



Materials and Processes Division

ELEMENT MATERIALS TECHNOLOGY CINCINNATI 3701 PORT UNION ROAD FAIRFIELD, OH 45014 UNITED STATES

Attention to Tim ESAU

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COLOMBES, November 21, 2019

SUBJECT: Laboratory Qualification AQPS 14

Dear Sir,

Further the survey of your laboratory carried out by BRAILLY Philippe on November 19 to 21, 2019.

Please find your updated AQPS 14 with the code Y for LCF fatigue testing. The auditor recalls that the requested improvements described in the audit report must be in place as soon as possible.

The continuation of this qualification depends on conditions outlined in SAFRAN procedures GRP-0087 and GRM-0123. At any time, the qualification can be retracted or suspended by SAFRAN.

Laboratory Special Processes Qualification Manager

A.D.A

Isabelle-CARQUIN-MICHELET



Attestation de Qualification des Procédés Spéciaux Laboratoires

N°AQPS:

14 03

IND: 03 MDM: 503112

Laboratory Special Processes Qualification Certificate

Safran Aircraft Engines Prononce la qualification sur les référentiels indiqués pour l'ensemble des sociétés du Groupe Safran suivant GRP-0087 – GRM-0123.

Grants the qualification on the specifications indicated for all companies of Safran Group following GRP-0087 – GRM-0123

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USA

| Safran Process N° | Code Labo N° | Procédés Processes | Réferentiel Technique Technical specification | Statut Status | Restrictions techniques Technical limitation | Fin de Validité Expiration Date | | | |
|------------------------------|--------------------|--|--|-------------------------|---|------------------------------------|--|--|--|
| 8.01 - Eprouvettes / Samples | | | | | | | | | |
| 8.01.00.01 | Z1 | Métaux - Usinage des éprouvettes de fatigue / Metals - Fatigue specimen machining | DMC0107 – Pr6107 PCS 4110 | Qualification | | Not Limited | | | |
| 8.01.00.02 | Z2 | Métaux - Usinage des éprouvettes hors fatigue / Metals - Specimen machining except fatigue | DMC0100 PCS-1003 | Qualification | | Not Limited | | | |
| 8.02 - Mécani | que / N | lechanic | | | | | | | |
| 8.02.00.11 | Y | Métaux - Fatigue oligocyclique (LCF) / Metals - Low Cycle Fatigue (LCF) | ASTM E606 ; DMC0401 | Qualification | | Not Limited | | | |
| 8.02.00.12 | 0 | Métaux - Fatigue à grand nombre de cycle (HCF) / Metals - High Cycle Fatigue (HCF) | ASTM E466 | Qualification | | Not Limited | | | |
| 8.02.00.13 | XE | Métaux - Propagation de fissures en fatigue / Metals - Fatigue crack growth test | ASTM E647 | Qualification | - Suivi électrique / Compliance or EPD methodType d'éprouvettes CC-CT/ Type of spécimens CC-CT | Not Limited | | | |
| 8.02.00.15 | Р | Métaux - Détermination du K1C / Metals - Fracture toughness test | ASTM E399 | Qualification | | Not Limited | | | |

Ind3 :2019/11/21 Following the audit from November 19 to November 21, 2019

, corrective actions closed, Y code requalified

N° de rapport
Report n°

CRQP14_20191121 Ind.0

Remarks: Ind2- 2019/02/20 -removal of the 8.02.00.11 Y code
Remarks: Ind1- 2018/08/31 Correction of MDM identification

Ind 0 – 2017/10/24: Qualification with no expiration date according to monitoring

process –On-site audit from January 30, 2017 to February 03, 2017.

La validité des qualifications des fournisseurs est confirmée et actualisée par la publication d'une liste des procédés spéciaux qualifiés. L'adresse pour accéder à cette liste est disponible dans la GRM-0123, paragraphe « Qualification et surveillance des procédés spéciaux ». L'activation des accès fournisseurs à cette liste se fait par demande à l'adresse suivante : saf.admin-gps@safran.fr / The supplier qualification validity is confirmed and updated by the publication of qualified special process list. The address to access to this list is available in GRM-0123, paragraph "Special Process Qualification and Monitoring". The activation of suppliers access to this list is done by request to the following address: saf.admin-qps@safran.fr

| | Date | Nom Name | Signature |
|---|-------------------------|---------------------------|-----------|
| Auditeur Laboratoire Groupe SAFRAN SAFRAN Group laboratory auditor | 2019/11/21 | BRAILLY Philippe | Thaille |
| Pilote de la qualification Procédés Spéciaux laboratoire Laboratory Special Processes Qualification Manager | <mark>2019/11/21</mark> | Isabelle CARQUIN-MICHELET | - Andrews |