

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.1-96)	ASTM A 29
	Grade	N°		Werkstoff	N°			
RN2	16NiCr4 16NiCrS4	1.5714 1.5715	16CrNi4	-	-	-	637M17	-

CHEMICAL COMPOSITION (CAST ANALYSIS) (%)

	Europe	C	Si / max	Mn	P / max	S	Cr	Ni	Al	Pb
RN2	16NiCr4					≤ 0,035				-
	16NiCrS4	0,13±0,19	0,40	0,70±1,00	0,025	0,020±0,040	0,60±1,00	0,80±1,10	0,020±0,050	-
RN2Pb	16NiCrS4Pb					0,020±0,040				0,15±0,30

MECHANICAL PROPERTIES - AS ROLLED CONDITION - Hardness (HB) in the condition

Treated to improve sherrability (+S)	Annealed to maximum hardness requirements (+A)	Treated to hardness range (+TH)		Treated to ferrite-pearlite structure and hardness range (+FP)	
≤ 255	≤ 217	≥ 166	≤ 217	≥ 156	≤ 207

MECHANICAL PROPERTIES - BRIGHT PRODUCT CONDITION

Size mm	+A*+ Turned (+A+SH)	+A*+ Cold drawn (+A+C)	FP**+ Turned (+FP+SH)	FP**+ Cold drawn (+FP+C)
	Hardness HB max	Hardness HB max	Hardness HB	Hardness HB
≥ 5 ≤ 10	-	270	-	-
> 10 ≤ 16	-	260	-	-
> 16 ≤ 40	217	255	156±207	156±245
> 40 ≤ 63	217	255	156±207	156±240
> 63 ≤ 100	217	255	156±207	156±240

*+A = annealed to maximum hardness requirement

**+FP = treated to ferrite-perlite structure and hardness range

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

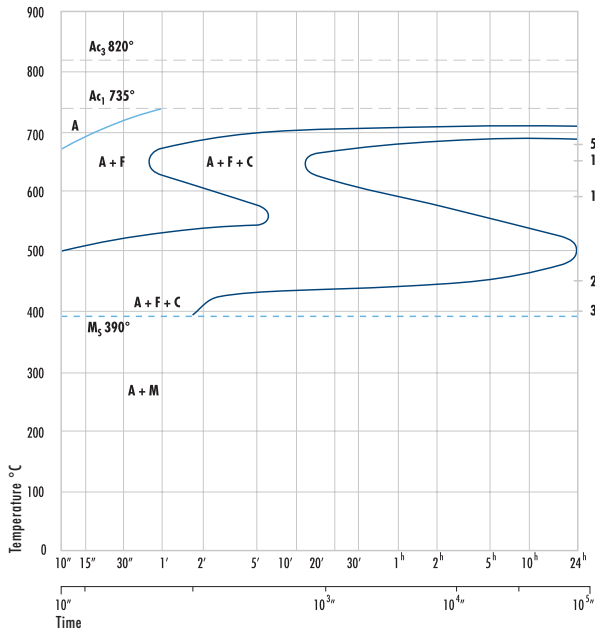
WORKING TEMPERATURES RECOMMENDED

Operation	Hot forgings deformation	Carburizing temperature	Core quenching temperature	Case quenching temperature	Tempering
°C	900±1150	880±980	850±890	780±820	150±200

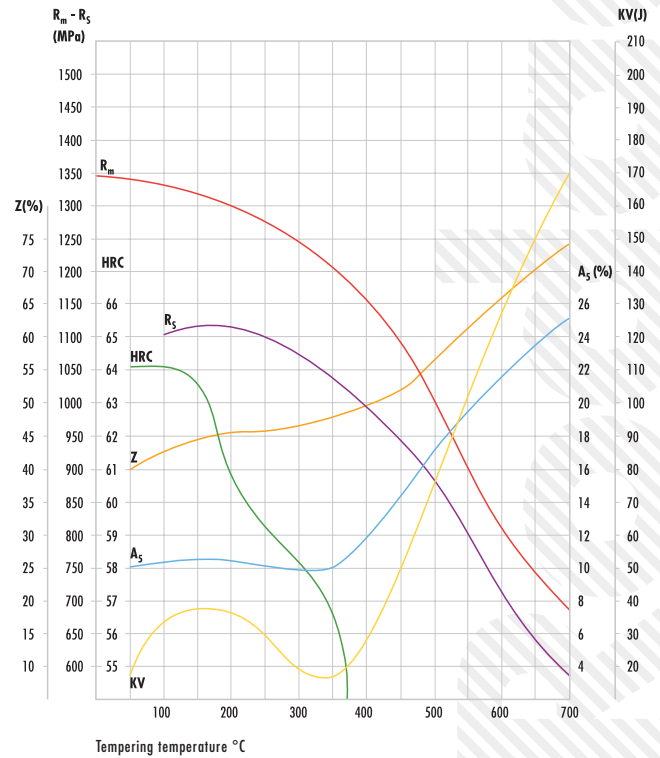
HARDNESS LIMITS (JOMINY TEST)

Limits of range	Hardness HRC at a distance from quenched end of test pieces (mm)													
	1,5	3	5	7	9	11	13	15	20	25	30	35	40	
+H	Max	47	46	44	42	40	38	36	34	32	30	29	28	28
	Min	39	36	33	29	27	25	23	22	20	-	-	-	-
+HH	Max	47	46	44	42	40	38	36	34	32	30	29	28	28
	Min	42	39	37	33	31	29	27	26	24	22	21	20	20
+HL	Max	44	43	40	38	36	34	32	30	28	26	25	24	24
	Min	39	36	33	29	27	25	23	22	20	-	-	-	-

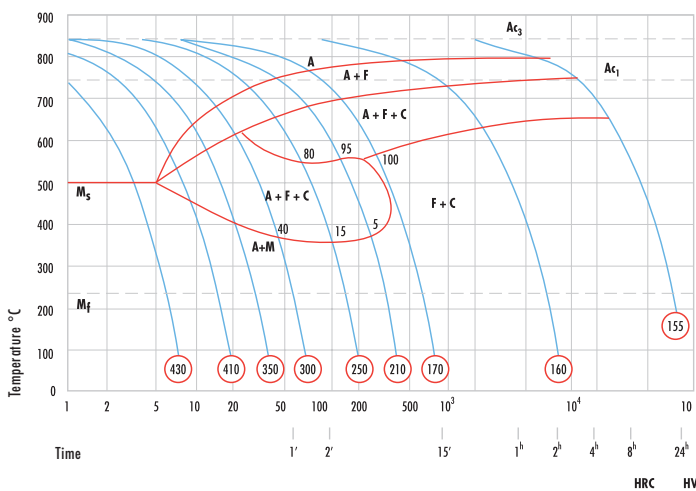
TTT



TEMPERING CURVE



CCT



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