	Program Document HTBOK	**PD 6103** **HTBoK-004/PL-2 REV. N/A**
161 Thorn Hill Rd. Warrendale, PA 15086		Issued: 5MAY2014 Revised: 3JUN2015 Superseding: 3OCT2014

BODY OF KNOWLEDGE:

ROLE DESCRIPTION:	PYROMETRY CALIBRATION AND TEST
SPECIAL PROCESS:	Pyrometry
SCOPE/METHOD:	Performance of Pyrometric Requirements for Thermal Processing Equipment
LEVEL:	Planner

All eQuaLified examinations are created using the applicable eQuaLified Body of Knowledge (BoK), which defines the baseline knowledge and experience required to be considered competent to perform the specified job role in aerospace special process manufacturing.

All eQuaLified BoKs are created by subject matter experts through an exhaustive job analysis process as detailed in the eQuaLified Program Document 6100: Industry Managed Special Process Bodies of Knowledge. All eQuaLified BoKs are updated periodically according to the requirements of the current eQuaLified PD6100 document to ensure they are consistent with current industry practice.

1. INTRODUCTION

This document has been created by the eQuaLified Heat Treat Body of Knowledge Review Board (HT BoKRB) according to the requirements of eQuaLified Program Document PD6100 Industry Managed Special Process Bodies of Knowledge.

This document consitutes the eQuaLified BoK for Pyrometry Calibration and Test, Planner. It defines the baseline knowledge and experience required to be considered competent to perform this role.

Unless otherwise stated, the HT BoKRB has followed guidelines as detailed in the current version of IAQG Guidance PCAP 001 (Competence Management Guideline) to develop this BoK.

The information in this BoK will provide guidance for the following:

- Training providers who wish to develop training courses intended to support eQuaLified examination candidate preparation
- Heat Treat Examination Review Board (HT-ERB) for the development of eQuaLified examinations
- Candidates taking eQuaLified examinations who wish to prepare in advance

2. REFERENCES

eQuaLified documents:

PD6000	Governance & Administration of eQuaLified Program
PD6100	Industry Managed Special Process Bodies of Knowledge
PD6200	Industry Managed Special Process Examinations System

IAQG documents:

IAQG Guidance PCAP 001 Competence Management Guideline

3. DEFINITIONS

Definitions described within are specific to the Special Process BoK. For program-specific definitions, please refer to either the PD 6000 or the eQuaLified Dictionary.

BODY OF KNOWLEDGE (BoK): Baseline knowledge and experience required to be considered competent for a target position.

GENERAL EXAMINATION: The General Examination is designed to ascertain the candidate's general knowledge required for a particular job, role or activity. All of the questions will be derived from the corresponding BoK.

EXPERIENCE: The accumulation of knowledge or skill that results from direct participation in events or activities over a period of time.

HEAT TREATMENT OPERATOR The individual(s) responsible for preparing, loading, running and repacking customer product (Parts or Material) after treatment. Responsibilities include requirement to ensure that Heat Treatment processes are carried out in compliance with written instructions and procedures – not to be confused with Pyrometry Operator

IN-HOUSE (or IN-SOURCING): Keeping responsibility and control of key or critical processes inside an organization by using available internal resources In house control (Insourcing) is often preferred to ensure compliance of critical with specific customer or statutory requirements – The opposite of Outsourcing

KNOWLEDGE: Information / understanding acquired over a period of time. Information acquired through study and retained over that period of time (education, training, experience etc.) The combination of data and information, to which is added expert opinion, skills and experience, to result in a valuable asset which can be used to aid decision making and problem solving.

LEVEL: A class or division of a group based on education, training and experience. There are 3 levels: Operator, Planner and Planner. Please refer to the current version of PD 6000 for definitions

METHOD: A well-defined division of a SPECIAL PROCESS widely recognised by industry. A specific area of a special process for example anodizing within Chemical Processing

NON-SPECIAL PROCESS RELATED REQUIREMENTS: Miscellaneous requirements such as Health and Safety, Environmental, etc.

OUT-SOURCED: is the contracting out of a business process to a third-party (external) supplier. It relates to both product and services

PERSONAL ATTRIBUTES: A quality or characteristic expected and required for a particular job, role or activity.

