

### UNS R30035

GD50™ (MP35N®) is a nickel-cobalt-chromium-molybdenum alloy that exhibits high tensile strength with good ductility and toughness with excellent corrosion resistance, making GD50™ especially suitable for extremely sour well conditions. This alloy possesses good resistance to sulfuric acid and excellent resistance to sour oil and gas environments containing H<sub>2</sub>S, CO<sub>2</sub>, and HCO<sub>3</sub>. GD50™ lines are 100% NDT and inspected and must pass a ductility test after being exposed to temperatures as high as 500°F. GD50™ slicklines are shipped on steel reels. Custom lengths and diameters are available.

#### Chemical Compositional Range (wt. %)

	Ni	Cr	Mo	Co	Ti	Mn	P	S	Si	C	B	Fe	PRE = %Cr + 3.3 x % Mo + 16 x %N
Min	33.0	19.0	9.0										
Max	37.0	21.0	10.5	BAL	1.0	0.15	0.015	0.01	0.15	0.02	0.010	1.0	PRE = >50*

\*PRE calculations do not address Co content –Corrosion studies would confirm MP35N is superior to superaustenitic stainless steel grades

#### Physical Properties

Density	0.304 lbs./in <sup>3</sup>	8.43 g/cm <sup>3</sup>
Thermal Expansion	7.1 x 10 <sup>-6</sup> (0 to 200 °F)	12.8 x10 <sup>-6</sup> (0 to 100 °C)
Thermal Conductivity	88.0 BTU in/hr/Ft <sup>2</sup> /°F (@ 200 °F)	12.7 W/m. K (@ 93 °C)

Dia. (in.)	Dia. (mm)	NOMINAL Breaking Load (lbf.)	NOMINAL Breaking Load (kN)	NOMINAL Weight (lbs./1,000 ft.)	NOMINAL Weight (kg/1000 m)
.092	2.34	1,680	7.47	24.2	10.98
.108	2.74	2,244	9.98	33.4	15.15
.125	3.18	3,200	14.23	44.8	20.32
.140	3.55	3,500	15.56	56.2	25.49
.160	4.06	4,875	21.69	73.4	33.25

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To maximize the life of your GD™ Slickline:

- Use properly sized sheaves (min sheave diameter = 120 x wire OD) and inspect them for excessive wear
- Ensure the sheaves rotate freely
- Always use new guides in the stuffing box
- Avoid kinking the line
- Layer winding or smooth wrapping the wire onto the winch drum will result in extended life / less damage and reduced likelihood of small kinks
- Prevent the line from rubbing the side of the drum, dragging on the ground, over shafts or other equipment
- Maintain the natural curvature of the wire, maintain constant tension during winding and re-spooling operations
- Exercise extreme caution during jarring operations, check “jarred” lines for possible stretch (reduced wire diameter) or other damage
- When running the line down hole avoid sudden brake application
- Never store reels on their sides
- Maintaining a logbook for each line is recommended
- Clean the line after each use