

Quality	20CrMoVTiB4-10
According to Standard	EN 10269 : 2013 (E)
Number	1.7729

Comparable Standards	EN	W.N.					
		20CrMoVTiB4-10	1.7729				
Chemical Analysis	C %	Si % max	Mn %	P% max	S% max	Al _{tot}	Ti
	0.17 to 0.23	≤ 0.40	0.35 to 0.75	0.02	0.015 ^b	0.015 to 0.080	0.07 to 0.15
	B	Cr %	Mo %	Ni %	V %	Others	As
	0.001 to 0.010	0.90 to 1.20	0.90 to 1.10	≤ 0.20	0.60 to 0.80	Sn : ≤ 0.020 Cu : ≤ 0.20	≤ 0,020

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
+ QT	660 to 700 + 970 to 990	a, w, o	680 to 720

Mechanical Properties at Room Temperature

Heat Treatment Condition ^{a,b}	Hardness	Diameter ^c	Proof Strength	Tensile strength	Elongation after fracture	Reduction in area	Impact energy (ISO-V) at 20°C
	HBW max	d mm	R _{p0.2} Mpa min.	R _m Mpa	A % min.	Z % min.	KV ₂ J min.
+ QT	-	d ≤ 100 100 < d ≤ 160	660 660	820 to 1000 820 to 1000	15 15	50 50	40 27