

STANDARD REFERENCE:  
 ASTM A 193

**RODACCIAI REFERENCES AND COMPARABLE STANDARDS**

EUROPE		ITALY	GERMANY		FRANCE	UK	USA
EN 10083-3: 2006		(UNI 7845 - 78)	(DIN 17200 - 86)		(NF A 35-552-86)	(BS 970 pt. 1 - 96)	ASTM A 193
Grade	N°		Werkstoff	N°			
-	-	-	-	-	-	-	B16

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

C	Si	Mn	P / max	S / max	Cr	Mo	V	Al / max
0,36÷0,47	0,15÷0,35	0,45÷0,70	0,035	0,040	0,80 ÷ 1,15	0,50 ÷ 0,65	0,25 ÷ 0,35	0,015

**MECHANICAL PROPERTIES - QUENCHED\***

Size mm	Rp <sub>0,2</sub> (MPa) min	R <sub>m</sub> (MPa) min	A <sub>4</sub> (%) min	Z (%) min	Hardness max
≤M64**	725	860	18	50	321 HB or 35 HRC
>M64 ≤M70**	655	760	17	45	302 HB or 33 HRC

\* minimum tempering temperature 620°C \*\*thread diameter

**WORKING TEMPERATURES RECOMMENDED**

Operation	Hot forgings deformation	Soft annealing	Quenching in oil	Tempering
°C	900÷1150	650÷700	925÷954	650÷730

