

# Mooring Chain Steels

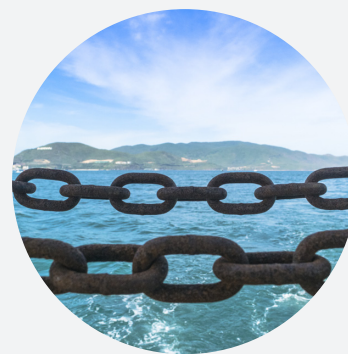
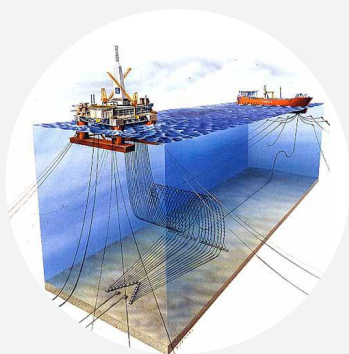
GRADES R4 - R5 - R6



Steels with high tensile strength and high toughness at low temperature

## APPLICATION

Steels for **Off-shore mooring chains** with high level of tensile strength and high toughness at low temperature.



## ADVANTAGES

### High tensile strength

R4 > 860 MPa    R5 > 1.000 MPa    R6 > 1.200 MPa

### High toughness at low temperature

KV > 60 J at -20°C

### To guarantee a force of $9 \times 10^5$ Kgf

R4 → Ø=120 mm    R5 → Ø=110 mm    R6 → Ø=100 mm

## APPLIED TECHNOLOGY

- Hardening and tempering steel grades.
- High alloyed steel grades with the aim of increasing the toughness at low temperature.
- Ingot/bloom manufacturing for a better inclusion control.
- Hydrogen diffusion annealing checked by slow strain rate tensile tests.