



Nanomaterials

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Consolidation of nanopowders

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Compaction (Shaping, deformation and densification of a powder by application of pressure).

Sintering

Consolidation of nanopowders

Why conventional compaction routes do not work?

Due to **Hall - Petch relationship** between yield stress and particle size, the cold compaction of nanoparticles requires stresses in gigapascal range. That means the new non-conventional compaction routes are necessary.

Stages of Sintering

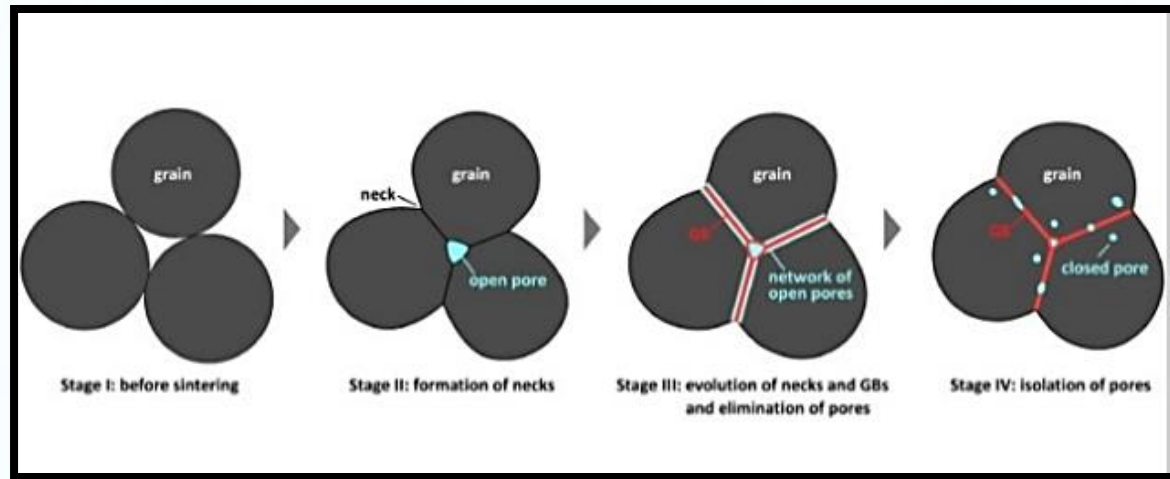


Fig.(1) Stages of Sintering

Advanced sintering process type

