

Successful application of SIR-program: Gear shafts, modulus = 24,5

Gear shafts:

- Length:** 1200 – 1800 mm
- Diameter:** 250 – 600 mm
- Material:** Böhler: W 300, DIN: 1.2343, AISI: H11,
JIS: SKD6, X38CrMoV5 -1
Rm=1550 N/mm²
ND = 0,2 mm; HV0,5 = 1060



1,2 m

Situation:

Problems at case hardening:

- High distortion → hard machining
- High wear
- Defects in base material because of bad quality of the case hardened steel

Solution:

High quality hot working steel

Plasma nitriding

- No hard machining
- High surface hardness

Advantage:

Less weight – competitive advantage for the supplier

Longer lifetime due to better wear resistance on tooth flanks

Cost reduction due to less hard machining

Ring gear with modulus 8 Diameter 885 mm, Height 150 mm

Material: Orvar Supreme
Goal: less distortion
Results: Core hardness = 1538 MPa
ND = 0,17 mm
WL = 2 bis 4 μm

