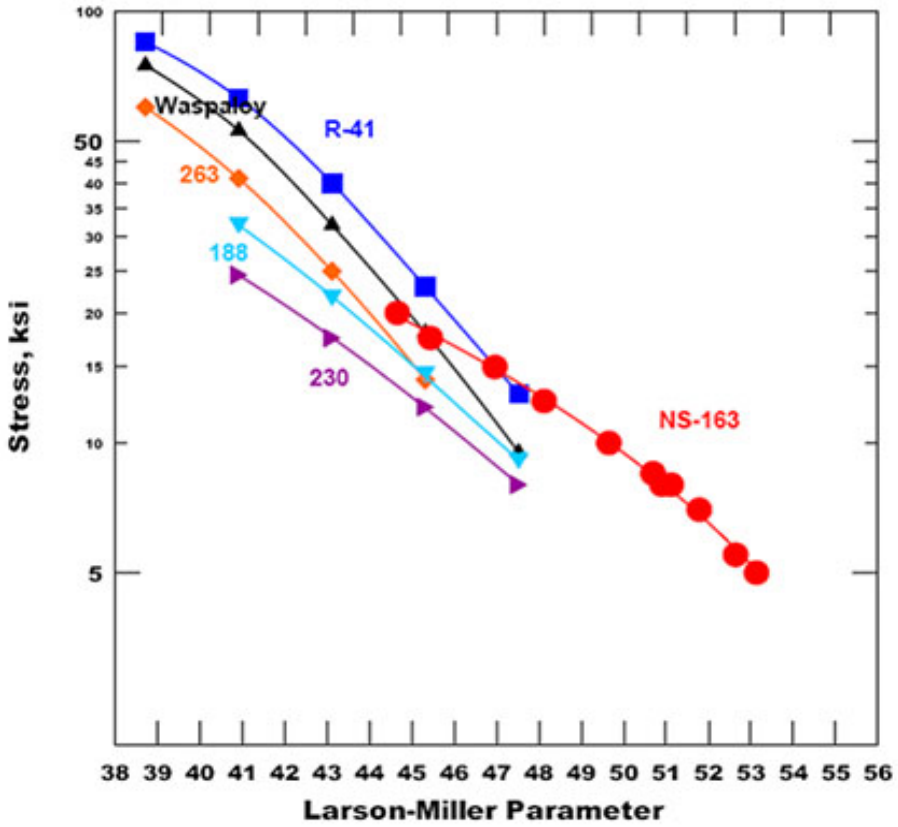
HAYNES® NS-163® alloy

Principle Features

Haynes International, Inc. is pleased to announce the development of HAYNES® NS-163® alloy, an alloy that brings a new level of high-temperature alloy performance at temperatures up to 2200°F (1204°C). HAYNES® NS-163® alloy is a wrought cobalt-based alloy (Co–28Cr–21Fe–9Ni–1.25Ti–1Nb) for use in sheet and wire forms. Not only is this alloy fully fabricable and weldable, it achieves a level of stress-rupture strength that approaches the capabilities of the oxide-dispersion strengthened (ODS) alloys. This capability is developed through a unique new heat treatment under nitrogen which imparts a through-thickness dispersion-strengthening phase in the final part at thicknesses up to 0.100” (2.5 mm). This fabricable alloy achieves strengths that are unparalleled in any other wrought alloy product available today.

NS-163® alloy: Production sheet; 0.080” thick.
Condition: NDS



Alloy	Temperature		Approximate Initial Stress to Produce Rupture in:			
			100 h		1000 h	
-	°F	°C	ksi	Mpa	ksi	MPa
188	1800	982	5.4	37	2.4	17
230®	1800	982	4.9	34	2.6	18
NS-163®	**1800**	**982**	**9.7**	**67**	**6.5**	**45**

HAYNES® NS-163® alloy will become available for commercial sale upon completion of key process developments. A range of sheet thicknesses and wire diameters is now available for trial evaluations.

Please contact Ron Block at (317) 413-4876 or rblock@haynesintl.com for more information.

Nominal Composition

	Weight %
Cobalt:	40 Balance
Nickel:	8
Iron:	21
Chromium:	28
Manganese:	0.5 max.
Silicon:	0.5 max.
Columbium:	1
Aluminum:	0.5 max.
Titanium:	1.3
Carbon:	0.1
Boron:	0.015 max.