

A6928 VAR

Special material 300 M
AISI/SAE 4340M

Standards

AMS 6417, AMS 6419, AMS 6257

Chemical composition (indicative analysis in %)

C	Si	Mn	P	S	Cr	Mo	Ni	V	Cu
0,38- 0,43	1,45- 1,80	0,60- 0,90	Max. 0,010	Max. 0,010	0,70- 0,95	0,30- 0,50	1,65- 2,00	0,05- 0,10	Max. 0,35

Description and applications:

The VAR 300M is a high quality aircraft grade low alloy Ni-Cr-Mo steel and contains vanadium and a higher silicon content compared to the 4340M to achieve even higher strength and higher tempering temperatures. The 300M is a through-hardening alloy.

With its high transverse ductility, toughness and creep properties, the alloy is ideal for applications where strength and fatigue resistance together with impact strength and fracture toughness are paramount.

Application: The alloy is widely used in the aerospace industry, e.g. for airframes, screws, fasteners, helicopter shafts and landing gear, as well as in the motorsport industry.

Remelting in a vacuum arc furnace (VLBO) is used to achieve an optimum degree of purity and the desired ingot structure.

Heat treatment (to AMS 6417):

Normalizing annealing: 927 °C, 1h, cooling in air

Hardening: 871 °C, 1h, quenching in oil

Tempering: Tempering twice at 204-649 °C, depending on the desired strength and hardness

