

STANDARD REFERENCE:
UNI EN 10087: 1998 (Hot-rolled products) | UNI EN 10277-3: 2008 (Bright products)
RODACCIAI REFERENCES AND COMPARABLE STANDARDS

EUROPE		ITALY	GERMANY		FRANCE	UK	USA
UNI EN 10087: 1998 UNI EN 10277-3: 2008		(UNI 4838-80)	(DIN 1651-88)		(NF A 35-562-86)	(BS 970 pt.3-91)	ASTM A 29
Grade	N°		Werkstoff	N°			
44SMn28	1.0762	CF 44 SMn 28	-	-	45 MF 6.3	226M44	1144

CHEMICAL COMPOSITION (CAST ANALYSIS) (%)

C	Si / max	Mn	P / max	S
0,40÷0,48	0,40	1,30÷170	0,06	0,24÷0,33

MECHANICAL PROPERTIES - AS ROLLED CONDITION

Size mm	as Rolled and/or as Rolled + Rurnd (+SH)		as Rolled and/or as Rolled + Turned + Quenched + Tempered (+SH +QT)		
	Hardness HB*	R _m (MPa)	R _{p0,2} (MPa) min	R _m (MPa)	A ₅ (%) min
≥5 ≤10	-	630÷900**	520	700÷850	16
>10 ≤16	-	630÷850**	480	700÷850	16
>16 ≤40	187÷242	630÷820	420	700÷850	16
>40 ≤63	184÷235	620÷790	410	700÷850	16
>63 ≤100	181÷231	610÷780	400	700÷850	16

* For reference only **Values valid only for hot rolled products
For size <5 mm the mechanical properties may be agreed at the time of enquiry and order

MECHANICAL PROPERTIES - COLD DRAWN CONDITION

Size mm	Cold Drawn (+C)			Cold Drawn + Quenched + Tempered (+C +QT)			Quenched + Tempered + Cold Drawn (+QT +C)		
	R _{p0,2} (MPa) min	R _m (MPa)	A ₅ (%) min	R _{p0,2} (MPa) min	R _m (MPa)	A ₅ (%) min	R _{p0,2} (MPa) min*	R _m (MPa)	A ₅ (%) min
≥5 ≤10	600	760÷1030	5	-	-	-	595	850÷1000	9
>10 ≤16	530	710÷980	5	-	-	-	595	850÷1000	9
>16 ≤40	460	660÷900	6	420	700÷850	16	490	700÷900	11
>40 ≤63	430	650÷870	7	410	700÷850	16	490	700÷900	12
>63 ≤100	390	630÷840	7	400	700÷850	16	490	700÷900	12

*For reference only
For size <5 mm the mechanical properties may be agreed at the time of enquiry and order

WORKING TEMPERATURES RECOMMENDED

Operation	Hot forgings deformation	Normalizing	Soft annealing	Quenching in oil or water	Tempering
°C	950÷1230	850÷880	650÷700	840÷870	540÷680

rev. 04/2013

FREE-CUTTING STEELS
DIRECT-HARDENING

Rodacciai name

44SMn28
1304