



Powder
Coating
Institute

The Powder Coating Institute PCI 3000 Certification Program

Revised 7/7/2014

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Section 1: Purpose & Objectives of PCI 3000 Certification Program

1.0 What is certification?

1.0.1 Certification is the process by which The Powder Coating Institute has created an audit program to evaluate the business practices, process elements, equipment capabilities, employee competencies and quality control capabilities of a coater to produce a high quality powder coated product with a high degree of customer satisfaction.

1.0.2 Certification is **not** is a determination of the quality of the powder coated product that will be produced. It only certifies that the coater has the capabilities and competencies to produce a high quality powder coated product.

1.1 Why certification?

1.1.1 The certified custom coater will benefit in the following ways.

1.1.1.1 Utilize the expertise of the PCI Certification Process to evaluate and create a methodology to continually improve and enhance their powder coating business.

1.1.1.2 Utilize the PCI world renowned logo and benefit from the high standards this image brings to elevate the image of the certified coater.

1.1.1.3 To differentiate a certified custom coater from all other custom coaters and gain access to business opportunities requiring PCI certified applicators.

1.1.1.4 Be represented as a certified coater on PCI websites and Powder Coated Tough publications.

1.2 Who can become certified?

1.2.1 The PCI 3000 certification program is designed and offered to all custom coaters applying powder coatings and is not exclusively designed for PCI category 5 member companies. Member companies will qualify for substantial program discounts as long as they are PCI members in good standing.

1.3 Objectives

1.3.1 The objective of this certification is to offer custom coaters the opportunity to differentiate themselves from other custom coaters. The process is intended to improve and enhance their ability to apply powder coatings, optimize the performance, raise the standards of the industry and recognize the merits of a capable custom coater.

1.3.2 Offer standards to consistently rate powder coating processes focused on 11 main areas.

- 1.3.2.1 Pretreatment
- 1.3.2.2 Ovens and Curing
- 1.3.2.3 Application Area
- 1.3.2.4 Quality Control
- 1.3.2.5 Training
- 1.3.2.6 Maintenance
- 1.3.2.7 Customer Satisfaction
- 1.3.2.8 Process Control
- 1.3.2.9 Quoting and Warranty Policies
- 1.3.2.10 Incoming Quality Control
- 1.3.2.11 Loading, Unloading and Packaging

Section 2: Process Flow for Certification of PCI 3000

Definition and explanation on each step of the process flow.

2.1. Process Flow

2.1.1. Identify Company Management Representative

2.1.1.1. This person will be the responsible for working with PCI throughout the certification process.

2.1.1.2. This person must have a good working knowledge of powder coating and all of the processes of a powder coating operation.

2.1.1.3. The management representative should have management duties and responsibilities within the custom coaters' organization

2.1.1.4. If the management representative is not the main contact within the custom coater organization he/she should report to a director of the organization.

2.1.1.5. Should the management representative leave or no longer have the custom coater management responsibilities the custom coater must provide PCI written notice and a replacement must be selected and to maintain certification.

2.1.1.6. This management representative will be responsible for all audits (internal and external) necessary to gain or maintain certification.

2.2. Management Representative Training

2.2.1. The selected management representative for new certification must have completed and passed PCI 202 training before he/she will be qualified as the representative for the Certification program.

2.2.2. The management training process consists of taking the PCI Hands On workshop which includes several hours of high level classroom instruction along with laboratory hands-on plant instruction.

2.2.3. This training program is designed for more than one to attend; if the custom coating organization would like to train more than one person so they have a backup it is strongly supported by PCI.

2.2.4 The Coater can receive on-site training from PCI for an additional fee upon request.

2.3. Internal Audit

2.3.1. The internal audit is designed for the certified organization to evaluate their process and competencies as it relates to the Certification Program to prepare them for the PCI Audit.

2.3.2. The internal audit should also be a means to better understand their qualifications and ultimately know when or if a company is a candidate for Certification. The internal audit should use the same criteria listed in this document as an appraisal of the organization's competencies.

2.3.3. Once an internal evaluation is complete then the custom coater will be ready to order their Certification audit from PCI and an application form must be completed and sent to PCI for acceptance and scheduling.

