

# ROLLS-ROYCE CORP.

*Expires: February 28, 2010*



Prime Users Holding  
Nadcap User Compliance and Audit Program  
(NUCAP)  
Certificate & Scope of Approval



January 15, 2010

Mr. Tom Brandenburg  
Rolls Royce Corp.  
2001 S Tibbs Ave  
Indianapolis, Indiana 46241-4812

Dear Mr. Brandenburg:

Following a request to the NUCAP Management Council, this letter is formal notification that your NUCAP approval period has been extended from January 31, 2010 to **February 28, 2010.**

You will **NOT** receive a revised certificate. This letter will serve as evidence of the approval extension.

Should you have any questions or require any additional information, please contact me at PRI Headquarters at 724/772-8585.

Sincerely,

A handwritten signature in black ink that reads "Ericha McLaughlin". The signature is written in a cursive, flowing style.

Ericha McLaughlin  
Coordinator- International Business/Regulatory  
ericham@sae.org



February 26, 2009

Mr. Tom Brandenburg  
Rolls-Royce Corp.  
2355 S. Tibbs Avenue #N16B  
Indianapolis, Indiana 46241

Dear Mr. Brandenburg:

Your facility has been approved for NUCAP. Please note that your NUCAP certificate is valid until **January 31, 2010**. Accordingly, we have enclosed your certificate(s) of approval, your scope of approval, and logo sheet.

**Please note that if any changes occur within your company (i.e., ownership, key managerial staff, equipment, company name, quality manager, address, etc.) that may affect your capability or scope of approved activities, you are required to notify PRI Staff by completing the "Notification of Change/Request for Revised Certification" form located in [eAuditNet.com/Resources/Public Documents/General Documents](http://eAuditNet.com/Resources/Public/Documents/General Documents), immediately.**

We would like to congratulate you on your achievement in meeting the stringent requirements of NUCAP Approval.

If you have any questions concerning the NUCAP Process, please contact PRI Headquarters at (724)772-8660.

Sincerely,

A handwritten signature in black ink that reads "Lisa Shultz". The signature is written in a cursive, flowing style.

Lisa Shultz  
Prime Support Engineer / NUCAP Coordinator  
Industry Managed Programs, Research & Development

LS/dlh

Enclosures

Certificate(s)  
Scope of Approval  
Logo Sheet



*In accordance with Program Document PD3000, to the revision in effect at the time of the audit, this certificate is granted and awarded by the authority of the Nadcap Users Compliance and Audit Program (NUCAP) Management Council to:*

## **ROLLS-ROYCE CORP**

*at*

*See Attached Supplement*

*They have demonstrated conformance and are awarded approval for specific services, listed in the Scope of Approval to the revision in effect at the time of the audit for:*

***Chemical Processing, Coatings, Heat Treating, Non-Destructive Testing,  
Nonconventional Machining, Surface Enhancement and Welding***

*Expiration Date: January 31, 2010*

*Certificate Number: 128676*

*Issue Date: February 26, 2009*

A handwritten signature in black ink, appearing to read "W. G. Wagner". The signature is written in a cursive style and is positioned above a horizontal line.

*William G. Wagner, Managing Director*



## SCOPE OF APPROVAL NUCAP

Approval Date: February 26, 2009  
Expiration Date: January 31, 2010

Audit #128676  
Certificate #128676

**Rolls-Royce Corporation  
Plant 5  
2355 South Tibbs Avenue  
Indianapolis, Indiana 46241**

**Chemical Processing, Coatings, Heat Treating, Nondestructive Testing,  
Nonconventional Machining, Surface Enhancement and Welding**

In recognition of the successful completion of the PRI evaluation process, approval is granted to this facility to perform the following:

### **Chemical Processing (AC7108) – Audit #126240**

AC7108      Chemical Cleaning:  
                  Acid  
                  Alkaline  
                  Semi-Aqueous  
                  Solvent  
                  Titanium (Acid, Alkaline)  
                  Ultrasonic  
Conversion/Phosphate Coatings:  
                  AMS 2473, AMS 2475, AMS 2481, AMS 2485  
                  Customer Specification / Other  
Plating:  
                  Alloy Plating – Customer Specification / Other  
                  Copper - AMS 2418, Customer Specification / Other  
                  Electroless Plating Nickel - AMS 2404, AMS 2405  
                  Electro Polishing – Customer Specification / Other  
                  Nickel Plating - AMS 2403  
                  Silver Plating - AMS 2410, AMS 2412  
Stripping: Customer Specifications

