

Material data sheet

Material Number ~1.4961

Country U.S.A.

Designations 347 H (SAE); S34709 (SAE); 347 H (AISI); S34709 (UNS); A 182 (F 347 H) (ASTM); A 213 (347 H) (ASTM); A 240 (347 H) (ASTM); A 249 (347 H) (ASTM); A 312 (347 H) (ASTM); A 376 (347 H) (ASTM); A 403 (CR347H) (ASTM); A 403 (WP347H) (ASTM); A 479 (347 H) (ASTM); A 813 (347 H) (ASTM); A 814 (347 H) (ASTM); A 943 (TP347H)(S 34709) (ASTM); A 965 (F347H) (ASTM); SA 182 (347 H) (ASME); SA 213 (347 H) (ASME); SA 240 (347 H) (ASME); SA 249 (347 H) (ASME); SA 312 (347 H) (ASME); SA 376 (347 H) (ASME); SA 403 (347 H) (ASME); SA 479 (347 H) (ASME)

Chemical composition

Element	min/max	Others
C	0,04-0,10	
Si	<=0,75	
Mn	<=2,00	
P	<=0,045	
S	<=0,030	
Cr	17,00-19,00	
Ni	9,00-13,00	
		Nb>= 8xC<= 1,0

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Material Number 1.4961
Country Europe
Designations X8CrNiNb16-13

Chemical composition

Element	min/max	Others
C	0,04 - 0,10	
Si	0,30 - 0,60	
Mn	<=1,50	
P	<=0,035	
S	<=0,015	
Cr	15,00 - 17,00	
Ni	12,00 - 14,00	Nb10xC-1,20

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Mechanical properties

dimension	value	specimen	at temperature	cooling	duration
<i>Data from Stahlschlüssel hook</i>					
solution heat treated					
0,2% yield stress					
	$\geq 205 \text{ N/mm}^2$		$\sim 20^\circ\text{C}$		
	$\geq 175 \text{ N/mm}^2$		$\sim 100^\circ\text{C}$		
	$\geq 157 \text{ N/mm}^2$		$\sim 200^\circ\text{C}$		
	$\geq 137 \text{ N/mm}^2$		$\sim 300^\circ\text{C}$		
	$\geq 128 \text{ N/mm}^2$		$\sim 400^\circ\text{C}$		
	$\geq 118 \text{ N/mm}^2$		$\sim 500^\circ\text{C}$		
	$\geq 118 \text{ N/mm}^2$		$\sim 550^\circ\text{C}$		
	$\geq 113 \text{ N/mm}^2$		$\sim 600^\circ\text{C}$		
Tensile strength					
	510-690 N/mm^2		$\sim 20^\circ\text{C}$		
Elongation after fracture (A5)					
	$\geq 35 \%$		$\sim 20^\circ\text{C}$		
Impact value (DVM)					
	$\geq 85 \text{ J}$		$\sim 20^\circ\text{C}$		
Impact value KV (ISO-V/Charpy-V)					
	$\geq 65 \text{ J}$		$\sim 20^\circ\text{C}$		
Creep rupture strength 1.000 h					
	$\sim 304 \text{ N/mm}^2$		$\sim 550^\circ\text{C}$		
	$\sim 230 \text{ N/mm}^2$		$\sim 600^\circ\text{C}$		
	$\sim 167 \text{ N/mm}^2$		$\sim 650^\circ\text{C}$		
	$\sim 118 \text{ N/mm}^2$		$\sim 700^\circ\text{C}$		
Creep rupture strength 10.000 h					
	$\sim 230 \text{ N/mm}^2$		$\sim 550^\circ\text{C}$		
	$\sim 157 \text{ N/mm}^2$		$\sim 600^\circ\text{C}$		
	$\sim 103 \text{ N/mm}^2$		$\sim 650^\circ\text{C}$		
	$\sim 64 \text{ N/mm}^2$		$\sim 700^\circ\text{C}$		
	$\sim 44 \text{ N/mm}^2$		$\sim 750^\circ\text{C}$		
Creep rupture strength 100.000 h					
	$\sim 170 \text{ N/mm}^2$		$\sim 550^\circ\text{C}$		
	$\sim 94 \text{ N/mm}^2$		$\sim 600^\circ\text{C}$		
	$\sim 64 \text{ N/mm}^2$		$\sim 650^\circ\text{C}$		
	$\sim 34 \text{ N/mm}^2$		$\sim 700^\circ\text{C}$		
	$\sim 20 \text{ N/mm}^2$		$\sim 750^\circ\text{C}$		
High temperature stability					
	$\sim 650^\circ\text{C}$				