2.4. PCI Certification Audit

- 2.4.1. All PCI audits are done at the custom coaters' site.
- 2.4.2. All PCI audits are for one location only.
- 2.4.3. While a certification can be for multiple lines, all lines must be at the same address.
- 2.4.4. Audits will be at least a full day session and the content will vary. The following is a typical agenda:
 - 2.4.4.1. Management Meeting and Discovery Process
 - 2.4.4.2. Plant tour and visual evaluation
 - 2.4.4.3. Interviews and discussion with key personnel
 - 2.4.4.4. Review of record keeping, logs and audits
 - 2.4.4.5. System and process evaluation in plant to include all facets of the powder coating process.
 - 2.4.4.6. Closing meeting with management and management representative.
 - 2.4.4.7. The follow-up report with the scoring will be delivered within two weeks

2.5. Corrective Action Plan (CAP)

- 2.5.1. If a CAP is required it means that the score of the PCI audit did not meet the minimum score to become certified (see Section 5).
- 2.5.2. A copy of the scoring will be given to the custom coater and the management representative must establish the necessary improvements to meet the minimum standard and ultimately become certified.
- 2.5.3. No more than six months are allowed for process improvements
- 2.5.4. PCI will review these improvements before certification is authorized.
- 2.5.5. Typically these can be handled in a conference call but in some cases additional field audit will be required at an additional cost. It will be up to PCI to determine whether the review of improvements can be handled by conference call.

2.6. PCI Certification

- 2.6.1. Once the custom coater has achieved PCI 3000 Certification they will be allowed to use approved PCI logos to promote their qualification.
- 2.6.2. They will be listed on PCI website, in Powder Coated Tough magazine as a Certified Coater, as well as in all promotion to advertise the program to OEMs.
- 2.6.3. They will have the ability to promote their organization as PCI 3000 Certified
- 2.6.4. They will have the ability to quote jobs that require PCI certification

2.7. On-Going Internal Audits

- 2.7.1. The management representative will be responsible for ongoing internal audits.
- 2.7.2. These audits must be performed at least quarterly.
- 2.7.3. While PCI does not require a submission of quarterly audits, PCI will request a record of these audits to be reviewed during an annual surveillance audit.
- 2.7.4. Internal audits are the mechanism to work on continuous improvements in all aspects of the powder coating process.

2.8. Surveillance Audits

- 2.8.1. These annual audits will be used to maintain certification.
- 2.8.2. These will be used to review the same areas that first gained the custom coaters certification with the expectation of improvement in every area.
- 2.8.3. These audits will always be done at the custom coater's facility with a similar agenda to the PCI Certification Audit.
- 2.8.4. Management Representative must be present and available during this audit.

2.8.5 For a surveillance audit, the requirement for management representative training is waived

2.9. Adding Standards to Existing Certification

2.9.1. A formal request must be made to add additional standards such as AAMA 2603, 2604 and 2605 to an existing certification.

2.9.2. These additional standards can be added at any time. These standards will be an extra charge on top of the normal audit charges or may require a separate audit.

Section 3: Audit Areas Needed for Certification and Scoring Matrix

3.1 Pretreatment

3.1.1. The expectations of the audit are that the pretreatment process will meet the minimum standards to satisfy customer requirements. n/a