AC7108/1      Paint/Dry Film Coatings: Customer Specifications

**Coating (AC7109) – Audit #126239**

- AC7109/1 - Thermal Spray:
  - Oxy/Fuel Powder Spray
  - Plasma Thermal Spray
- AC7109/3 - Diffusion Coating Process:
  - Slurry Process – Dip
  - Slurry Process – Spray
- AC7109/4 - Stripping:
  - Chemical
- AC7109/5 - Coating Evaluation Laboratory Practices:
  - Hardness - Rockwell
  - Metallography
  - Specimen Preparation
  - Thickness – Mechanical
  - Thickness – Metallographic
  - Thickness – Customer Specification / Other

**Heat Treating (AC7102) – Audit #126236**

- AC7102 - Cryogenic Treatments
  - Die/Press Quenching
  - Nickel and Cobalt Alloys: Customer Specification / Other
  - Plating
  - Stainless Steels: Customer Specification / Other
  - Stainless and PH Stainless Steels: Customer Specification / Other
  - Steels: (Normalize, Anneal, Stress Relieve, or Temper), Customer Specification / Other
  - Titanium Alloys: (Age, Anneal, and/or Duplex Anneal, & Stress Relieve), Customer Specification / Other
  - Vacuum Heat Treating: Customer Specification / Other
- AC7102S - Supplemental Audit Criteria for Heat Treating
  - U00-None
- AC7102/1 - Brazing:
  - Furnace
  - Vacuum Furnace
- AC7102/3 - Carburizing:
  - Customer Specification / Other
- AC7102/4 - Nitriding:
  - Customer Specification / Other
- AC7101/3 - Materials Test Lab – Mechanical Testing:
  - (A) Room Temperature Tensile
- AC7101/4 - Materials Test Lab – Metallography & Microhardness:
  - (L) Metallography (General)
  - (L5) Near Surface Examinations – Microhardness
  - (L6) Near Surface Examinations – Diffusion Coatings
  - (L7) Near Surface Examinations – IGA/IGO
  - (L8) Near Surface Examinations – Alpha Case: Wrought
  - (L9) Near Surface Examinations – Alpha Case: Casting

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**Heat Treating (AC7102) – Audit #126236 (Cont'd.)**

AC7101/5 - Materials Test Lab – Hardness  
(M1) – Brinell Hardness  
(M2) – Rockwell Hardness

**Nondestructive Testing (AC7114 / AC7114S) – Audit #126237:**

AC7114/1 - Liquid Penetrant Survey  
AC7114/1S - S-U3 Rolls-Royce plc  
S-U6 Rolls-Royce Corp  
AC7114/2 - Magnetic Particle Survey  
AC7114/2S - S-U6 Rolls-Royce Corp  
AC7114/4 - Radiography  
AC7114/4S - S-U6 Rolls-Royce Corp  
AC7108/2 - Etching: Pre-penetrant

**Nonconventional Machining (AC7116) – Audit #126241**

AC7116/3 - Electrical Discharge Machining EDM: Sinker, Wire  
AC7116/4 - Laser Beam Machining LBM: Cutting

**Surface Enhancement (AC7117) – Audit #126242**

AC7117/2 - Automated  
AC7117/5 - Manual

**Welding (AC7110) – Audit #126243**

AC7110/1 - Brazing:  
Baseline (All Audits)  
Torch (Additional Requirements)  
AC7110/3 - Electron Beam Welding:  
Baseline (All Audits)  
AC7110/4 - Resistance Welding:  
Baseline (All Audits)  
Projection (Identify this process is used)  
Seam (Identify this process is used)  
Spot (Identify this process is used)  
Shear Testing (Additional Requirements)  
AC7110/5 - Fusion Welding:  
Baseline (All Audits)  
Automatic / Semi-Automatic (Additional Requirements)  
Titanium (Additional Requirements)  
Filler Materials (Additional Requirements)  
Processes Using Gas (For example GTAW, PAW) (Additional Requirements)  
Tack Welding (Additional Requirements)  
AC7110/9 - Percussion Stud Welding:  
Baseline (All Audits)  
Automatic Capacitor Discharge Machines (Additional Requirements)