PRACTICAL EXAMINATION: The Practical Examination shall consist of a demonstration of proficiency in performing tasks that are typical of those to be accomplished in the performance of the candidate's duties. The examination content is derived from the corresponding BoK.

PYROMETRY OPERATOR: Individual(s) with a basic level of pyrometry knowledge. This (these) individual(s) provide a service to ensure that processes and methods used for periodic verification comply with the requirements of AMS 2750 (current issue) and any additional customer specific requirements which are more stringent. Examples may include setting up for and carrying out and recording thermocouple or Instrument calibration and results from Periodic Tests (TUS, SAT). A Pyrometry Operator has authority and responsibility to carry out tests and record results and in accordance with the above. A Pyrometry Operator does not have responsibility and authority to review, report or react to the results which their tests have generated
The role of Pyrometry Operator must not be confused with the role of Heat Treatment Operator

PYROMETRY PLANNER: Individual(s) with a significantly higher level of Pyrometry knowledge. In addition to knowing and being able to do what is expected from an Operator the Pyrometry Planner must have authority and responsibility for reviewing and acting on the results generated by the Operators tests .liaising with Operations /Production and external service providers where required. The Pyrometry Planner must be able to write and maintain procedures and works instructions related to Pyrometry

SERVICE PROVIDER: A company or individual that provides a service or product. Service provider is generally used to refer to external or outsourced (third party) suppliers of services and product although large organizations may have Internal Service Providers for example IT.
Examples may include Instrument calibration, Periodic Tests (TUS , SAT) , analysis or testing which is outside the capability of internal resources. Service providers may also be suppliers of goods for example thermocouples pure gases etc

SKILL: Ability to perform a particular task. The quality of being able to do something that is acquired or developed through training or experience.

SPECIFIC EXAMINATION: The Specific Examination shall cover requirements and use of the specifications, codes, equipment, operating procedures and test techniques the candidate may use in the performance of his/her duties with the employer. Examination content will be derived from the corresponding BoK where applicable.

WEIGHTING: The “weighting” of each line item, using a scale of 1, 3, 7, 10, (1 being least important; 10 being most important) indicates the relative importance of that aspect of the BoK and will determine the likelihood and frequency of a question on that topic appearing in the examination

4. GUIDANCE TO EXAMINATION CANDIDATES

All eQuaLified examination candidates are recommended to read all documents referenced in section 2 of this document.

As stated in eQuaLified PD6200, every eQuaLified exam question shall relate directly to and be derived from the information as detailed in the current version of the BoK.

Re-assessment to this BoK is required every 5 years, unless otherwise specified.

Candidates are therefore advised to ensure familiarity with all aspects of the BoK as detailed in Table 1. This can be done through:

- Self-study
- Completion of internal training
- Completion of external training (a list of eQuaLified approved providers can be found at www.eQuaLified.com)

Records of all qualified personnel shall be maintained and include:

- Date of Qualification
- Results of Written
- Results of Practical (if applicable)
- Results of Experience

5. LEVELS

	Level		
Descriptors	**Operator (OP)** *Understand and perform the hands-on operations of the special process for which qualification is sought.*	**Planner (PL)** *Capable of selecting manufacturing processes and interpreting process procedures to conform to customer specification and requirements.* *Capable of problem solving and resolving day to day issues.*	**Process Owner (OW)** *Capable of writing, reviewing and approving processes, procedures and qualifications of Operators and Planners. Capable of designing new processes and resolving issues among other levels.*
Pyrometry Specific Criteria	Basic understanding of the HT / Pyro process Capable of recognizing when processes are 'deviating A Pyrometry Operator has authority and responsibility to carry out tests and record result A Pyrometry Operator does not have responsibility and authority to review , report or react to the results	In addition to knowing what the Operator does, the Planner must: manage HT shop that contracts the service provider and reviews reports Pyro Svc. Tech. needs to have higher understanding; conduct calibration, TUS testing, Thermocouple Calibrations, and SAT Tests. the Pyrometry Planner must have authority and responsibility for reviewing and acting on the results generated by the Operators tests	In addition to knowing what the Operator and Planner do, the Process Owner must: Manage people that perform the work and evaluate and reviews reports; must have knowledge of "how" to run the testing and trains. Takes responsibility for accuracy of purchase order information flowed down to service provider, Takes responsibility for ensuring that Service providers processes and procedures conform in all aspects with AMS 2750 / customer specific requirements (1)
Technical Knowledge	Basic knowledge of the special process, its main processes, methods and tools.	Good level of knowledge in all aspects of the special process, all its processes, methods and tools. Ability to coach others on contents and methods in the context of their workplace.	High or extensive knowledge in all aspects of the special process, all its processes, methods and tools to assess and validate improvements. Able to contribute to set externally recognized standards. Ability to define contents and methods for using knowledge effectively in influencing and developing international processes. Ability to influence the process with ones knowledge.
Experience	Sufficient experience to deal with recurrent activity.	Has enough experience to deal with unforeseen issues.	Wide proven experience of the subject. Is recognized specialist within the special process.
Personal Attributes	Takes into consideration behavioral characteristics such as but not limited to: team working, communication, direction and purpose, innovation and problem solving, mutual trust and respect, confidentiality and trustworthiness.		
Skills	Describes the activities necessary to perform each level of job function to comply with the Body of Knowledge		
Non-Special Process Related Requirements	Health & Safety, Environmental, Quality System Requirements.		

