4130 MODIFIED TUBE

Grade: AISI 4130 MOD (ASTM A29, API 5CT)
Type: Cr-Mo Steel usually used in the hardened, quenched and tempered condition.

Nominal Composition	
Element	**Weight %**
Carbon	0.25 – 0.33
Silicon	0.35 max
Manganese	0.60 – 0.90
Phosphorus	0.015 max
Sulphur	0.010 max
Molybdenum	0.65 – 0.75
Chromium	1.20 – 1.50
Nickel	0.25 max
Copper	0.25 max

Mechanical Properties Condition:
Hardened followed by water or polymer quenching and tempering

Property	Values
Ultimate Tensile Strength	135 min Ksi (931 Mpa)
0.2 % Yield Strength	125 - 140 Ksi (862 - 965 Mpa)
Elongation	14% min
Reduction of Area	35 % min
Hardness	285 - 341 BHN

Notes:

Low alloy steel typically containing 0.3% Carbon and alloyed with 1.3% Chromium and 0.7% Molybdenum to give enhanced mechanical properties.

Grade is typically used in a variety of down hole tools, casing, tubulars and accessories that requires good hardenability and excellent impact properties.

Impact toughness is generally good to temperatures as low as -46 Deg C with typically 27J average and 20J single achieved, this is limited though dependent on a number of factors such as ruling section, chemical composition and heat treatment condition, with impact toughness achieved decreasing with higher strength, ruling section and at lower test temperatures due to the materials Ductile / Brittle transition temperature.