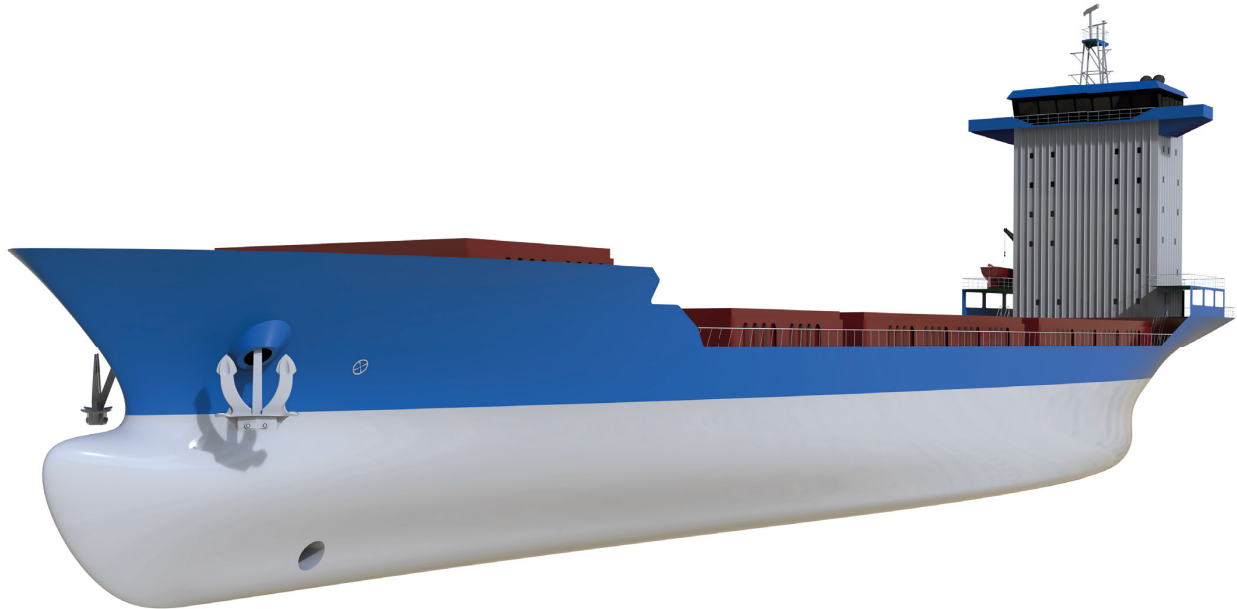
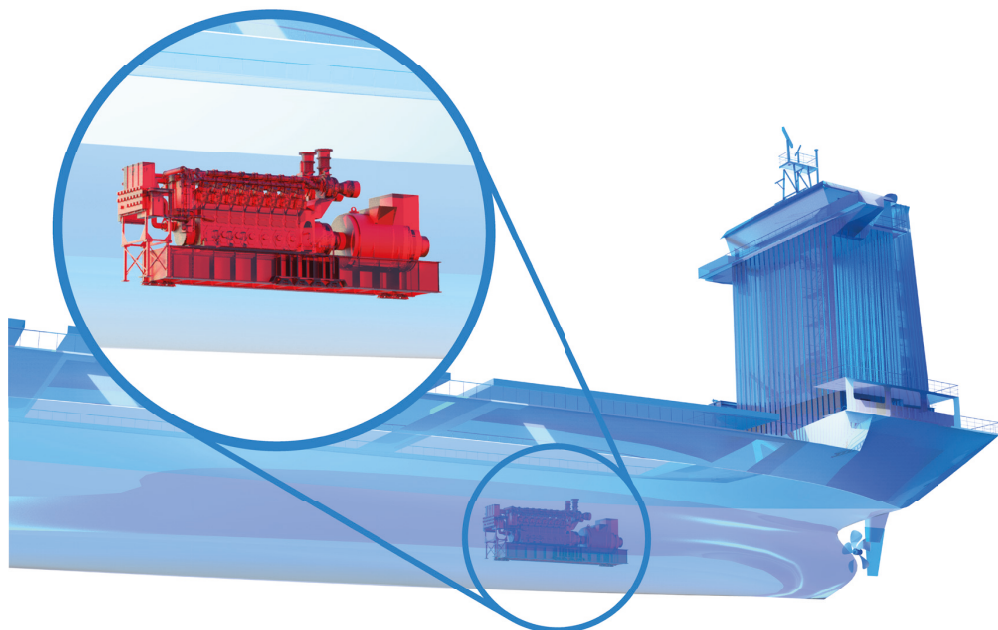


APPLICATION EXAMPLE ▶ Shipbuilding ▶ Valve



Task

Replace Slide Grinding (vibratory grinding) Roller Burnishing to $R_z < 2 \mu\text{m}$ Yield residual compressive stress





Solution

Burnishing and yielding residual compressive stresses by Deep Rolling of the tulip area with EG45-40M tool



User benefits

- Reduce the process costs of about **25%**
- Process time amputated of about **30%**
- **Fatigue strength reached**

Details

- Workpiece Valve
- Part of Ship diesel engine
- Material NIMONIC
- Tensile strength 1600 N/mm²
- Hardness 40-45 HRC

Parameter

- Tool EG45-40M
- Circumferential speed ... 250 m/min
- Feed rate 0,15 mm/rev.
- Rolling force 750 bar
- Cycle time 3-5 seconds