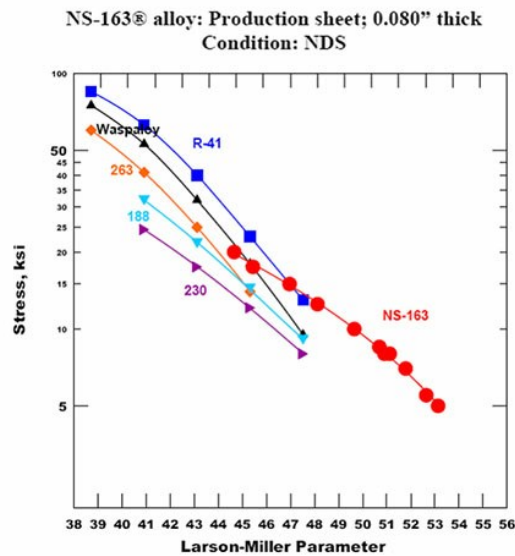


# HAYNES<sup>®</sup> NS-163<sup>®</sup> alloy

## Principal Features

Haynes International, Inc. is pleased to announce the development of HAYNES<sup>®</sup> NS-163<sup>®</sup> alloy, an alloy that brings a new level of high-temperature alloy performance at temperatures up to 2200°F (1204°C). HAYNES<sup>®</sup> NS-163<sup>®</sup> 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.



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

HAYNES<sup>®</sup> NS-163<sup>®</sup> 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](mailto:rblock@haynesintl.com) for more information.