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| Dokumenttyp/Document type Thesis proposal | | Sida/Page 1 (1) |
| Titelförslag/Thesis title Heat treatment of Nickel superalloy Haynes 282 and its different forms. | | Ämnesområde/Business area Metallic Materials |
| Tidsperiod och högskolepoäng/Period of time and amount of credits 20 weeks, 30 credits | | Antal studenter/Number of students 1 |
| Geografisk placering/Location Trollhättan | | Kontaktperson/Contact person Ceena Joseph |
| Språk/Language Swedish/English | | Startdatum/Start date Sprin 2022 |
| Handledare/Supervisor Ceena Joseph | | Avdelning/Department GTC - 9633 |
| Skicka ansökan till/Send application to ceena.joseph@gknaerospace.com | | Sista ansökningsdag/Last application date |

About us

GKN Aerospace is the aerospace operation of GKN plc, serving a global customer base and operating in North America and Europe. With sales of £2.2 billion in 2014, the business is focused around three major product areas - aero structures, engine structures and a number of special products – transparencies, electro-thermal ice protection, fuel and flotation systems, and bullet resistant glass.

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.

Background of thesis project

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 understanding the heat treatment and microstructural development of this alloy in its cast, forged and additively manufactured state in a given temperature and time conditions.

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)