

STANDARD REFERENCE:
EN 10088-3: 2005 (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°			
X2CrNi19-11	1.4306	X 2 CrNi 18 11	X2CrNi19-11	1.4306	Z3 CN 19 - 11	304S11	304L

CHEMICAL COMPOSITION (CAST ANALYSIS) (%)

C / max	Si / max	Mn / max	P / max	S / max	N / max	Cr	Ni
0,030	1,00	2,00	0,045	0,030	0,11	18,0÷20,0	10,0÷12,0

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
Rm (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 (2H, 2B) and ground bars (2G) in the solution annealed condition

Size max (mm)	Rp _{0.2} (MPa) min	R _m (MPa)	A ₅ (%) min*	KV (J) min
≤ 10	400	600÷930	25	-
> 10 ≤ 16	380	600÷930	25	-
> 16 ≤ 40	175	500÷830	30	100
> 40 ≤ 63	175	500÷830	30	100
> 63 ≤ 100	175	500÷700	45	100

* Values valid only for size ≥ 5 mm

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

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

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

MECHANICAL PROPERTIES - Bars, wire and coils for cold heading

Size mm	as Treated (+AT) o Peeled (+AT+PE)		Cold Drawn (+AT +C)		Cold Drawn + Solution annealed (+AT +C +AT)		Cold Drawn + Solution annealed + Skin passed(+AT +C +AT +LC)	
	R _m (MPa) max	Z (%) min	R _m (MPa) max	Z (%) min	R _m (MPa) max	Z (%) min	R _m (MPa) max	Z (%) min
≥ 2 ≤ 5	-	-	-	-	680	68	730	63
> 5 ≤ 10	630	68	780	-	630	68	680	63
> 10 ≤ 25	630	68	740	-	630	68	-	-
> 25 ≤ 50	630	68	-	-	-	-	-	-

WORKING TEMPERATURES RECOMMENDED

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