

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°			
X17CrNi16-2	1.4057	X 16 CrNi 16	X17CrNi16-2	1.4057	Z 15 CN 16 - 02	431S29	431

CHEMICAL COMPOSITION (CAST ANALYSIS) (%)

C	Si / max	Mn / max	P / max	S / max	Cr	Ni
0,12÷0,22	1,00	1,50	0,040	0,030	15,0÷17,0	1,50÷2,50

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)	295	-	950 max	-	-
≤ 60	Quenched + Tempered (+QT 800)	-	600	800÷950	14	25
> 60 ≤ 100	Quenched + Tempered (+QT 800)	-	600	800÷950	12	20
≤ 60	Quenched + Tempered (+QT 900)	-	700	900÷1050	12	16
> 60 ≤ 100	Quenched + Tempered (+QT 900)	-	700	900÷1050	10	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	1050	330	Quenched + Tempered (+QT 800)	750	850÷1100	7	-
> 10 ≤ 16	1050	330		700	850÷1100	7	-
> 16 ≤ 40	1000	310		650	800÷1050	9	25
> 40 ≤ 63	950	295		650	800÷1000	12	25
> 63 ≤ 100	950	295		650	800÷950	12	16

* 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	+C 900
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

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 air or oil	Tempering (QT 800)	Tempering (QT 900)
°C	900÷1100	680÷800	950÷1050	750÷800 + 650÷700	600÷650

