

## GRAPPLES

### Description:

Joints of grapples

### Conditions of use:

- Speed: oscillating move with low speed (around 0,01 m/s)
- Dynamic contact pressure: 50 to 80 MPa
- Temperature: ambient
- Surrounding atmosphere: corrosive and dusty
- Lubrication: every week or more

### Previous solution:

- Pin: Case hardened steel
- Bearing: Case hardened steel or spring steel bushings

→ Problem : seizure and wear

### HEF solution:

- Pin : Case hardened steel
- Bearing : PEL or PEL T

### Customers:

LIEBHERR (F)

KINSHOFFER (D)