3.1.2. Does the custom coater keep appropriate logs to maintain a high quality pretreatment system? 10

3.1.3. Are personnel adequately training to support the current pretreatment system? 7

3.1.4. Is pretreatment in good working order? 7

3.1.6. Is pretreatment adequate for all substrates being cleaned? 10

3.1.7. Is pretreatment adequate for all soils needing to be removed? 7

3.1.8. The following are routine tests conducted to confirm satisfactory pretreatment results:

3.1.8.1. White Glove 3

3.1.8.2. Water Break Free 7

3.1.8.3. Adhesion 7

3.1.8.4. Corrosion 7

3.1.8.5. Coating Weight 7

Total Score = 72 Passing Score = 44

3.2 Ovens and Curing

3.2.1. Temperature controls 10

3.2.2. Oven temperature balance 10

3.2.3. Cleanliness of ovens 7

3.2.4. Who controls oven set points and when and how are they authorized to be changed? 5

3.2.5. Does custom coater have an understanding of the cure cycle requirements for different metal masses? 5

3.2.6. Dry off oven condition 7

3.2.7. Vestibules condition and functionality. 5

3.2.8. Exhaust condition 7

3.2.9. While PCI will not certify any oven for safety, the overall safety of the oven(s) will be reviewed. 10

3.2.9. Are burner filters maintained? 5

3.2.10. Is there any preventive maintenance schedule for burners and fans? 7

3.2.11. Is there any documentation routine evaluation of oven drying and cure cycle times and temperatures? 7

Total Score = 75 Passing Score = 47

3.3 Application Area

3.3.1. Cleanliness of entire application area? 7

3.3.2. Is climate controlled and how? 5

- 3.3.3. Is there a dedicated application area or room? 3
- 3.3.4.1. Is there sufficient quantity of compressed air to support the powder coating process? 10
- 3.3.4.2. Is the quality of the compressed air sufficient to support the powder coating process? 10
- 3.3.4.3. Is there a dedicated system to prepare the compressed air for powder coating? 7
- 3.4.4.4. Is the dedicated compressed air preparation system located near the point of use? 7
- 3.4.4.5. Is the compressed air distribution system properly designed? 7
- 3.3.5. Does the customer reclaim over-sprayed powder? n/a
- 3.3.5.1 Condition of the collection system(s)? 7
- 3.3.6. Manual guns
- 3.3.6.1. Condition of manual guns 7
- 3.3.6.2. Output of manual guns (Kv) 7
- 3.3.6.3. Pump conditions 7
- 3.3.6.4. Hopper conditions 7
- 3.3.6.5. Are hoses dedicated to colors 3
- 3.3.6.6. Lighting in application areas 7
- 3.3.6.7. Ground at point of application 10
- 3.3.6.8. Protective wear of those in application area 7
- 3.3.6.9. Application technique 7
- 3.3.6.10. Condition and length of hoses and/or delivery system to gun 7
- 3.3.6.11. Reject rates for application related problems 7
- 3.3.7. Collection Booths
- 3.3.7.1. Condition of collection system(s) 7
- 3.3.7.2. Is color change procedure documented? 7
- 3.3.7.3. Condition of walls of collection system? 7
- 3.3.7.4. Condition of fluidized beds on collection system? 7
- 3.3.7.5. Condition of all gauges pertaining to collection system? 5
- 3.3.7.6. Cross drafts? 5
- 3.3.7.7 The use of compressed air as a cleanup tool? 7
- 3.3.7.8. Pump maintenance? 7
- 3.3.7.9. Where is powder stored? 7
- 3.3.7.10. How is powder fed into system? 5
- 3.3.7.10. General cleanliness of booth and reclaim system? 7

Total Score = 210 Passing Score = 126

3.4. Incoming Quality Control

- 3.4.1. Are incoming parts evaluated and approved for coating?
- 3.4.1.1. Are parts counted and recorded? 10
- 3.4.1.2. Are parts evaluated? 10
- 3.4.1.3. Are parts held in a staging area before coating and how long? 5
- 3.4.1.4. Who can reject incoming parts for coating? 5
- 3.4.2. Is powder coating evaluated and approved for use? 5
- 3.4.2.1. Is powder coating logged in by batch number? 5
- 3.4.2.2. Is powder coating sprayed before use? 3
- 3.4.2.3. Is powder well maintained in climate control area? 10
- 3.4.2.4. Are Material Safety Data Sheets (MSDs) maintained? 10
- 3.4.2.5. Are Technical Data Sheets (TDS's) available? 3
- 3.4.2.6. Is powder rotated for use? Is first in, first out (FIFO) inventory

