

Quality	X12CrNiMoV12-3
According to Standard	EN 10269 : 2013 (E)
Number	1.4938



Comparable Standards	EN	W.N.
	X12CrNiMoV12-3	1.4938

Chemical Analysis	C %	Si % max	Mn %
	0.08 - 0.15	≤ 0.50	0.40 - 0.90
	B	Cr %	Mo %
	-	11.0 - 12.5	1.50 - 2.00
	P% max	S% max	Al _{tot}
	0.025	0.015	-
	Ni %	V %	N
	2.00 - 3.00	0.25 - 0.40	0.020 - 0.040

Guidance for Heat Treatment

Heat Treatment Symbol ^a	Normalizing, quenching or Solution annealing temperature °C	Type of cooling ^b	Tempering or precipitation treatment (and time) ^c °C
+ QT	1035 to 1065	o	600 to 670

Mechanical Properties at Room Temperature

Heat Treatment Condition ^a	Hardness	Diameter ^c	Proof Strength	Tensile strength
	HBW max	d mm	R _{p0.2} Mpa min.	R _m Mpa
+ QT	-	d ≤ 160	760	930 to 1130
+ A	311	-	-	-
	Elongation after fracture	Reduction in area	Impact energy (ISO-v) at 20°C	
	A % min.	Z % min.	KV ₂ J min.	
	14	40	40	
	-	-	-	