



## ESP OIL AND GAS GRADES

End Use Applications

# 410 QDT

For parts used in hydrogen sulfide

- Valves, valve components, valve bodies, bonnets, end and outlet connections, fasteners, and valve seat facings
- Bearings
- Bushings
- Pump shafts

## 17-4 DBH

- Oil field valves
- Shafts
  - Pump shafts
  - Pump Impeller Shafts
  - High strength shafts
- Gears
- Drive components (drive trains) for the drill bit within the drill string (down hole motors)

## 420 Mod

For parts used in CO<sub>2</sub> environments, low hydrogen sulfide levels

- Wellhead equipment (the component at the surface of an oil or gas well that provides the structural and pressure-containing interface for the drilling and production equipment)
- Christmas trees (an assembly of valves, spools and fittings used for an oil and gas well)
- Typically used for completion equipment, structural and pressure containing oil tool parts and members

## 9 CR 1 MO

A low alloy steel containing chromium and molybdenum, it has excellent weldability as well as oxidation and scaling resistance (similar to 400 series stainless). Used primarily for Nace applications where sour (hydrogen sulfide) environments under high temperature and pressure are expected. End uses include

- flanges
- fittings
- valves
- piping applications