management system used? 7

3.4.2.7. Who can reject an incoming powder coating? 5

3.4.2.8. What are the steps to assure replacement without use? 3

3.4.2.9. Are coatings evaluated in a controlled, well-lit area using a consistent light source? 7

Total Score = 88 Passing Score = 53

3.5. Training

3.5.1. How is personnel selected for the powder application area? 10

3.5.2. Is outside training used for all powder coating personnel? 7

3.5.3. Have applicators received formal training for their job? 10

3.5.4. Have supervisors received formal training for their job? 10

3.5.5. What is the overall teams understanding of the powder coating process? 10

3.5.6. Is there an internal training program? 5

Total Score = 52 Passing Score = 31

3.6. Maintenance

3.6.1. Is there a planned maintenance program? 10

3.6.2. Are all necessary spare parts on hand? 5

3.6.3. Is there an established schedule for cleanup and equipment maintenance? 7

3.6.4. Who is responsible for filter inspection and change? 5

3.6.5. Are logs maintained? 10

Total Score = 37 Passing Score = 23

3.7. Customer Satisfaction

3.7.1. Does the custom coater have a program to evaluate customer satisfaction? 10

3.7.2. Does the custom coater have a process to improve in areas where they are deficient in customer satisfaction? 7

3.7.3. Are complaints collected or logged in? 7

3.7.4. Is customer satisfaction part of management meetings? 7

3.7.5. Is there a philosophy of customer satisfaction in the organization? 10

Total Score = 41 Passing Score = 25

3.8. Process Control

3.8.1. Does the custom coater have a process control system? 10

3.8.2. Are jobs monitored through the entire coating process with a job tracker? 7

3.8.3. On the job tracker are the following noted:

3.8.3.1. Line Speed 5

3.8.3.2. Part hanging configuration 5

3.8.3.3. Cure Temp 5

3.8.3.4. Pretreatment requirements 5

3.8.3.5. Quality control expectations 5

3.8.3.6. Powder Coating to be used? 10

3.8.3.7. Typical amount of coating to be used? 5

- 3.8.3.8. Film Thickness specification? 7
- 3.8.3.9. Packaging needs? 5
- 3.8.3.10. Part count? 7
- 3.8.3.11. Completion date requested? 7
- 3.8.3.12. Any unique specifications or requests? 10
- 3.8.4. Does custom coater have an electronic tool for process control? 10

Total Score = 103 Passing Score = 62

3.9. Quoting and Warranty Policies

- 3.9.1. Are quoted jobs maintained? 7
- 3.9.2. How long are quotes good for? 7
- 3.9.3. Is process matched to the RFQ? 5
- 3.9.4. Does custom coater have a warranty or guarantee on their coating? 7
- 3.9.5. Is this program and language written to protect the custom coater? 5
- 3.9.6. Does the custom coater have certification from any other organization that may support the use of warranties or guarantees? 5
- 3.9.7. After the job is in-house is there a comparison between quoted cost and actual cost? 7
- 3.9.8. Are prototypes done? 7

Total Score = 50 Passing Score = 30

3.10. Final Quality Control

- 3.10.1. How is quality defined? 10
- 3.10.2. Is there a quality manual? 10
- 3.10.3. Are rejects clearly defined and understood? 10
- 3.10.4. What tests are performed on a routine bases? 10
- 3.10.5. Is there an evaluation area? 10
- 3.10.6. Is there consistent lighting in the evaluation area? 7
- 3.10.7. Is test equipment calibrated? 7
- 3.10.8. Who can reject parts? 5
- 3.10.9. Does custom coater periodically do accelerated testing? 5
- 3.10.10. What tests are performed outside? 5
- 3.10.11. Is powder retain maintained? 5
- 3.10.12. Is the original prototype maintained for comparison? 7
- 3.10.13. Is there an understanding of root cause analysis and is it used? 3

Total Score = 93 Passing Score = 56

3.11. Loading, Unloading and Packaging

- 3.11.1. Are parts loaded to meet coating objectives? 7
- 3.11.2. Is there a clear understanding of hanging configuration? 10
- 3.11.3. Are the racks well maintained and fully loaded? 10
- 3.11.4. Is conveyor clean and/or can it be a cause for contamination? 5
- 3.11.5. Are parts hung in a consistent way? 5
- 3.11.6. Does line density support productivity goals? 5

- 3.11.7. Are parts evaluated for soils or other contaminations? 5
- 3.11.8. How are parts handled during unloaded? 5
- 3.11.9. Is there touch up at unload area, and does it match color/performance? 5
- 3.11.10. How are parts packaged? 5
- 3.11.11. Is there consistency in packaging? 7
- 3.11.12. Is there a specification for packing? 7
- 3.11.13. Can packaging cause damage to coating? 7

Total Score = 83 Passing Score = 50

Total Score= 904 Passing Score = 547

Section 4: Management Considerations

4.1. Management Considerations

4.1.1. At the Closing meeting between Management and the auditor, the auditor may offer the custom coater considerations for improvements. These will not affect the coater's ability to obtain certification as long as the necessary scores are achieved.

4.2. Non-Conformance

4.2.1. If a minimum score is not achieved in any of the 11 areas, the coater will be considered to be in non-conformance in that area and a CAP will be required.

4.3.1. If the cumulative score of the audit is achieved but there are to non-conformance in any of the 11 areas, then certification will be denied. A coater can still become certified through the CAP process.

4.3.2 Although safety is not part of the PCI 3000 criteria, nor is it audited, if there are identified safety and/or health concerns, the auditor will cite these concerns and the PCI will request that these concerns be corrected prior to granting certification even if maximum scores are received in all 11 areas.

Section 5: PCI 3000 Logo

