

**STANDARD REFERENCE:**

EN 10088-3: 2014 (Hot-rolled and bright products) | EN 10263-5: 2017 (Wire rods, bars and wire for cold heading products)

EN 10272: 2016 (Stainless steel bars for pressure purposes) P.E.D. 2014/68/EU

**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°			
X5CrNi18-10	1.4301	X 5 CrNi 18 10	X5CrNi18-10	1.4301	Z7 CN 18 - 09	304S15	304

**CHEMICAL COMPOSITION (CAST ANALYSIS) (%)**

C / max	Si / max	Mn / max	P / max	S / max	N / max	Cr	Ni
0,07	1,00	2,00	0,045	0,030	0,10	17,50÷19,50	8,0÷10,5

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

Size max (mm)	Hardness HB max**	Rp <sub>0,2</sub> (MPa) min	Rp <sub>1</sub> (MPa) min*	R <sub>m</sub> (MPa)**	A <sub>5</sub> (%) min**	KV (J) min	Resistance to intergranular corrosion	
							in the delivery condition	in the welded condition
100	215	190	225	500÷700	45	100	YES	NO

\* Only for guidance \*\* The maximum HB values may be raised by 100HB or the tensile strength value may be raised by 200 MPa and the minimum A<sub>5</sub> value may be lowered to 20% for bars of ≤35 mm

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

Size max (mm)	Rp <sub>0,2</sub> (MPa) min	R <sub>m</sub> (MPa)	A <sub>5</sub> (%) min*	KV (J) min
≤ 10	400	600÷950	25	-
> 10 ≤ 16	400	600÷950	25	-
> 16 ≤ 40	190	600÷850	30	100
> 40 ≤ 63	190	580÷850	30	100
> 63 ≤ 100	190	500÷700	45	100

\* Values valid only for size ≥ 5 mm

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

Tensile strength levels	+C 600	+C 700	+C 800	+C900	+C 1000	+C 1100	+C 1200	+C 1400	+C 1600
R <sub>m</sub> (MPa)	600÷800	700÷900	800÷1000	900÷1100	1000÷1250	1100÷1350	1200÷1450	1400÷1700	1600÷1900

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	$0,10 \leq d \leq 0,20$	$0,20 \leq d \leq 0,50$	$0,50 \leq d \leq 1,00$	$1,00 \leq d \leq 3,00$	$3,00 \leq d \leq 5,00$	$5,00 \leq d \leq 16,00$
Rm (MPa) max	1050	1000	950	900	850	800
A (%) min	20	30	30	30	35	35

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

**WORKING TEMPERATURES RECOMMENDED**

Operation	Hot forgings deformation	Solution annealing (water, air)
°C	900÷1200	1000÷1100