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**Welding (AC7110) – Audit #126243 – (Cont'd.)**

- AC7110/12 - Welder/Welding Operator Qualification:
  - Baseline (All Audits)
  - Qualification of Titanium Welders (Additional Requirements)
- AC7110/13 - Metallographic Evaluation of Welds:
  - Evaluation of Welder / Welding Operator Qualifications
  - Evaluation of Fusion Welds
  - Evaluation of Electron Beam / Laser Welds
  - Evaluation of Resistance Welds

**Rolls-Royce Corporation  
Plant 8  
2001 South Tibbs Avenue  
Indianapolis, Indiana 46241  
Satellite Facility of Plant 5**

**Chemical Processing, Heat Treating, Nondestructive Testing,  
Nonconventional Machining and Welding**

In recognition of the successful completion of the PRI evaluation process, approval is granted to this facility to perform the following:

**Chemical Processing (AC7108) – Audit #127562**

AC7108 - Chemical Cleaning:  
Acid  
Alkaline  
Solvent  
Titanium (Acid, Alkaline)  
Ultrasonic  
Conversion/Phosphate Coatings:  
AMS 2485  
Plating:  
Copper – Customer Specification / Other  
Stripping: Customer Specification

**Heat Treating (AC7102) – Audit #127561**

AC7102 - Cryogenic Treatments  
Steels:  
(Normalize, Anneal, Stress Relieve or Temper)  
(Quench and Temper – Commercial)  
Customer Specification  
Vacuum Heat Treating: Customer Specification  
AC7102/S - Supplemental Audit Criteria for Heat Treating  
U0 – Unknown  
U00 – None  
AC7102/1 - Brazing: Vacuum Furnace  
AC7102/3 - Carburizing: Customer Specifications / Other  
AC7102/4 - Nitriding: Customer Specification / Other  
AC7102/5 - Hardness Testing for Heat Treating:  
(M2) Rockwell Hardness  
AC7101/4 - Materials Testing – Metallography & Microhardness:  
(L) Metallography (General)  
(L6) Near Surface Examinations – Diffusion Coatings

**NonDestructive Testing (AC7114 / AC7114S) – Audit #127564**

- AC7114/1 - Liquid Penetrant Survey
- AC7114/1S - S-U6 Rolls-Royce Corp
- AC7114/2 - Magnetic Particle Survey
- AC7114/2S - S-U6 Rolls-Royce Corp
- AC7114/4 - Radiography
- AC7114/4S - S-U6 Rolls-Royce Corp

**Nonconventional Machining (AC7116) – Audit #127560**

- AC7116/3 - Electrical Discharge Machining (EDM):
  - Sinker
  - Wire

**Welding (AC7110) – Audit #127559**

- AC7110/5 - Fusion Welding:
  - Baseline (All Audits)
  - Filler Materials (Additional Requirements)
  - Processes Using Gas (For Example GTAW, PAW) (Additional Requirements)
  - Tack Welding (Additional Requirements)
  - Titanium (Additional Requirements)
- AC7110/12 - Welder/Welding Operator Qualification
  - Baseline (All Audits)
  - Qualification of Titanium Welders (Additional Requirements)
- AC7110/13 - Metallographic Evaluation of Welds
  - Evaluation of Welder/Welding Operator Qualifications
  - Evaluation of Fusion Welds
  - Design Authority Authorization

Approval Date: February 26, 2009  
Expiration Date: January 31, 2010

Audit #128676  
Certificate #128676

**Single Crystal Operations (SC)  
Division of Rolls-Royce Corporation  
5601 Fortune Circle  
Indianapolis, Indiana 46241**

**Nondestructive Testing**

In recognition of the successful completion of the PRI evaluation process, approval is granted to this facility to perform the following:

**NonDestructive Testing (AC7114 / AC7114S) – Audit #126238**

AC7114/1 - Liquid Penetrant Survey  
AC7114/1S - S-U6 Rolls-Royce Corporation