

Principles involved in chemical heat treatment process -

Carburizing.

* It is a method of introducing carbon into solid iron base alloy such as low carbon steel in order to produce a hard case or surface.

* This process produced steel having tough inner core and harder outer surface.

Ex- Gears, Pins, pistons and camshafts are hardened by this process.

* This process involves heating of steel in contact with carbon rich substance above critical temp. for a prolonged duration.

* Due to this carbon penetrates into steel to form a solid solution on the outer surface.

It may be three type

1.27 mm.

- ↳ Solid or Pack carburizing
- ↳ Liquid carburizing
- ↳ Gas carburizing.

Pack Carburizing -

* This will involve packing the component into cast iron or steel along with the carburizing material. Carburizing medium consist, wood, bone charcoal together with an energiser (Sodium carbonate and barium carbonate).

* This energiser accelerates the carburizing process.

* The box is slowly heated between 900°C to 940°C and then kept ~~at~~ at that temp. up to 5 hr.

* When carburizing is complete, the part are quenched or cooled slowly in the boxes.