

STANDARD REFERENCE:
UNI EN 10084: 2008 (Hot-rolled and hot-rolled + turned products) | **UNI EN 10277-4: 2008** (Bright products)

RODACCIAI REFERENCES AND COMPARABLE STANDARDS

	EUROPE		ITALY	GERMANY		FRANCE	UK	USA
	UNI EN 10084: 2008 UNI EN 10277-4: 2008		(UNI 7846-78)	(DIN 17210-84)		(NF A 35-551-86)	(BS 970 pt.3-91)	ASTM A 29
	Grade	N°		Werkstoff	N°			
KV10	C10E	1.1121	C10	Ck10	1.1121	XC 10	045A10	1010
R10S	C10R	1.1207		-	-		-	

CHEMICAL COMPOSITION (CAST ANALYSIS) (%)

	Europe	C	Si / max	Mn	P / max	S	Al	Pb
KV10	C10E	0,07÷0,13	0,40	0,30÷0,60	0,035	≤ 0,035	0,020÷0,050	-
R10S	C10R					0,020÷0,040		
R10 Pb	C10 Pb					0,020÷0,040		0,15÷0,30

MECHANICAL PROPERTIES

Size mm	as Rolled + Turned (+SH)		Cold drawn (+C)			+A* **+ Turned (+A+SH)	+A* **+ Cold drawn (+A+C)
	Hardness (HB)	R _m (MPa)	R _{p0,2} (MPa) min	R _m (MPa) min	A ₅ (%) min	Hardness (HB) max	Hardness (HB) max
≥ 5 ≤ 10	-	-	350	460÷760	8	-	225
> 10 ≤ 16	-	-	300	430÷730	9	-	216
> 16 ≤ 40	92÷163	310÷550	250	400÷700	10	131	207
> 40 ≤ 63	92÷163	310÷550	200	350÷640	12	131	190
> 63 ≤ 100	92÷163	310÷550	180	320÷580	12	131	172

*Hardness values valid also in as rolled condition **+A = annealed to maximum hardness requirement
For size <5 mm the mechanical properties may be agreed at the time of enquiry and order

WORKING TEMPERATURES RECOMMENDED

Operation	Hot forgings deformation	Carburizing temperature	Core quenching temperature	Case quenching temperature	Tempering
°C	900÷1150	880÷930	880÷980	780÷820	150÷200