

STANDARD REFERENCE:

EN 10088-3: 2014 (Hot-rolled and bright products) | EN 10263-5: 2017 (Wire rods, bars and wire for cold heading 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 1554 -90)	AISI
Grade	N°		Werkstoff	N°			
X6CrMo17-1	1.4113	X 8 CrMo 17	X6CrMo17-1	1.4113	Z 8 CD 17-01	434S20	434

CHEMICAL COMPOSITION (CAST ANALYSIS) (%)

C / max	Si / max	Mn / max	P / max	S / max	Cr	Mo
0,08	1,00	1,00	0,040	0,030	16,0÷18,0	0,90÷1,40

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

Size max (mm)	Hardness HB max*	Rp _{0.2} (MPa) min	R _m (MPa)	A ₅ (%) min	Resistance to intergranular corrosion	
					in the delivery condition	in the welded condition
100	200	280	440÷660	18	YES	NO

* Only for guidance

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	0,10 ≤ 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
R _m (MPa) max	900	850	850	800	750	700
A (%) min	10	15	15	15	15	20

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

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*
≤ 10	340	540÷700	8
> 10 ≤ 16	320	500÷700	12
> 16 ≤ 40	280	440÷700	15
> 40 ≤ 63	280	440÷700	15
> 63 ≤ 100	280	440÷660	18

* Values valid only for size ≥ 5 mm



MECHANICAL PROPERTIES - Bars, wire and coils for cold heading

Size mm	As Treated (+AT) or 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	-	-	-	-	600	60	660	58
> 5 ≤10	600	60	710	57	600	60	640	58
> 10 ≤25	600	60	690	57	600	60	-	-

WORKING TEMPERATURES RECOMMENDED

Operation	Hot forgings deformation	Annealing (air)
°C	800÷1100	750÷850

