

FV520B

FV520B is a martensitic age-hardenable stainless steel which exhibits very good corrosion resistance (similar to stainless type 304) with moderate strength, which is nearly 3 times the strength of stainless type 304. It is generally supplied in the annealed condition, requiring no heat treatment. The mechanical properties will depend on the aging temperature selected by the user for many applications.

Chemical Composition, %

element	Cr	Ni	Fe	Cu	Mo	Nb	C	Mn	Si	P	S
min.	14.00	5.00	bal.	1.25	0.50	8xC					
max.	16.00	7.00		1.75	1.00	0.75	0.050	1.00	1.00	0.030	0.030

Chemical Composition according to ASTM. Some compositional limits of other specifications may vary slightly.

Designation and standards

National Standards	Material designation	Chemical composition	Forgings	Rod and bar	Plate and sheet	Strip
ASTM ASME SAE NACE	UNS S45000 XM-25	A959 SA959 MR0175	A705 SA705 AMS5763 AMS5773	A564 SA564 AMS5763 AMS5773	A693 SA693 AMS5863	A693 SA693 AMS5863
DIN	1.4594 X5CrNiMoCuNb14-5	DIN 10088-1		DIN 10088-3		

Density 7.82g/cm³

Corrosion resistance

- excellent resistance to oxidation up to approx. 650°C
- corrosion resistance comparable to stainless type 304 in most media
- acceptable resistance to sulfide stress cracking at Rockwell C31 maximum hardness per NACE MR0175.

Applications

Typical applications are:

- pump shafts, impellers, fasteners, fans, valves, hydraulic equipment used in oil and gas industries, petrochemical, marine and nuclear engineering
- aircraft components such as steam turbine blades