



## CASE HARDENING

Vacuum hardening | **Case hardening** | Salt bath hardening | Quenching | Annealing  
Burnishing | Phosphating | Gas nitriding | Nitrocarburising | Carbonitriding  
Plasma nitriding | Salt bath nitriding | Oxidation | Inductive hardening

# THE PROCESS

As an important alloying element for the hardness of steel, carbon is diffused into special-purpose steels at approximately 900°C via gases or salts that give off carbon.

The depth to which the carbon atoms penetrate can be controlled precisely. 0.3 mm – 1.5 mm are standard carburisation depths. Higher carburisation rates are also available on request.

Subsequent hardening leads to extremely hard and wear-proof surfaces. The surface has very good wear and fatigue strength. A tough core gives elasticity. Case hardening is the best choice wherever it is important to have wear resistance, whilst ensuring that the work pieces can withstand high dynamic stresses.

Typical uses include machinery parts, gear wheels, shafts, cam shafts, tools and tool components.

# BENEFITS

- good wear protection on the surface of the work piece
- elastic, tough core
- risk of fracture in the components significantly reduced
- hardening for partial areas possible

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