

Non-Magnetic Material Specifications

Magnetic Free Solutions

Specialty Non-Magnetic Drill Collars and Forgings
for challenging drilling environments.

110KSI Non Magnetic Material Specification (TTMC-1)

C	Si	Mn	P	S	Cr	Ni	Mo	Cu	N	RE
≤0.08	≤1.00	18.00~22.00	≤0.03	≤0.02	14.00~16.00	0.80~1.50	.04~0.60	≤0.3	0.30~0.60	0.02~0.10

MECHANICAL PROPERTIES AS PER ASTM A370, test coupon Longitudinal from 1"below surface

Size	OD≤177MM(7")	OD177~280mm (7"~11")
Rm(KSI) Tensile Strength	≥120	≥110
Rp0.2(KSI) Yield Strength	≥110	≥100
A(%)Elongation	≥25%	≥25%
Z(%)Reduction Of Area	≥50	≥50
Akv2(J)Impact Value	≥122	≥122
(HB) Brinell Hardness	≥285~360	≥285~360
IGC	Qualified	Qualified

MAGNETIC PROPERTY TEST AS PER ASTM A342

Field Gradient (μT)	≤±0.05 μT
Relative Permeability	<1.01

Ultrasonic test as per ASTM A388 or others as per client.

140KSI Non Magnetic Material Specification (TTMC-2)

C	Si	Mn	P	S	Cr	Ni	Mo	N	Note
≤0.06	≤1.00	18.00~25.00	≤0.03	≤0.02	16.00~20.00	1.50~3	.05~0.80	.05~0.80	Mn+2N≥22%

MECHANICAL PROPERTIES AS PER ASTM A370, test coupon Longitudinal from 1"below surface

Size	OD≤177MM(7")	OD177~280mm (7"~11")
Rm(KSI) Tensile Strength	≥150	≥150
Rp0.2(KSI) Yield Strength	≥140	≥130
A(%)Elongation	≥20%	≥20%
Z(%)Reduction Of Area	≥50	≥50
Akv2(J)Impact Value	≥82	≥82
(HB) Brinell Hardness	≥350~430	≥350~430
IGC	Qualified	Qualified

MAGNETIC PROPERTY TEST AS PER ASTM A342

Field Gradient (μT)	≤±0.05 μT
Relative Permeability	<1.01

Ultrasonic test as per ASTM A388 or others as per client.

SOURCING SIMPLIFIED



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