



CarTech® PremoMet® Alloy

TYPICAL COMPOSITION

C	Si	Ni	Cu	Mn	Cr	Mo	V	Fe
.40	1.5	3.8	.50	.90	1.25	.50	.30	Balance

CarTech PremoMet alloy is a patent pending, ultra-high strength, high toughness, quench and temper alloy steel manufactured by Carpenter Technology Corporation. The material may be considered as a lower-cost alternative to cobalt-containing steel alloys.

CarTech PremoMet alloy may be considered for high-performance applications in power train components in heavy-duty diesel engines and other commercial transportation and locomotive applications. PremoMet alloy possesses high strength and toughness with superior fatigue resistance compared to many alloy steels currently in use. This alloy may be considered for applications such as:

- Gears
- Crankshafts
- Drive shafts
- Connecting Rods
- Springs
- Fasteners

TECHNICAL DATA

	Typical Gear Materials	High Strength Heat Treated Steels	CarTech PremoMet Alloy
0.2% YS (ksi/MPa)	90-203 ksi (550-140 MPa)	145-225 ksi (1000-1550 MPa)	240/1655
UTS (ksi/MPa)	61-151 ksi (420-1040 MPa)	200 ksi (1200-1850 MPa)	295/2037
% El	10-13	10	12
% RA	28-36	40	45
10 ⁷ Cycles Fatigue Strength (MPa)		75-85 ksi (545-586 MPa)	145/1000
Fracture Toughness (ksi√in/ MPa√m)		55/60	65/71
Hardness (HRC)			54

BENEFITS

- ▶ High Strength
- ▶ High Toughness
- ▶ Superior fatigue resistance
- ▶ Strength-to-weight ratio
- ▶ Clean alloy steel microstructure

PRODUCT FORMS

- ▶ Bar - Rounds
- ▶ Plate
- ▶ FBB
- ▶ Wire
- ▶ Strip

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