TorqBolt Inc.

MATERIAL GRADE DATA SHEET

DURAHETE 1055

Cr-Mo-V ALLOY

BOLTING MATERIAL FOR HIGH TEMPERATURE SERVICE

Durehete 1055 is a 1Cr1Mo3/4V tempered martensitic material with added Titanium and Boron. Durehete 1055 was first developed in the 1960s to operate at the UK's normal boiler steam conditions of 565o C, although early materials suffered from inadequate creep ductility. Creep failure of high temperature bolting is generally related to inadequate long-term ductility under displacement controlled loading conditions (for example, stress relaxation after repeated bolt tightening).

Chemical Properties

C	Si	Mn	P	S	Al	B	Cr	Mo	Ni	V	Ti
0.17-0.23	0.40	0.35-075	0.020	0.020	0.015-0.080	0.001-0.010	0.90-1.20	0.90-1.10	0.20	0.60-0.80	0.07-0.15

As	Sn	Cu	R
0.020	0.020	0.20	0.1

Mechanical Properties

Yeild strength	Tensile strength	Elongation	Reduction
Min 0.2% Mpa	Min Mpa	Min %	Min %
660	820	15	50

Physical Properties

Density	lastic Modulu	Mean Coefficient of Thermal			Thermal Conductivity		Specific Heat	Electrical Resistivity
(Kg/m^3)	(Gpa)	Expansion(µm/m/°C)			(W/m.K)		0-100°C	(nΩ.m)
7830	165-211	11.1	12.9	14.1	33	42	412-584	270-1010

Heat Treatment

Quenched @ 970^{0}C & Tempered @ 720^{0}C

Equivalent Designation

En name 20CrMoVTiB4.10

Werkstoff.No. 1.7729

BS1506 681-820

EN10269

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