

Master Thesis - “Heat treatment of Nickel super alloy (VDM 780)” (30 credits/20 weeks – 1 student)

This thesis work is initiated through GKN Aerospace Engine Systems with head quarter in Trollhättan, Sweden. The Trollhättan site employs approximately 2000 persons in research and technology, product development, manufacturing and product support of jet engines and engines for space vehicles. GKN Aerospace is deeply involved in developing and adapting additive manufacturing (AM) technologies for engine parts.

Project Background

In the past years the development and the adoption of sustainable new alloys for aerospace applications has been of interest that seems to have increased considerably. It is necessary to investigate the different aspects of manufacturing and heat treatment to adapt for the aerospace industry. This thesis attempts to create a base for documenting the heat treatment and microstructural development of this alloy.

Target

Description of thesis goals and targets.

- Literature review
- Investigate best approach for heat treatment and perform heat treatment and use MIPAR (image analysis tool) for input to simulation
- Document the results in a thesis Report. (English)
- Present the summary and conclusions for an audience at GKN Aerospace. (English)

Qualifications

- Master, **Mechanical engineering or Materials engineering or Physics , including courses on materials**
- Interest in Image analysis , metallography and simulation
- GKN would prefer if the student can perform most of the work on site at the R&T organization in Trollhättan.

Apply by

By sending CV and personal letter to Ceena Joseph (ceena.joseph@gknaerospace.com)

Start spring 2022