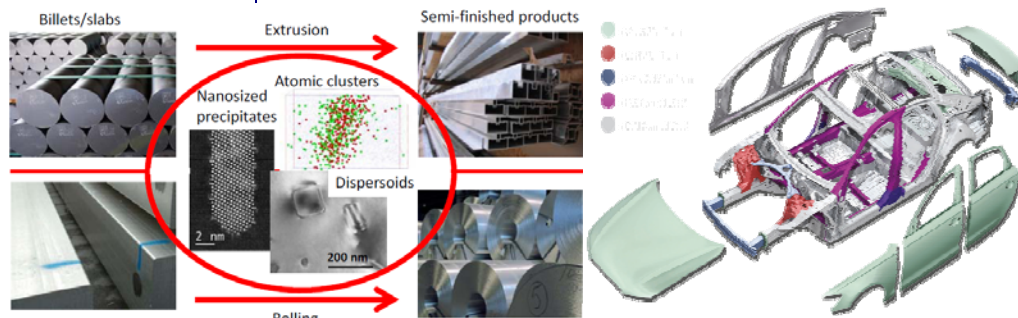


**Topic:**

Fast Ageing 6XXX Aluminium sheet alloys

**Content:**

Goal of this master thesis is the development of new 6XXX Aluminium alloys and thermomechanical processes for rolled products, which provide a combination of good formability and mechanical properties, which do not exist at present. The paint bake process in the automotive industry establishes constraints within which the aluminium alloys should reach certain properties. Therefore the understanding of microstructural processes is crucial (e.g. precipitation in Al-Mg-Si). Particularly the formation of early phases and influencing them via heat treatments and deformation, are a core issue within this work. This entails the use of advanced techniques, such as atom probe, TEM and HRTEM in combination with investigations of macroscopic behaviour: hardness, conductivity measurements.



**Start / Duration :**

From summer 2014 for 6 months

**What we are looking for:**

Existing knowledge in the area of mechanical testing and electron microscopic investigation methods are an advantage, but not a prerequisite

**What we have to offer:**

A master thesis in an international environment, modern electron-microscopic methods (Atom probe, HRTEM), hot topic for the automotive industry

**Location:**

NTNU Trondheim, Norway & SINTEF

**Contact person :**

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**Application deadline:**

04/2014

sgd. Carmen Schäfer

18.02.2014, Bonn