



Application Note to the Field	Nitronic 60 Gears
Application Note Number: 2506-1	Date: June 25, 2025

Nitronic 60 is a grade of nitrogen-strengthened austenitic stainless steel which has nearly twice the strength of 316 Stainless Steel and is highly resistant to high-temperature oxidation and wear from impact and galling. Double Nitronic 60 gears can be effective at conditions where double 316 SS gears, double Alloy-C gears, or 316 SS and Alloy-C gear combinations, would wear rapidly due to galling or contact wear when the fluid viscosity is low. Double Nitronic 60 gears can also be an effective alternative to a Carbon idler gear, which was formerly the only option when the fluid temperature is over 400°F and the fluid viscosity is below 100 cP. Carbon is a brittle material that can break, chip and release particulates into the process fluid.

Liquiflo currently offers **double Nitronic 60 gears** for H-Series gear pump models **H7N thru H14F** with **316 Stainless Steel** construction. Code “**NN**” is used to denote a Nitronic 60 drive gear and a Nitronic 60 idler gear in **Positions 4 & 5** of the pump’s model code. A model code example is given below:

Model Code Example for H9F 316 SS pump with double Nitronic 60 gears: H9FSNNEE102000BS

The above configuration can be used as an effective alternative to the following configurations:

H9FS**66**EE102000BS (double **316 SS** gears)
H9FS**61**EE102000BS (**316 SS** drive gear & **Alloy-C** idler gear)
H9FS**16**EE102000BS (**Alloy-C** drive gear & **316 SS** idler gear)
H9FS**11**EE102000BS (double **Alloy-C** gears)
H9FS**62**EE102000BS (**316 SS** drive gear & **Carbon** idler gear)
H9FS**12**EE102000BS (**Alloy-C** drive gear & **Carbon** idler gear)

Although Nitronic 60 has good chemical resistance, it is not as chemically resistant as 316 SS, in general, so this must be taken into consideration for applications involving corrosive chemicals. Nitronic 60 is a superior material to other metal alloys for resisting physical wear at the more extreme conditions of high temperature, high pressure and low viscosity.

For specific applications utilizing Nitronic 60 gears, please consult the Liquiflo Applications Group.