

Typical Analysis and Properties

Ancorloy HP-1 is a new press-ready, engineered binder-treated premixed ferrous P/M material designed for enhanced as-sintered mechanical properties. It has comparable performance to a diffusion alloyed product of the same composition. Ancorloy HP-1 is a hybrid alloy based on Ancorsteel 150 HP to which 4 w/o nickel and 2 w/o copper have been added during a binder-treated premixing operation. It is more highly alloyed than the hybrid alloy Ancorloy 4. Tempering as-sintered compacts made from Ancorloy HP-1 improves their tensile strength and tensile ductility.

Composition (weight %)

Fe	Mo	Mn	Ni	Cu
Balance	1.4	0.15	4.0	2.0

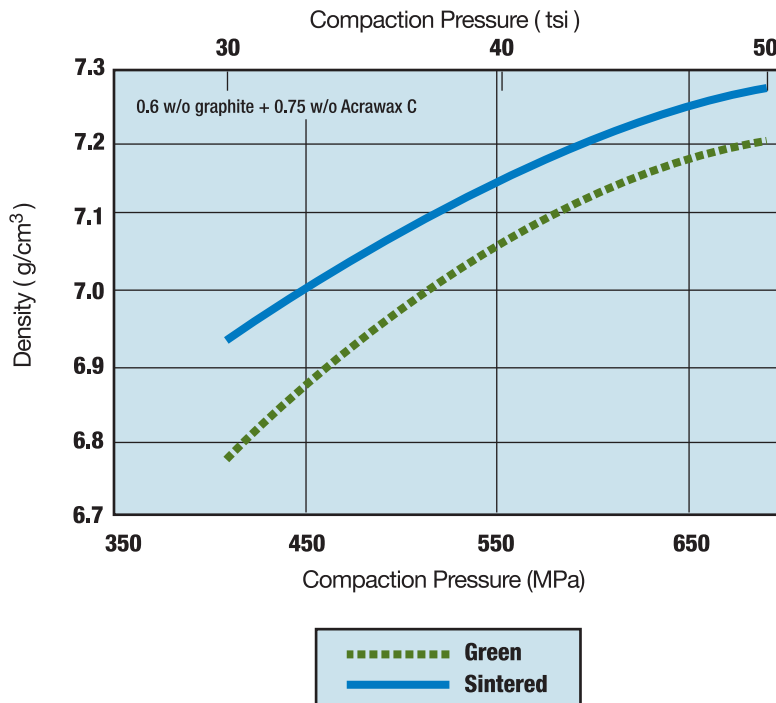
Apparent Density

3.19 g/cm³

