

POWDER METAL FORMING / POWDER METALLURGY.

Science of producing metal powders and making finished / semi-finished objects from mixed or alloyed powders with or without the addition of non-metallic constituents.

Steps in Powder Metallurgy.

- 1.) Powder production
- 2.) Mixing / Blending of Powders.
- 3.) Compaction.
- 4.) Sintering.
- 5.) Secondary process.

Advantages

- 1.) Good surface finish.
- 2.) High dimensional accuracy.
- 3.) Less skilled labour is required.
- 4.) Most of the cases, no further machining is done.
- 5.) Used for mass production.
- 6.) Even ceramics or abrasives can be used which can't in casting.

Limitation

- 1.) High Initial Investment
- 2.) Economical only on mass production.
- 3.) Large size components can not be manufactured.

Application

- 1.) Tungsten Carbide tool tips.
- 2.) Tungsten incandescent bulbs.
- 3.) Self-lubricating bearings. (oil impregnation)
- 4.) Automobiles (Piston rod, gears)