

Steam Turbine Blades

Why stainless?

Good mechanical properties at elevated temperatures.

Fabrication process:

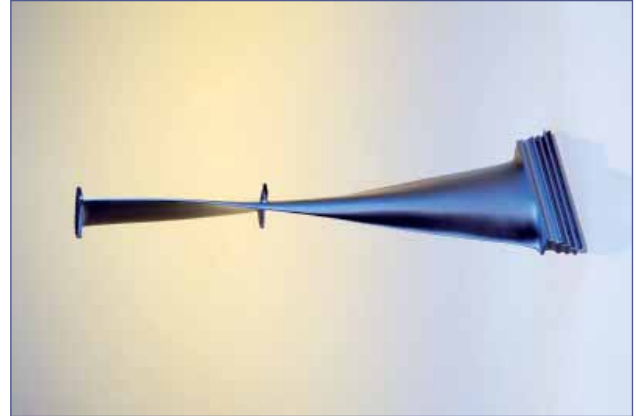
Large blades are forged from billets, machined, then heat-treated. Small blades are heat-treated and machined from flat bars.

Grade:

Proprietary 0.2C 13Cr Nb V super martensitic stainless steels.

Manufacturer:

Alstom Power SA, Switzerland (alstom.ch).



Coal, gas and nuclear powerplants produce electricity by heating water to create steam. The steam is driven through turbine blades at very high pressure. The blades drive the turbine which generates electricity.

The typical operating temperature of the steam is around 600° C. The blades must be tough and resistant to creep, stress, corrosion and cracking. The super-martensitic stainless steels used in these blades are perfect for use in this application.

Images courtesy of Alstom Power SA, Switzerland and Deutsche Edelstahlwerke, Germany.