(1) Important to be aware that the special process provider is ultimately responsible for the compliance of his Pyrometry Service Providers compliance

Special Process Bodies of Knowledge Review Boards must complete Table 1 to form the BoK

TABLE 1

ROLE DESCRIPTION: PYROMETRY CALIBRATION AND TEST PLANNER
SPECIAL PROCESS: PYROMETRY
SCOPE / METHOD: Performance of Pyrometric Requirements for Thermal Processing Equipment
REFERENCE GUIDELINES: All Paragraph references are applicable to AMS2750 (latest rev) unless otherwise identified.

Row #	COMPETENCE	Level (e.g. OP, PL, OW, T1)	Weight (1,3,7,10)	Exam Type Gen/Specific /Practical	Reference Guidelines (See description above)
1	**KNOWLEDGE:** **The basic knowledge of the special processes, methods and tools**				
2	**GENERAL KNOWLEDGE:**				
3	Knowledge and understanding of Aerospace quality system and compliance	**PL**	**7**	**GEN**	AS9100 AC7102/8 2.1;8.0
4	Full and complete understanding of Internal Work Instructions as well as Industry Standards (see Addendum 1 of this document – pg. 9)	**PL**	**7**	**GEN**	PD6103 HT BoK RB AC7102/8 1 2.1;8.0
5	Knowledge and understanding of how Corrective Action is conducted, for example, If the SAT difference exceeds the limits of applicable Specification AMS2750	**PL**	**7**	**GEN**	2.2.37, 3.4.5.4, 3.4.5.5, 3.5.16.1 AC7102/8 2.1;8.0
6	Understand the importance of temperature sensors, instrumentation, thermal processing equipment, system accuracy tests, and temperature uniformity surveys	**PL**	**10**	**GEN**	AMS2750 AC7102/8 1 2.1;8.0
7	Knowledge and understanding TRACEABILITY of calibration to NIST or equivalent agencies	**PL**	**7**	**GEN**	2.2.40,3.1.2.2.6 AC7102/8 2.1;8.0
8	Has knowledge and understanding of tools and techniques to identify non-conformance and respond to non-conformance , root cause and 'risk management	**PL**	**10**	**GEN**	4.2 and AS9100 AC7102/8 2.1;8.0
9	Knowledge and understanding of Aerospace quality system and compliance	**PL**	**7**	**GEN**	AS9100 AC7102/8 2.1;8.0
10	**SENSORS (THERMOCOUPLES)**	**PL**		**GEN**	3.5.9, 3.5.13.1, 3.5.13.2, 3.5.14.3, 3.5.16 AC7102/8 3.0
11	Knowledge and understanding of sensor types and proper applications	**PL**	**7**	**GEN**	3.1.1.4 AC7102/8 3.0
12	Knowledge and understanding of temperature ranges, atmospheres, construction, and usage	**PL**	**7**	**GEN**	AC7102/8 3.0
13	Knowledge and understanding recalibration, reuse, salvage and replacement requirements	**PL**	**7**	**GEN**	AC7102/8 1 3.0
14	Knowledge and understanding of extension wires and proper connections and wireless transmitters	**PL**	**7**	**GEN**	AC7102/8 3.0
15	Knowledge and understanding of calibration and reporting requirements	**PL**	**7**	**GEN**	AC7102/8 3.0
16	Knowledge and understanding of Thermocouple failures and subsequent actions	**PL**	**7**	**GEN**	3.4.5.4, 3.5.16, 3.5.19 AC7102/8 3.0
17	Knowledge and understanding of when and how correction factors shall be used when required by AMS2750.	**PL**	**7**	**GEN**	Figure 6, 3.4.5.3.1 AC7102/8 3.0
18	Knowledge and understanding of the need for clear and accurate 'flow down' of requirements for compliance including customer specific requirements **– applies to all services from external sources including Calibration SAT and TUS where outsourced**	**PL**	**7**	**GEN**	4.1
19	**INSTRUMENTATION:**	**PL**			
20	Knowledge and understanding of test instrumentation hierarchy	**PL**	**7**	**GEN**	
21	Knowledge and understanding of test instrumentation calibration and reporting requirements Understands that all Test Instruments must be digital and in compliance with AMS 2750 or other specifications if these are more stringent.	**PL**	**7**	**GEN**	3.2,Table 4,6,7,8,9, figure 3 AC7102/8 **4.1;4.1.1**
22	Knowledge and understanding of Instrument Sensitivity	**PL**	**7**	**GEN**	2.2.58, table 3 AC7102/8 **4.2;4.2.4**
23	Knowledge and understanding of controlling, monitoring and recording instrumentation calibration and reporting requirements	**PL**	**7**	**GEN**	AC7102/8 **4.2;4.2.4**
24	Knowledge and understanding of when and how offset shall be used when required by AMS2750.	**PL**	**7**	**GEN**	3.2.4,Fig 6, 3.4.5.6, table 6, table 7 AC7102/8 6.6

