

Quality	X12CrS13						
According to Standard	EN 10088-3:2005 (E)						
Number	1.4005						
Comparable Standards	EN	W.N.	AISI	SS (Sweden)			
	X12CrS13	1.4005	416	2380			
Chemical Analysis	C %	Si % max	Mn %	P% max	S%	Cr %	
	0,06 to 0,15	1,00	≤ 1,50	0,040	0,15 to 0,35	12,0 to 14,0	
	Cu	Mo %	Nb	Ni %	Others		
	—	≤ 0,60	—	—	—		
Hot Work and Heat Treatment Temperatures							
Heat Treatment Symbol	Hot Forming		Annealing		Quenching		Tempering
	Temperature	Type of cooling	Temperature	Type of cooling	Temperature	Type of cooling	Temperature
	°C		°C		°C		°C
+A	1100 to 800	air	745 to 825	air	—	—	—
+QT 650	1100 to 800	air	—	—	950 to 1000	oil, air	680 to 780
Mechanical Properties at Room Temperature							
Heat Treatment Condition	Ø	Hardness	Rp0,2^d min.	Rm^d	A^d min. %	KV min. J	
	mm.	HB ^c max	N/mm2	N/mm2			
+A	—	220	—	max 730	—	—	
+QT650	≤ 160	—	450	650 to 850	12	—	