

## ANCORBOND® FLM Alloys

ANCORBOND® FLM Alloys are press-ready, binder-treated Mn-Mo hybrid alloy systems that are Ni and Cu free. These cost-effective alloys can be sintered at 1120 °C (2050 °F) using N<sub>2</sub>-H<sub>2</sub> atmospheres and conventional sintering practices. Excellent hardness and strength can be achieved with accelerated cooling in the sintering furnace, delivering properties comparable with more highly-alloyed, diffusion-alloyed and hybrid steels.

### Typical Analysis and Properties

#### Apparent Density

**3.1 g/cm<sup>3</sup>**

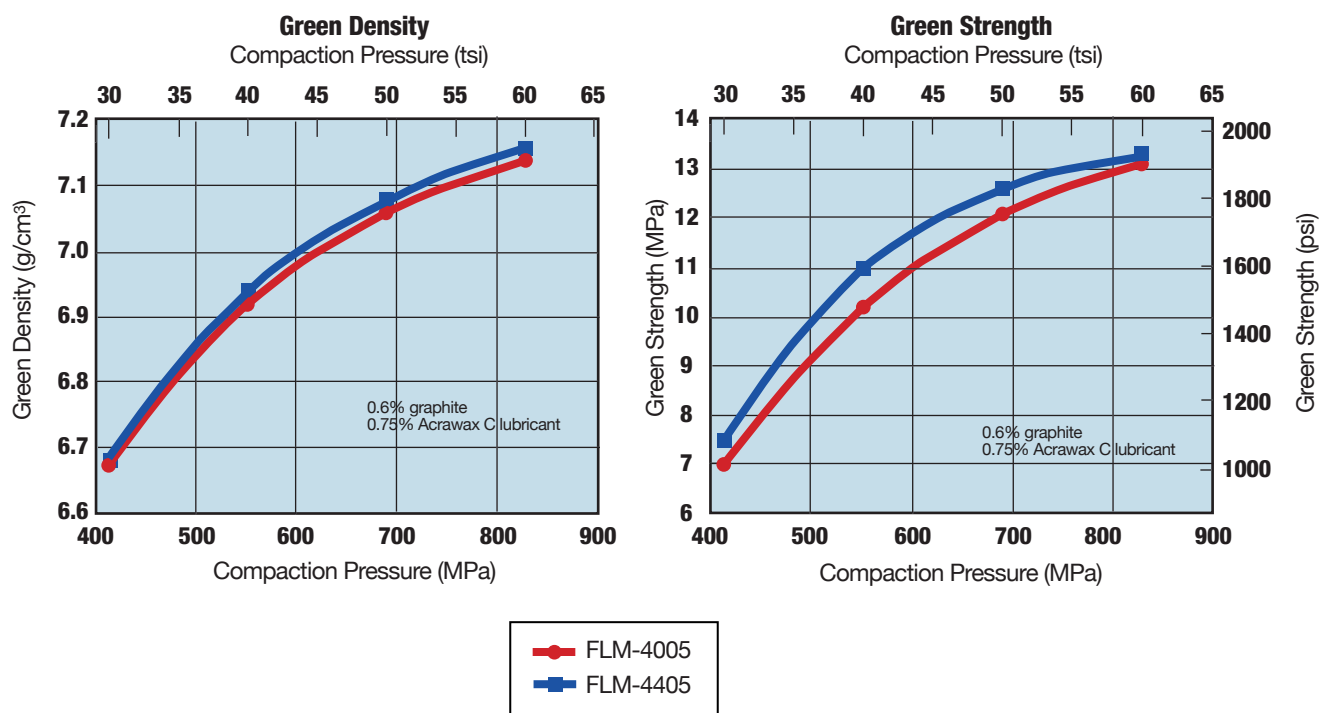
#### Flow Rate

**29 s/50 g**

#### Composition (wt%)

Alloy	Fe	Mn	Mo	O <sub>2</sub>
ANCORBOND FLM-4000	Balance	1.3	0.5	0.1
ANCORBOND FLM-4400	Balance	1.3	0.8	0.1

### The Effects of Compaction Pressure on Green Properties



## ANCORBOND® FLM Alloys

### Effect of Density on Mechanical Properties

Samples sintered at 1120 °C (2050 °F) for 15 minutes at temperature in 90 vol% N<sub>2</sub> - 10 vol% H<sub>2</sub>  
 Average cooling rate 0.7 °C/s (1.3 °F/s) and 1.6 °C/s (2.9 °F/s) from 650 to 315 °C (1200 to 600 °F)  
 Tempered at 205 °C (400 °F) for 1 hour