25	Knowledge and understanding of Resolution requirements for chart recorders (Analog chart recording instruments)	**PL**	**7**	**GEN**	Table 4
26	Knowledge and understanding of Furnace software (Electronic Program Control and Data Acquisition)	**PL**	**7**	**GEN**	3.2.7.1.2
27	Knowledge and Understanding of the difference between Analog and Digital instrument requirements	**PL**	**7**	**GEN**	
28	**THERMAL PROCESSING EQUIPMENT:**	**PL**			
29	Understand how to distinguish Furnace Class and Instrumentation Type	**PL**	**10**	**GEN**	3.3 AC7102/8 4.4
30	Understand different types of Thermal Processing Equipment including Oven, Furnaces, quench baths and refrigeration equipment, etc and their basic function and usage	**PL**	**7**	**GEN**	3.3.1 to 3.3.6.1 AC7102/8 4.4
31	**SYSTEM ACCURACY TESTS**	**PL**			
32	Understand how to perform System Accuracy Test (SAT) using Industry standard instrumentation	**PL**	**7**	**GEN**	AMS2750 AC7102/8 4.4;**5.3**;5.4;5.5
33	Knowledge and understanding of how SAT is performed to assure the accuracy of the furnace control and recording system in each control zone.	**PL**	**7**	**GEN**	3.4, fig6,table 3, table 6,table 7 AC7102/8 4.4;**5.3**;5.4;5.5
34	Knowledge and understanding of how to maintain Records system accuracy test report	**PL**	**7**	**GEN**	3.7 AC7102/8 4.4;**5.3**;5.4;5.5
35	Knowledge and understanding of how a Preventive Maintenance Program can impact SAT interval – Limitations to use of Resident Thermocouples for SAE, Limitations to use of Base Metal Thermocouples	**PL**	**7**	**GEN**	3.4.4,3.5.4,3.5.7.1 AC7102/8 4.4;**5.3**;5.4;5.5
36	Knowledge and understanding of the difference in furnace test interval requirements for processing parts vs. raw material – Test Method / Loading conditions in running	**PL**	**7**	**GEN**	Table 6-7 AC7102/8 4.4;**5.3**;5.4;5.5
37	Knowledge and understanding of how Periodic SAT shall be performed in accordance with the interval shown in applicable Specification AMS2750.	**PL**	**10**	**GEN**	3.4 AC7102/8 4.4;**5.3**;5.4;5.5
38	Knowledge and understanding of SAT Data Collection – Recording and Evaluation	**PL**	**7**	**GEN**	3.5.14.4 AC7102/8 4.4;**5.3**;5.4;5.5
39	Knowledge and understand of the traditional SAT, alternate SAT, resident SAT, requirements for SAT waivers and conditions for frequency reductions.	PL	7	GEN	3.4.5 ;3.4.6 ;3.4.7 Tables 6, 7, 8 9 AC7102/8 5.1.1; 5.2.1.;;5.3
40	**TEMPERATURE UNIFORMITY SURVEYS:**	**PL**			
41	Understand how to perform Temperature Uniformity Survey (TUS) using Industry standard instrumentation understands Why it is important	**PL**	**7**	**GEN**	AMS2750 AC7102/8 6.0;6.5.4
42	Knowledge and understanding the criteria and characteristics of furnace modification or adjustment and repairs or replacements performed and determination to evaluate subsequent action	**PL**	**7**	**GEN**	3.5.3, 3.5.4 AC7102/8 6.0;6.5.4
43	Knowledge and understanding of how a Preventive Maintenance Program can impact TUS interval in particular the need for new initial survey and loss of relaxed frequency tests.	**PL**	**7**	**GEN**	3.4.4,3.5.4,3.5.7.1 AC7102/8 6.0;6.5.4
44	Knowledge and understanding of the difference in furnace test interval requirements for processing parts vs. raw material	**PL**	**7**	**GEN**	Table 8-9 AC7102/8 6.0;6.5.4
45	Knowledge and understanding of how Periodic TUS shall be performed in accordance with the interval shown in applicable Specification AMS2750 and when a new Initial TUS is required	**PL**	**10**	**GEN**	3.5 AC7102/8 6.0;6.5.4
46	Knowledge and understanding of TUS Data Collection recording and evaluation	**PL**	**7**	**GEN**	3.5.13.3 AC7102/8 6.0;6.5.4
47	Knowledge and understanding of designing furnace loading maps to comply with AMS2750 requirements – in addition controls and limitations on use of Heat Sinks and response to TUS failure	**PL**	**7**	**GEN**	3.5.21.1.c AC7102/8 6.2
48	Knowledge and understanding of the difference: • Processing parts vs. raw material • Impact of furnace modification or adjustment and repairs • Survey requirement "Initial vs Periodic Survey" Requirements for failure	PL	7	GEN	2.2.36; 2.2.45; 3.5.3; 3.5.4; 3.5.5; 3.5.6; 3.5.8; 3.5.19
49	Knowledge and understanding of the difference in TUS setup based on furnace design. • Atmosphere • Vacuum • E-torch	PL	7	GEN	3.5.8; 3.5.13; 3.5.14 AC7102/8 6.0 ; 6.5.4

