Audit AU2014239
931414 Element Daleville (LAB)

Audit type: System / External Lab
Audit trigger: Follow up
Unplanned:
Status: Signature Provided
Planned date: 2022.02.01 00:00 to 2022.02.01 00:00
Date: 2022.02.01 00:00 to 2022.02.01 00:00

Audit result
Rating: Approved/Godkänd

This Document contains no Technical data

Persons involved

<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead Auditor</td>
<td>Per Rehndell</td>
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<tr>
<td>Approver</td>
<td>Stefan Abrahamsson</td>
</tr>
<tr>
<td>Engineering</td>
<td>Sven Johansson</td>
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<tr>
<td>Engineering</td>
<td>Thomas Hansson</td>
</tr>
</tbody>
</table>

Audit Report
Distr.list:On GKN Supplier Portal(GKN Aerospace external Lab.list) & Element Lab.Daleville

Background
The GAS system concerning GKN Aerospace Sweden AB (GAS)designed products requires Method Approval from GAS for Lab. performing material testing or testing to verify requirements per the method standard VOLS:10071573: Control of Materials and Methods. All Laboratories must be listed in the database for Nadcap approvals or have an ISO17025 approval for the scope which is used on the GAS parts. Ref. Standard VOLS:10071573: Control of Materials and Methods.

GKN Aerospace Auditor

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GKN Aerospace Quality Manager

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Audit AU2014239 931414 Element Daleville (LAB)

Time: The audit / review has been performed 2022-02-02

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9301 Innovation Drive Suite 175
47334 Daleville IN US

Lead Auditor: Per Rehndell

Audited requirements: Standard VOLS:10071573: Control of Materials and Methods

After review of Elements data and internal standards, showed both by Skype meetings and by mail has Code XA (Creep) been added to the GAS Approval Scope for Element Daleville.

Elements internal standard for test of L8 Near Surface Examinations - Alpha Case: Wrought Titanium ( & L9 castings ), fulfills requirements in accordance with GAS specification Vols:10066156 issue 1. This after a review of Element Daleville internal standard PTP 1007 Rev.16 with the title "Metallographic Examination of Titanium Alloy Specimens for Alpha Case". Element Daleville will now be approved for Alpha case examination in accordance with VOLS:10066156 iss.1

Nadcap MTL Approval for Element Daleville has been reviewed and are valid until 2023-05-31. The ISO 17025 approval is valid until 2022-08-31.

Non Conformance

Conclusion
Element Daleville is approved for work in below Nadcap process codes on GKN Aerospace Sweden AB (GAS) designed products controlled by GAS specification VOLS:10071573 (Control of Materials and Methods).

Mechanical Testing: (N, A, C, B, XN, XA)

Hardness: (M2, M1)

Metallography and Microhardness: L6, L0, L11, L2, L4, L3, L1, XL, L5, L7, L10, LSX, L12 and VOLS:10066156

Specimen Heat Treating

Mechanical Testing Specimen Preparation: Z, Z4, Z3

Chemical testing: G, G4, G1, S, F, P3, G3, G5, G2, D, F1, F2, W, W2
Alloys: Fe-, Mg-, Co-, Ni-, Al-, Ti- and Cu Base

Corrosion: Q, Q1, Q1-1, Q1-4A, Q3

Evaluation of Welds:
Supplement B Metallurgical Evaluation of Fusion Welds
Supplement D Metalurgical Evaluation of Resistance Welds
Supplement A Metallurgical Evaluation of Welder/Welding Operator Qualifications
Supplement E Bend Test Evaluation of Electron Beam and Laser
Supplement E Bend Test Evaluation of Fusion Welds
Supplement E Bend Test Evaluation of Welder/Welding Operator Qualification Welds
Supplement C Metallurgical Evaluation of Electron Beam/Laser Welds

Attention:
1) Element Dalevills internal standard for test of Near Surface Examinations - Alpha Case: Wrought Titanium and castings, fulfills requirements in accordance with GAS specification no: VOL5:10066156. Has been added to the GAS Scope (2021).

2) Mechanical testing in accordance with code XA(Creep) has been added to the GAS Scope based on review of data, equipment and processes/procedures, (2021).

Based on this data and information we have discussed the potential risks and can recommended Element Daleville for continuation as an Approved Supplier/Lab to GKN Aerospace Sweden until 2023-06-30.