

FV520B

Product Datasheet



Precipitation Hardening Stainless Steel

Service. Quality. Value.

Excellent Anti-Galling Properties

FV520B is similar to 17-4PH and combines high strength and toughness with superior corrosion resistance.

FV520B is a martensitic precipitation hardening stainless steel which is capable of being hardened by low-temperature treatment. The alloy boasts superior corrosion resistance when compared to standard martensitic grades. Corrosion resistance compares favourably with 304 stainless steel, and as a result, use of the product in marine atmospheres is typical as the effects of rusting are relatively low. FV520B offers improved corrosion resistance in specific environments and also improved intergranular and pitting corrosion characteristics when compared to 17-4PH. While difficult to machine, the alloy does provide good weldability, although the use of matching consumables is advisable.

Key Features

- Excellent anti-galling characteristics
- Good corrosion resistance
- Good weldability
- High strength with moderate toughness

Applications

- Impellers and turbine blades
- Fasteners
- Pumps, valves and hydraulic equipment
- Aerospace applications

Chemical Composition (weight %)

Weight (%)	C	Si	Mn	P	S	Cr	Ni	Mo	Cu	Nb	
Min						13.2	5.0	1.2	1.20	0.20	
Max	0.07	0.70	1.0	0.035	0.025	14.7	6.0	2.0	2.0	0.70	

Mechanical Properties (DEF STAN 95-16 for hot worked material)

Designation	0.2% Proof Stress MPa min	Tensile Strength, MPa		Elongation% on 5.65 √So, min	Hardness HV		IZOD Impact ft lbf, min
		min	max		min	max	
S	-	-	-	-	280	340	-
N	-	-	-	-	-	380	-
PHa	-	-	-	-	-	360	-
PHb	-	-	-	-	-	360	-
PA	1000	1080	1240	12	350	400	20 (30J)
OA 530	930	1000	1160	12	320	370	30 (40J)
OA 545	800	930	1080	15	290	360	40 (55J)
OA 620	540	850	1000	20	270	320	40 (55J)

Note: For conditions PA, OA 530, OA 545 and OA620 the hardness figures shown are for guidance purposes only

Availability

We supply FV520B in flat, round and square bar.

UK Service Centres:

Smiths Belfast 02895 908 897
Smiths Biggleswade 01767 604 704
Smiths Birmingham 0121 728 4940
Smiths Bristol 0117 971 2800
Smiths Chelmsford 01245 466 664
Smiths Gateshead 0191 469 5428
Smiths Horsham 01403 261 981

Quality & Testing:

Smiths Leeds 0113 307 5167
Smiths Manchester 0161 794 8650
Smiths Norwich 01603 789 878
Smiths Nottingham 0115 925 4801
Smiths Redruth 01209 315 512
Smiths Verwood 01202 824 347
Main Office 0845 527 3331

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