	• Salt bath/Fluid Bed • Continuous • Batch				
50	Knowledge and understanding of the differences in Data Collection method depending on furnace design and reporting requirements	PL	7	GEN	3.5.13.3; 3.5.14;4; 3.5.15.1; 3.5.15.2 AC7102/8 6.0 ; 6.5.4
51	Where solution treatment of Aluminum Alloys is undertaken knowledge and understanding of requirement for and frequency of additional surveys under radiation conditions on furnaces with heating elements in the walls	PL	10	GEN	3.5.23 AC7102/8 6.1.General
1	**SKILLS:** **The skills required to perform a particular special process task**				
2	**READ AND UNDERSTAND WRITTEN INSTRUCTIONS:**	**PL**	**7**	**GEN**	General Industry AC7102/8/ 2.1;2.1.1;8.0
3	Ability to understand specification requirements and customer flow-down requirements	**PL**	**7**	**GEN**	General Industry AC7102/8 2.1;2.1.1;8.0
4	Develop testing or calibration schedule to comply with customer requirements	**PL**	**7**	**GEN**	General Industry AC7102/8 2.1;2.1.1;8.0
5	Develop practices to ensure operations are in compliance with calibration, SAT and TUS requirements	**PL**	**7**	**GEN**	General Industry AC7102/8 2.1;2.1.1;8.0
6	**Instrumentation and Equipment handling skills and Safety Practices**				
7	Able to review and assess equipment technical data and determine its compliance to Pyrometry specification (add Tech Sheet(s) for test) • Able to determine conformance to instrument requirements • Able to determine acceptability for controlling, monitoring and recording instruments, field instruments and secondary instruments	**PL**	**7**	**GEN**	Table 3, 3.2 AC7102/8 2.1;2.1.1;8.0
8	Ability to review requirements and establish instrumentation, satisfying instrumentation type.	**PL**	**7**	**GEN**	3.3.2 AC7102/8 2.1;2.1.1;8.0
9	**Review, Analyze/Evaluate and Report the data and Establish Appropriate Action**	**PL**		**GEN**	General Industry, 3.7 AC7102/8 5.4;6.7
10	Report and analyze SAT Data	**PL**	**7**	**GEN**	3.4.5 AC7102/8 5.4;6.7
11	Report and analyze TUS Data	**PL**	**7**	**GEN**	3.5.16, 3.5.17, 3.5.21 AC7102/8 10.7.4, 10.8.7 5.4;6.7
12	Report and analyze Calibration Data	**PL**	**7**	**GEN**	Table 1 & Table 3 AC7102/8 5.4;6.7
13	Material-Specific Requirements consistent with AMS 2750 (latest revision)	**PL**	**7**	**GEN**	3.5.23 AC7102/8 5.4;6.7
14	Take responsibility for ensuring compliance of procedures and processes used by External Service Providers with AMS 2750 and Customer specific requirements	**PL**	**7**	**GEN**	4.1 AC7102/8 5.4;6.7
15	**Preventive Maintenance**:				
16	Knowledge and understanding of the Preventive Maintenance Program	**PL**	**7**	**GEN**	3.4.4, 3.5.4, 3.5.7.1 AC7102/8 1 5.4;6.7
1	**Sequencing**				
2	Has an appropriate understanding of where this process falls in the sequence of events.	PL	10	GEN	
1	**PERSONAL ATTRIBUTES:** **Are statements that will enable judgment of the person's personal attributes**				
2	Train and mentor	**PL**			General Industry
3	Overall responsibility, Plannership and Authority on site level pyrometry activities	**PL**			AMS2750
4	Writing work instructions and procedures and align them to the top level quality requirements	**PL**			AS9100
5	Responsible Review and Signatory authority	**PL**			AS9100
6	Responsible for documenting an on-going plan for pyrometry compliance at site level per AMS2750	**PL**			AMS2750
7	Responsible for conducting periodic self-audits	**PL**			AS9100
8	Responsible for continuous preventative maintenance plan	**PL**			AS9100