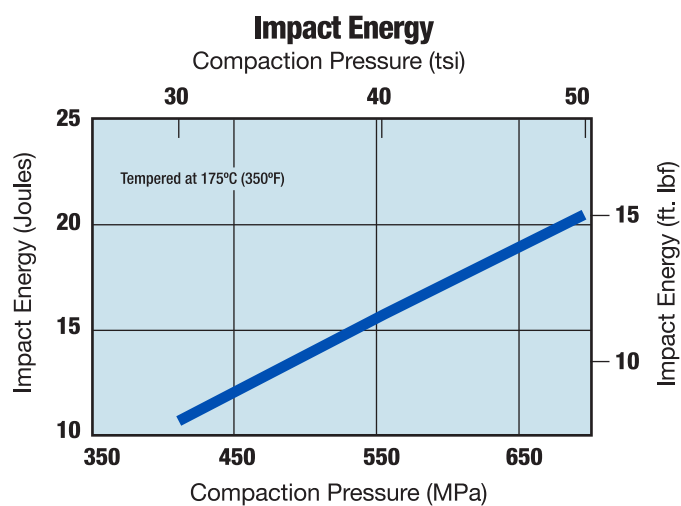
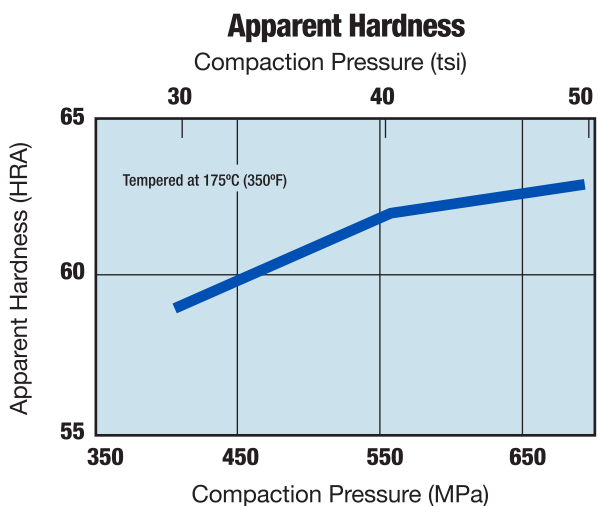
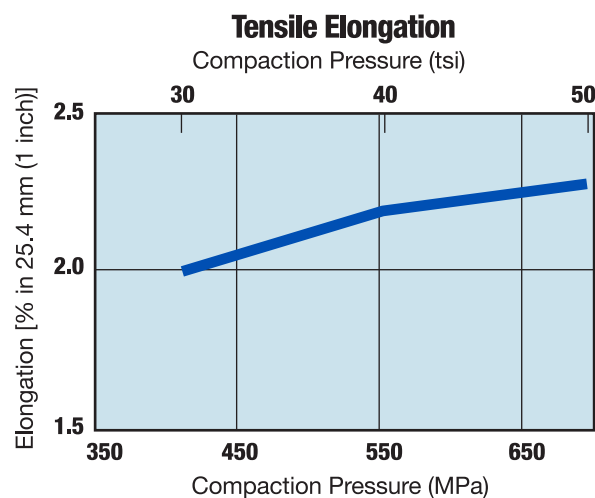
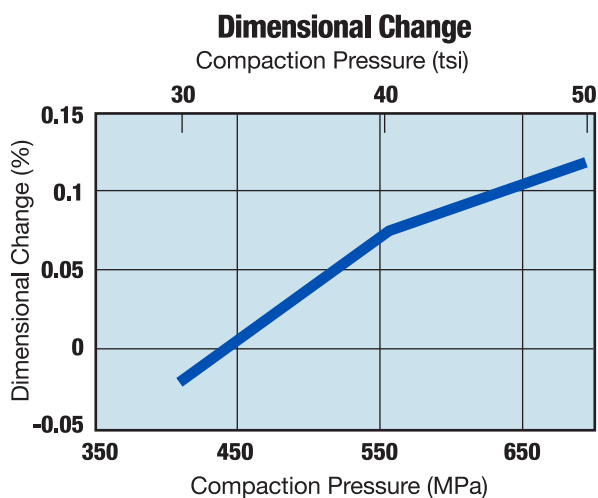
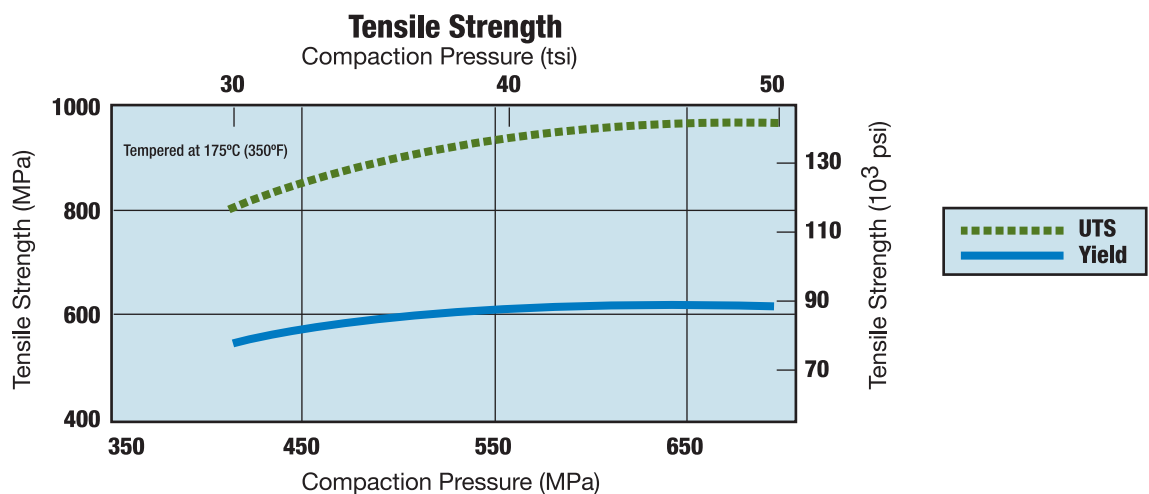
Flow

30 s/50 g

Green and Sintered Density vs Compaction Pressure



Ancorloy® HP-1



Specimens were compacted from a premix that contained 0.6 w/o graphite and 0.75 w/o Acrawax C lubricant. Test specimens were sintered for 30 minutes at 1120°C (2050°F) in a 75 v/o hydrogen; 25 v/o nitrogen atmosphere. All as-sintered test specimens were tempered at 175°C (350°F) prior to mechanical property testing.

IMPORTANT NOTICE: The data shown are based on laboratory processing standard test specimens. Results may vary from those obtained in production processing.