



Embraer
Empresa Brasileira
de Aeronáutica S.A.

Av. Brigadeiro Faria Lima, 2.170
12227-901 - S. J. dos Campos - SP
Brasil

Supplier Audit / Technical Evaluation Report - VOP/DA7/GB1/ /B13 - LSM

Audit

Tech. Evaluation

Supplier : Metal Improvement Company – MIC - España (SK3000's supplier) – Seville

EMBRAER's Representative :

Luciana Sueza Mariano – Quality Supplier

Cleber Vasquez de Mesquita – CTA Designated Engineering Representative - Product Development Materials Engineering

Metal Improvement Company's Representative :

Manuel Artero Román - Quality Responsible

Alejandro Muñoz Viretti – Facility Director

Jean-Yves Thieuleux – Technical and Commercial Director

SK3000's Representative :

Jesus Garcia – Quality Supplier

Period : February 19th ,2008

Scope / Contractual Requirement :

EQRS – EMBRAER Quality Requirements for Suppliers - Revision /

Introduction :

Since 1945, Metal Improvement Company (MIC) has been a pioneer in the shot peening industry by continually advancing the state-of-the-art in customized shot peening equipment and shot peening techniques. Today, MIC operates 24 shot peening facilities in North America and 12 in Europe, and also has the capability to provide on-site shot peening services on a worldwide basis for aircraft, power generation and construction & refurbishment projects.

MIC has extended the science of imparting engineered residual stresses to metal surfaces by the recent introduction of laser peening process. MIC operates one laser peening facility in North America and one in Europe to provide this unique technology to customers on both continents. Applications have emerged for turbine engines, aircraft structures, nuclear waste disposal, power generation and medical implants.

The Seville facility is capable to process a variety of large to mid-size aluminum aircraft components including spars, ribs and fixtures. In addition, the facility has been forming services for shaping of aircraft wing structural components and dimensional restoration of components that have become distorted due to machining or other metal working processes.

For EMBRAER parts, MIC Seville will perform Special Processes to SK3000's sub tiers.

Quality Certifications :

UNE – EN 9100 : 2003 – issued February 2008 / until February 2011

Basic Standards :

NE40-072 - SHOT PEENING

Requirements verified :

The Engineering Standard specification above and Quality Requirements according EQRS.

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Technical Evaluation :

1 – EMBRAER presents the EQRS – EMBRAER Quality Requirements for Suppliers – Revision / , available at www.embraer.com/ftp/pub in order to guarantee that supplier understand and complies with EMBRAER Quality Requirements.

2 – EMBRAER comments the following points:

- General Requirements – EQRS 4.1 / OPR (4.100.03);
- Control of Records – EQRS 4.2.4 (OPR 4.240.01),reinforcing that this is an important point in order to guarantee the product traceability.
- First Article Inspection – EQRS 8.2.4.2 .
- Special Processes

3 - EMBRAER proceeds with the Special Processes Qualification.

Metal Improvement Company – MIC Seville has issued one Request for Alternative (RFA) as SK3000's sub tier :

- SK-MICS-001 - NE 40-072 / Q - SHOT PEENING

The RFA was analyzed and **APPROVED** by EMBRAER Engineering.

3.1 – Resources available at MIC Seville :

The plant is 12,920-square-foot and provides shot peening and peen forming services .

The new MIC Seville facility has a custom spar processing machine designed and constructed by MIC's UK Engineering Division.

MIC Seville also performs Shot Peening using Ceramic Shot.

3.2 - Process Control Documents

MIC Seville performs Shot Peening Process under totally controlled and traceable conditions. To all EMBRAER Parts was performed FAI – First Article Inspection , see attached an example.



FAI_CofC_MIC_SEVI
LLE.pdf

Results:

Based on this Technical Visit, Metal Improvement Company – MIC Seville is approved for the process specified on this Technical Report , having a Quality System with all necessary controls , excellent equipments and facilities and qualified persons.



Embraer S.A.

Av. Brigadeiro Faria Lima, 2.170
12227-901 - S.J. dos Campos - SP
Brazil
Tel: (55 12) 3927-1982

Supplier Quality Assessment Report - Number 012/14

Supplier:

MIC - Metal Improvement Company - Sevilla - Spain (MFIR 810022)

Embraer's Auditor / Representative:

Jorge Luiz Toledo de Souza - Quality Engineer
Celso Yokota - Manufacturing Engineer
Jose Eduardo Gonçalves Lamas - Materials Engineer

Supplier's Representative:

Alejandro Muñoz - Division Manager

Period: January 30th, 2014

Scope:

Process Qualification:

- NE03-076 Rev. I - Aluminum Parts - Forming and Straightening
- NE40-175 Rev. C - Titanium Parts, Forming and Straightening
- NE44-001 Rev. D - Glass Bead Peening
- NE40-100 Rev. I - Aluminum and Its Alloys - Peen Forming

Contractual Requirement:

Registered to AS 9100: Yes No

Certificate number:

EN 7788-E

Expiration date:

February 10th, 2014

NADCAP accreditations certificates (Surface Enhancement) Audit 149238

- AC7117 Rev A - Nadcap Audit Criteria for Shot Peening, Peen Forming, Glass Bead Peening
- AC7117/2 - Nadcap Audit Criteria for Automated Peening
- AC7117/3 - Nadcap Audit Criteria for Peen Forming
- AC7117/5 - Nadcap Audit Criteria for Manual Peening

October 31st, 2015

Results:

Based on the previous qualification report and the technical analysis made on the document "EMBRAER SPECS COMPLIANCE REPORT" (see annex), the NADCAP accreditations certificates and technical visits performed by EMBRAER's Manufacturing Engineering, therefore MIC - Metal Improvement Company, Sevilla, Spain is considered qualified to perform the processes listed above.

Summary of Strong and Weak Points verified:

No comments.

EMBRAER's Representative:

Name	Department	Signature
Jorge Luiz Toledo de Souza	Supplier Quality	
Celso Yokota	Manufacturing Engineering	
José Eduardo Gonçalves Lamas	Materials Engineering	

Supplier's Representative - Final Meeting Attendance List:

Name	Department	Signature
Alejandro Muñoz	Division Manager	