

HAYNES[®] NS-163[®] alloy

Principal Features

HAYNES[®] NS-163[®] alloy is a Co – 28Cr – 21Fe – 8Ni – 1.3Ti – 1Nb alloy produced as wrought sheet, strip and wire material with high creep strength and relatively low density. Its properties bridge the gap between the capabilities of current solid-solution strengthened alloys and the oxide-dispersion strengthened (ODS) mechanical alloys. HAYNES[®] NS-163[®] alloy exhibits good oxidation resistance up to 1800°F (982°C), but is capable of being coated for exceptional oxidation resistance at even higher temperatures.

The high level of creep strength in HAYNES[®] NS-163[®] alloy is achieved via a unique high-temperature Nitride Dispersion Strengthening (NDS) treatment performed after forming, welding and fabrication is complete. Unlike other materials of comparable performance, produced by powder metallurgy, HAYNES[®] NS-163[®] alloy is conventionally melted (VIM + ESR) and processed (via hot and cold rolling) in the same manner as the solid solution strengthened materials and can be conventionally formed, fabricated and welded into nearly any conceivable shape currently produced in other superalloys.