9	Responsible for conducting internal personal qualification exam in order to comply with HT BoK ERB requirements	**PL**			eQuaLified
10	Responsible for Timely notification of calibration intervals	**PL**			AMS2750
11	Good communicator at all levels	**PL**			
1	**EXPERIENCE:** **Are the minimum experience requirement expected to demonstrate their competence.**				
2	**EDUCATION:**				
3	United Kingdom: BTEC or A Level qualification	**PL**			
4	United States: High school education with minimum of Algebra 1	**PL**			
5	Other countries please check equivalency against either UK or US education levels.	**PL**			
6	**Apprenticeship:**				
7	Completion of minimum of 12 months internal training	**PL**			
8	**Hands-On / On-The-Job:**				
9	Minimum 12 months experience	**PL**			
10	**Metrology principles (measurement):**				
11	Minimum 12 months experience	**PL**			
12	**Quality Systems Training:**				
13	Minimum 12 months experience	**PL**			
1	**NON-SPECIAL PROCESS RELATED REQUIREMENTS:** **Defined within these rolls are other general or pre-requisite needed**				
2	Must have a thorough understanding of general Quality Systems (AS9100) or equivalent	**PL**	**7**	**GEN**	AS9100
3	Must have a thorough understanding of customer specific requirements	**PL**	**7**	**GEN**	General Industry
4	Must have a thorough understanding of Control of Non Conformance for equipment and product including Containment , Customer notification and disposition	**PL**	**7**	**GEN**	ISO9001 AS9100 4.1 / 4.2

ADDENDUM 1

LIST OF INDUSTRY STANDARDS FOR PYROMETRY

SPECIAL PROCESS	DOCUMENT TITLE	DOCUMENT NUMBER
Pyrometry	SAE Aerospace Materials Specification – Pyrometry	AMS 2750
Quality	AS9100 Quality Management Systems - Requirements for Aviation, Space and Defense Organizations	AS 9100
Heat Treating	Baseline Nadcap Audit Criteria for Heat Treating	AC7102/8
Quality	Quality Standards	ISO9001