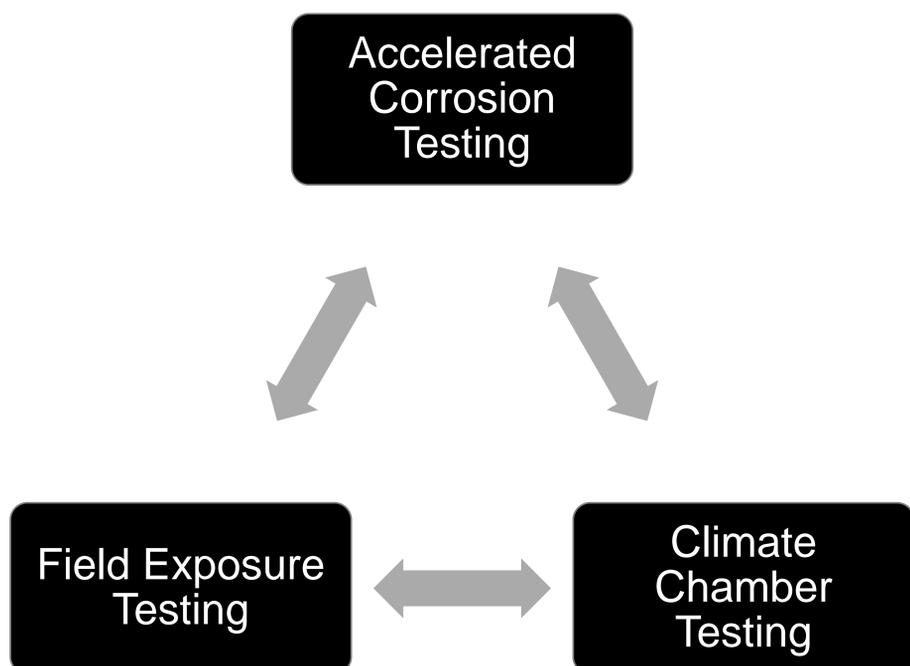


Executive Summary

Heat treatable aluminum alloys of the 6xxx series with Mg and Si as main alloying elements have several attractive properties, such as good formability, relatively high-strength and good corrosion resistance. These alloys, however, may develop susceptibility to intergranular corrosion (IGC) as a result of improper heat treatments or alloying.

Today, many testing procedures and standards, from accelerated short-time testing to long-time outdoor exposure, are common in industrial evaluations of the IGC susceptibility of 6xxx alloys; however, the knowledge about the comparability and transferability of these tests to in-service properties is scarce.

Additionally, the widely used accelerated corrosion test DIN EN ISO 11846 B permits the operator many variations, whose influences on the results are largely unknown.



Schematic project aim: Identifying correlations between accelerated corrosion testing, climate chamber testing and outdoor exposure.

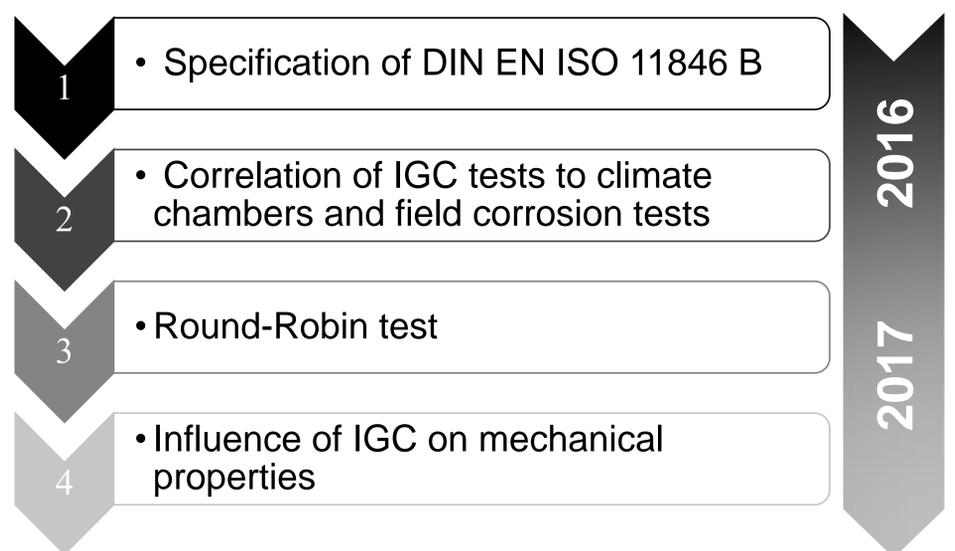
The present project will undertake a methodical investigation of the suitability of existing testing methods for determining the IGC susceptibility of 6xxx aluminum alloys. The investigations will focus on the comparison of accelerated corrosion experiments and in-service corrosion tests. Finally, the results of this project will provide all necessary requirements in order to design a new, robust, reliable and realistic IGC testing method.

Scope

AMAP P8 includes the following aspects:

- Influence of permitted variations in ISO 11846 B
- Specification of a well-defined NEW set of parameters for ISO 11846 B
- Comparison of ISO 11846 B with
 - VDA 621-415
 - ASTM G85-A2
 - SAE J2334
 - VW PV1113
 - Urban field corrosion
 - Marine field corrosion
- Influence of IGC on mechanical properties

Timeline



Consortium

The international project consortium consists of four industrial partners, Aleris, Constellium, Hydro and Trimet and one institute of the RWTH Aachen University, the Chair of Corrosion and Corrosion Protection.

