JIP Clean Mix HDX

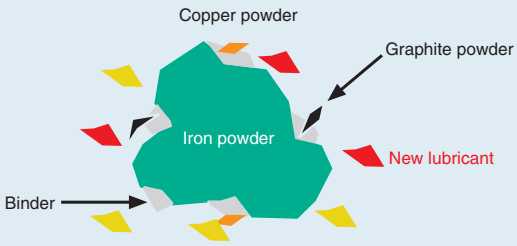
Premixed Iron Powder Enabling High Density Compaction Without Pre-Heating Process

JFE Steel Corporation
http://www.jfe-steel.co.jp/en/

JIP Clean Mix HDX

Effective for production of high density products and large-scale parts.

Design of Clean Mix HDX



Adoption of a new lubricant with "high die lubricating effect even with small content"

Reduction of the lubricant content increases the density of non pre-heated compacts to the same level as that of warm compacted material.

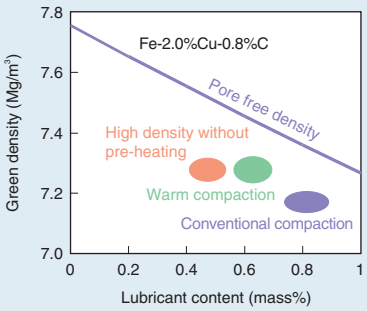


Fig.1 Relationship between lubricant content and green density

Features

1. High density without pre-heating.
   Achieves green densities comparable to those of a conventional segregation-free powder pre-heated and compacted at 130°C (Fig. 2).
2. Reduction of compacting pressure.
   Realizes the same green densities as those of a standard premixed powder compacted at higher compaction pressures (Fig. 2).
   → Possible to prolong die life by reducting the compaction pressure.
   → Possible to compact large-scale parts using small press.
3. Improved dewaxing property.
   Eliminates surface stains on sintered parts.

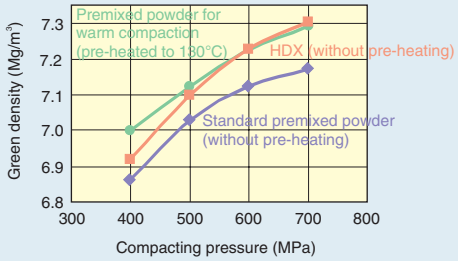


Fig.2 Relationship between compacting pressure and green density

Mix composition: Fe+2.0%Cu+0.8%Gr+Lub(*)
(*) Standard premixed powder: 0.8% zinc stearate
Iron powder for warm compaction: 0.6% heat-resistance lubricant
JIP HDX: 0.5% new lubricant

Applicable Automobile Parts