

Room Temperature Compaction for Higher Density In Powder metal parts

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Abstract

Recently a technology was introduced for achieving higher densities by compaction at room temperature without heated tools. The concept depended on reducing the surface area of the powder that is compacted which helps in reducing the lubricant used without compromising ejection forces. The new technology is called low fines technology (LFT). LFT studies were extended to prealloyed molybdenum steels and compared with warm compaction technology. This technology can further enhance the density achieved by warm compaction technology, filling the need to close the gap between Double press double sinter and single press.

Key words: High density, Warm compaction,

Introduction:

Powder Metallurgy (PM) is the preferred metal working process with net shape capabilities, low energy and higher material utilization than the competing technologies such as castings, stampings, forgings and machining [1]. Over the past 60 years various technologies were developed in powder metallurgy that allowed conversion to PM parts with significant cost savings to end users.