

Quality X39Cr13

According to Standard EN 10088-3:2005 (E)

Number 1.4031



Comparable Standards	EN	W.N.	AISI
	X39Cr13	1.4031	Type 420

Chemical Analysis	C % max	Mn %	Si % max	P% max	Cr %	Ni %	Mo %
	0,36 to 0,42	≤ 1,00	1,00	0,040	12,5 to 14,5	—	—
	S%	Others					
	≤ 0,030 <sup>b</sup>	—					

### Hot Work and Heat Treatment Temperatures

Heat Treatment Symbol	Hot Forming		Annealing		Quenching		Tempering
	Temperature °C	Type of cooling	Temperature °C	Type of cooling	Temperature °C	Type of cooling	Temperature °C
+A	1100 to 800	slow cooling	750 to 850	furn., air	—	—	—
+QT 800	1100 to 800	slow cooling	—	—	950 to 1050	oil, air	650 to 700

### Mechanical Properties at Room Temperature

Heat Treatment Condition	Ø mm.	Hardness HB <sup>c</sup> max	Rp0,2 <sup>d</sup> min. N/mm2	Rm <sup>d</sup> N/mm2 max 800	A <sup>d</sup> min. %	KV min. J
+A	—	245	—	max 800	—	—
+QT 800	≤ 160	—	650	850 to 1000	10	12