

STANDARD REFERENCE:

EN ISO 683-4: 2018 (Hot-rolled products) | EN 10277: 2018 (Bright products) | ASTM A29/A29M - SAE J403

RODACCIAI REFERENCES AND COMPARABLE STANDARDS

EUROPE		ITALY	GERMANY		FRANCE	UK	USA
EN 10087: 1998 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°			
15SMn13	1.0725	-	15 S 10	1.0725	-	(214 M 15)	(1117)

CHEMICAL COMPOSITION (CAST ANALYSIS) (%)

C	Si / max	Mn	P / max	S
0,14÷0,18	0,40	1,00÷1,30	0,030	0,08÷0,13

MECHANICAL PROPERTIES OF BRIGHT STEEL (according to EN 10277: 2018)

Size mm	as Rolled and/or as Rolled + Turned (+SH)		Cold Drawn (+C)		
	Hardness HB max	R _m (MPa)	R _{p0,2} (MPa) min	R _m (MPa)	A ₅ (%) min
≥5 ≤10	-	-	450	560÷840	6
>10 ≤16	-	-	430	500÷800	7
>16 ≤40	178	430÷600	390	470÷770	8
>40 ≤63	172	430÷580	350	460÷680	9
>63 ≤100	160	420÷540	265	440÷640	10

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	Carburizing temperature	Core-hardening temperature	Case-hardening temperature	Tempering
°C	950÷1250	880÷920	650÷700	880÷980	890÷910	780÷820	150÷200



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FREE-CUTTING STEELS
CASE-HARDENING
1117
