Material data sheet

Material Number	~1.4948
Country	U.S.A.
Designations	304 H (SAE); S30409 (SAE); 304 H (AISI); S30409 (UNS); A 182 (F 304 H) (ASTM); A 213 (304 H) (ASTM); A 240 (304 H) (ASTM); A 249 (304 H) (ASTM); A 312 (304 H) (ASTM); A 358 (304 H) (ASTM); A 376 (304 H) (ASTM); A 403 (CR304H) (ASTM); A 403 (WP304H) (ASTM); A 479 (304 H) (ASTM); A 813 (304 H) (ASTM); A 814 (304 H) (ASTM); A 943 (TP304H)(S 30409) (ASTM); A 965 (F304H) (ASTM); SA 182 (304 H) (ASME); SA 213 (304 H) (ASME); SA 240 (304 H) (ASME); SA 249 (304 H) (ASME); SA 312 (304 H) (ASME); SA 376 (304 H) (ASME); SA 403 (304 H) (ASME); SA 479 (304 H) (ASME); MIL-W-6712 (MIL)

Chemical composition

Element	min/max Others
C	0,04-0,10
Si	<=0,75
Mn	<=2,00
P	<=0,045
S	<=0,030
Cr	18,00-20,00
Ni	8,00-10,50

Material data sheet

Material Number 1.4948

Country Europe

Designations X6CrNi18-10

Chemical composition

Element	min/max
C	0,04 - 0,08
Si	<=1,00
Mn	<=2,00
P	<=0,035
S	<=0,015
Cr	17,00 -19,00
N	<=0,110
Ni	8,00 - 11,00

Mechanical properties

dimension	value	Specimen	at temperature	cooling	duration
Data from Stahlschlüssel book					
solution heat treated					
0,2% yield stress					
	>=185N/mm^2		~20 °C		
	>=157 N/mm^2		~100 °C		
	>= 127 N/mm^2		~ 200 °C		
	>=108 N/mm^2		~ 300 °C		
	>=98 N/mm^2		~ 400 °C		
	>=88 N/mm^2		~ 500 °C		
	>=83 N/mm^2		~ 550 °C		
	>= 78 N/mm^2		~ 600 °C		
	>=69 N/mm^2		~ 700 °C		
Tensile strength					
	500 - 700 N/mm^2		~ 20 °C		
Elongation after fracture (A5)					
	>=40 %		~20 °C		
Impact value (DVM)					
	>=85 J		~ 20 °C		
Impact value KV (ISO-V/Charpy-V)					
	>=90J		~20 °C		
Creep rupture strength 10.000 h					
	~ 191 N/mm^2		~ 550 °C		
	~ 132 N/mm^2		~ 600 °C		
	~ 87 N/mm^2		~ 650 °C		
	~ 55 N/mm^2		~ 700 °C		
	~ 34 N/mm^2		~ 750 °C		conditional
Creep rupture strength 100.000 h					
	~ 140 N/mm^2		~ 550 °C		
	~ 89 N/mm^2		~ 600 °C		
	~ 52 N/mm^2		~ 650 °C		
	~ 28 N/mm^2		~ 700 °C		
	~ 15 N/mm^2		~ 750 °C		conditional
High temperature stability					
	~ 650 °C				