

STANDARD REFERENCE:
UNI EN 10084: 2008 (Laminati, pelati e rullati) | **UNI EN 10277-4:2008** (Finiti a freddo)

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°			
KV15	C15E	1.1141	C15	Ck15	1.1141	XC 12	(080M15)	1015

CHEMICAL COMPOSITION (CAST ANALYSIS) (%)

	Europe	C	Si / max	Mn	P / max	S	Al	Pb
KV15	C15E	0,12÷0,18	0,40	0,30÷0,60	0,035	≤ 0,035	-	-
R15Pb	C15R Pb							

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	-	-	380	500÷800	7	-		238	
> 10 ≤ 16	-	-	340	480÷780	8	-		231	
> 16 ≤ 40	98÷178	330÷600	280	430÷730	9	143		216	
> 40 ≤ 63	98÷178	330÷600	240	380÷670	11	143		198	
> 63 ≤ 100	98÷178	330÷600	215	340÷600	12	143		178	

*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÷980	880÷920	780÷820	150÷200