

STANDARD REFERENCE:

EN 10088-3: 2014 (Hot-rolled and bright products)

RODACCIAI REFERENCES AND COMPARABLE STANDARDS

EUROPE		ITALY	GERMANY		FRANCE	UK	USA
EN 10088-3: 2005		(UNI 6900: 71)	(DIN 17440 - 85)		(NF A 35-574-90)	(BS 970 pt. 3 -91)	AISI
Grade	N°		Werkstoff	N°			
X39CrMo17-1	1.4122	-	-	-	-	-	-

CHEMICAL COMPOSITION (CAST ANALYSIS) (%)

C	Si / max	Mn / max	P / max	S / max	Cr	Mo	Ni / max
0,33÷0,45	1,00	1,50	0,040	0,030	15,5÷17,5	0,80÷1,30	1,00

MECHANICAL PROPERTIES - Rough turned (1X) in the annealed condition

Size max (mm)	Heat treatment	Hardness HB max*	Rp _{0,2} (MPa) min	R _m (MPa)	A ₅ (%) min	KV (J) min
100	Annealed (+A)	280	-	900 max	-	-
60	Quenched + Tempered (+QT 750)	-	550	750÷950	12	15

* only for guidance

MECHANICAL PROPERTIES - Cold drawn (2H, 2B) and ground bars (2G) in the solution annealed condition

Size max (mm)	Annealed		Quenched + Tempered				
	R _m (MPa) max	HB max*	Heat treatment	Rp _{0,2} (MPa) min	R _m (MPa) max	A ₅ (%) min**	KV (J) min
≤ 10	1000	340	Quenched + Tempered (+QT750)	650	800÷1050	8	-
> 10 ≤ 16	1000	340		600	800÷1050	8	-
> 16 ≤ 40	980	310		550	750÷1000	10	14
> 40 ≤ 63	930	290		550	750÷950	12	14
> 63 ≤ 100	900	280		550	750÷950	12	10

* for reference only ** values valid only for size ≥ 5 mm

MECHANICAL PROPERTIES - Cold drawn wire and coils (2H)

Tensile strength levels	+C 500	+C 650	+C 800	+C900
R _m (MPa)	500÷700	650÷850	800÷1000	900÷1100

Note: the desired tensile strength level shall be evaluated depending on diameter required



MECHANICAL PROPERTIES - Cold drawn wire and coils in the solution annealed condition (2D)

Size	$0,50 \leq d \leq 1,00$	$1,00 \leq d \leq 3,00$	$3,00 \leq d \leq 5,00$	$5,00 \leq d \leq 16,00$
Rm (MPa) max	1100	1050	1000	950
A (%) max	10	10	10	15

* for reference only

Note: If skin passed, Rm might be increased by up to 50 MPa

WORKING TEMPERATURES RECOMMENDED

Operation	Hot forgings deformation	Annealing (furnace, air)	Quenching in oil	Tempering (QT 750)
°C	800÷1100	750÷850	980÷1060	650÷750

