Jiangyou Longhai Special Steel Co.,Ltd.
Add: 5# East district of New high-tech industrial park, Jiangyou City, Sichuan Province, China
Tel: +86-13880247006 E-mail:sales@longhaisteel.com

1.3964, X2CrNiMnMoNNb21-16-5-3, S20910, XM-19 - Non-magnetic Steel Datasheet

1.3964, X2CrNiMnMoNNb21-16-5-3 is a Austenitic chromium-nickel stainless steel stabilised with niobium for use in non-magnetic applications.displays non magnetic properties due to its high alloy content. This high alloy content also results in high tensile and yield strengths coupled with very good resistance against corrosion, especially in seawater and coastal environments.

Chemical Composition

Grade	Chemical composition						
	C	Si	Mn	P	S		Cr
1.3964, X2CrNiMnMoNNb21-16-5-3	0.03	1.00	4.00-6.00	0.025	0.010		20.00-21.50
UNS S20910	0.06	1.00	4.00-6.00	0.040	0.030		20.50-23.50
SAE J 405 XM-19	0.06	0.75	4.00-6.00	0.040	0.030		20.50-23.50
A276 XM-19	0.06	1.00	4.00-6.00	0.045	0.030		20.50-23.50

Mechanical Properties

- Tensile strength R_m MPa: 700-950
- Yield Strength R_p MPa: Min 365
- A %: min. 35%
- Impact energy (J) 25 ° C: min 85 J

- Thk.100mm
  - Tensile strength R_m MPa: 570-800
  - Yield Strength R_p MPa: Min 315
  - A %: Min 20
  - Impact energy (J) 25 ° C: min 65 J

Physical Properties

Temperature(°C)	Elasticity(GPa)	MTEC	Thermal conductivity(W/m · °C)	Specific heat(J/kg · °C)	Electrical(Ω mm ² /m)		Density(
400.0	-	17.80	-	-	-		
300.0	-	17.50	-	-	-		
200.0	-	17.00	-	-	-		
100.0	-	15.70	-	-	-		
25.0							
20.0	-	-	14.00	-	-		
20.0	-	-	-	-	0.80		
20.0	-	-	-	-	-		7
20.0	195.00	-	-	-	-		

Jiangyou Longhai Special Steel Co.,Ltd.
Add: 5# East district of New high-tech industrial park, Jiangyou City, Sichuan Province, China
Tel: +86-13880247006 E-mail:sales@longhaisteel.com

Heat Treatment

Optimal physical and fabrication properties are realised after solution annealing in the temperature range 1020 ° C – 1050 ° C followed by rapid cooling in air or water. In the solution annealed condition

Welding Properties

As a result of the low carbon content of 1.3964, welding will not result in the formation of chromium carbides. Should a filler material be required, then the grades 1.3954 and 1.3984 can be used.Should heat treatment after welding be unavoidable, due to extensive cold deformation or due to high wall thickness, then the aforementioned heat treatment may be undertaken.

Machining Properties

As a result of its high alloying addition, 1.3964 is difficult to machine. The following machining parameters can be used as a guideline when machining 1.3964 using coated hard metal cutting tools

Similar or Equivalents Steel Grade