing and other carburized parts. It shall be comparable in composition with SAE 94B17H.
3. Chemical Composition:

Carbon	0.14-0.20%
Manganese	0.70-1.05%
Silicon	0.15-0.35%
Nickel	0.25-0.65%
Chromium	0.25-0.55%
Molybdenum	0.08-0.15%
Boron	0.0005-0.0025%
Phosphorus	0.035% max.
*Sulfur	0.040% max.
Titanium	0.04% min. (concast only)

\*Aim sulfur .025% min., this is to aid in improving machinability.

4. Hardenability:

Restricted range for following applications

		Jominy Distances			Requirement level
		<u>J4</u>	<u>J8</u>	<u>J12</u>	
Helical Gear & Side Gears : ( Center 50% of the H BAND)					
HRC MIN		39	29	24	AIM
HRC MAX		43	37	30	AIM
Drive Gear & Drive Pinion: ( Center 50% of the H Band )					
HRC MIN		39	29	24	MANDATORY
HRC MAX		43	37	30	MANDATORY

5. Application: Spiral bevel & hypoid gears and pinions, differential side gears.
6. Formerly AO spec. BB-222-1