

STANDARD REFERENCE:
UNI EN 10083-2: 2006 (Hot-rolled products)

RODACCIAI REFERENCES AND COMPARABLE STANDARDS

	EUROPE		ITALY	GERMANY		FRANCE	UK	USA
	UNI EN 10083-2: 2006		(UNI 7845-78)	(DIN 17200-86)		(NF A 35-552-86)	(BS 970 pt.3-96)	ASTM A 29
	Grade	N°		Werkstoff	N°			
KV20	C22E	1.1151	-	Ck 22	1.1151	XC 18	070M20	1020

CHEMICAL COMPOSITION (CAST ANALYSIS) (%)

	Europe	C	Si / max	Mn	P / max	S	Cr / max	Mo / max	Ni / max	Al	Pb
KV20	C22E	0,17÷0,24	0,40	0,40÷0,70	0,035	≤ 0,035	0,40	0,10	0,40	-	-
R20Pb	C22E Pb					0,020÷0,040					

MECHANICAL PROPERTIES - AS ROLLED CONDITION

Size mm	HB max to condition:		Normalized (+N)		
	Treated to improve shearability (+S)	Soft annealing (+A)	R _{p0,2} (MPa) min	R _m (MPa) min	A ₅ (%) min
≤ 16	it can be sheared without heat treatment	-	240	430	24
> 16 ≤ 40		-	210	410	25
> 40 ≤ 100		-	210	410	25

MECHANICAL PROPERTIES - BRIGHT PRODUCTS CONDITION*

Size mm	as Rolled + as Rolled + Turned (+SH)		Cold Drawn (+C)		
	Hardness HB	R _m (MPa)	R _{p0,2} (MPa) min	R _m (MPa)	A ₅ (%) min
≥ 5 ≤ 10	-	-	425	550÷900	7
> 10 ≤ 16	-	-	340	500÷800	8
> 16 ≤ 40	136÷200	460÷650	270	470÷770	9
> 40 ≤ 63	136÷200	460÷650	240	450÷750	10
> 63 ≤ 100	136÷200	460÷650	215	425÷700	10

*For reference only

For size <5 mm the mechanical properties may be agreed at the time of enquiry and order

WORKING TEMPERATURES RECOMMENDED

Operation	Hot forgings deformation	Isothermal annealing	Soft annealing	Quenching in water	Tempering
°C	850÷1150	880÷900	650÷700	870÷890	580÷620

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DIRECT-HARDENING
NOT ALLOYED

Rodacciai name

KV20 - R20Pb
3101