





**PPG Industries, Inc.**



**QUALITY MANUAL**

**REVISION 1**

<b>PPG Industries, Inc.</b>		Technical/Quality Manager Approval:	Quality Management Systems Approval:
<b>Quality Manual</b>			
Effective Date: 08/27/2009	Revision 1	 Roland Gasmena	 Mike Jones



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### Revision History

CHANGE	REVISION #	ISSUE DATE	EFFECTIVE DATE
Due to quality system structure change, the Quality Manual revision # was changed to 0 and previous revision history archived. This manual is same as previous revision #9 except changed terminology to comply with ISO9001:2008 standard, removed distribution sites Houston, Fairburn, and Aurora from scope, and added customer service manager to top management definition. (change authored by R. Gasmena and M. Jones)	0	07/22/09	08/05/09
In section 5.6.1, changed annually to one per calendar year. (changes authored by Jacob Billingsley)	1	8/13/09	8/27/09



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## Introduction

Established in 1883, PPG Industries, Inc. is a leading diversified manufacturer that supplies its products around the world. The company makes protective and decorative coatings, sealants, adhesives, metal pretreatment products, flat glass, fabricated glass products, continuous-strand fiberglass products, and industrial and specialty chemicals.

From its headquarters in Pittsburgh, PA, PPG has 120 manufacturing facilities and equity affiliated in Argentina, Australia, Brazil, Canada, China, England, France, Germany, Hong Kong, India, Ireland, Italy, Japan, Malaysia, Mexico, the Netherlands, the Philippines, South Korea, Spain, Taiwan, Thailand, Turkey, the United States, and Venezuela.

This manual applies to facilities that manufacture a broad line of architectural coatings, high-performance coatings, floorings, surfacing systems and product finishes. Trade names include Olympic®, Pitt-Charr®, Porter®, Pittsburg®, Amercoat®, Amerlock®, Amershield®, Dimetcote®, and PSX®. These products are used in such diverse industries as oil and gas production, refining, petrochemical processing, fossil and nuclear power, marine, infrastructure maintenance, railroad, general manufacturing, pulp and paper, municipal water and waste treatment and original equipment manufacturing.

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## 1. Scope

This quality manual describes the policies for the quality system of the following PPG Industries, Inc. facilities:

Facility	Location
Manufacturing and Distribution	11605 Vimy Ridge Road Alexander, AR 72002
Manufacturing	1377 Oakleigh Drive East Point, GA 30344
Research and Development (R&D)	1377 Oakleigh Drive East Point, GA 30344
Distribution	13720 Magnolia Avenue Chino, CA 91708
Distribution	1220 37 <sup>th</sup> Street NW, Suite 104 Auburn, WA 98001
Distribution	4820 Mehurin Street Jefferson, LA 70121



The quality system applies to the design, manufacture, and distribution of PPG Industries, Inc. products and is based on the requirements of ISO 9001:2008 quality management systems requirements. It also complies with 10 CFR Part 50, Appendix B, quality assurance criteria for nuclear power plants and fuel re-processing plants. Federal code 10 CFR Part 21 reporting of defects and noncompliance is posted and applies to materials intended for nuclear safety-related applications.

PPG Industries, Inc. excludes the ISO9001:2008 requirements listed in the table below from this quality manual. In addition to these exclusions, various clauses

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or sub-clauses do not apply to all facilities covered under this manual and are noted within each clause or sub-clause as applicable.

Clause or Sub-clause	Exclusion	Justification
7.5 and 7.5.1	Service provision and post delivery activities	PPG Industries, Inc. is a manufacturer and does not provide servicing.
7.5.2	Validation of processes for production and service provision	PPG Industries, Inc. has no special processes where the output cannot be verified by subsequent monitoring or measurement.
7.5.4	Customer Property	Customer supplied property is not used or incorporated into PPG Industries, Inc. products.



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## 2. Quality Policy Statement

PPG Industries, Inc. employees comply with requirements of the quality system and promote continuous improvement of its effectiveness to ensure customer satisfaction in quality, cost, and service.

## 3. Definitions

Top management – For facilities covered under this quality manual, top management is defined as Plant Manager, Technical Manager, QA Manager, Operations Planning, and Customer Service Manager.

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#### 4. Quality management system

##### 4.1. General requirements

PPG Industries, Inc. established, documented, implemented, maintains, and continually improves a quality management system in accordance with the requirements of ISO9001:2008.

To implement the quality management system, PPG Industries, Inc.:

- a) Determined the processes needed for the quality management system and their application throughout the organization.
- b) Determined the sequence and interaction of these processes.
- c) Determined criteria and methods required to ensure the effective operation and control of these processes.
- d) Ensures the availability of resources and information necessary to support the operation and monitoring of these processes.
- e) Monitors, measures where applicable and analyzes these processes.
- f) Takes action necessary to achieve planned results and continual improvement.

PPG Industries, Inc. manages these processes in accordance with the requirements of ISO9001:2008.

PPG Industries, Inc. ensures control over any outsourced process that affects product conformity with requirements. The control of such outsourced processes is identified within the quality management system.



##### 4.2. Documentation requirements

###### 4.2.1. General

The quality management system documentation includes:

- a) Documented statements of a quality policy and quality objectives.
- b) A quality manual.
- c) Documented procedures and records required by ISO9001:2008.
- d) Documents and records determined by PPG Industries, Inc. to be necessary to ensure the effective planning, operation and control of its processes.

###### 4.2.2. Quality Manual

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PPG Industries, Inc. established and maintains this quality manual that includes:

- a) The scope of the quality management system, including details and justification for any exclusion.
- b) Reference to documented procedures established for the quality management system.
- c) A description of the interaction between the processes of the quality management system.

#### **4.2.3. Control of documents**



Documents required by the quality management system are controlled. Records are a special type of document and are controlled per 4.2.4.

Work instruction WI-007 Controlled Quality Documents defines the controls needed to:

- a) Approve documents for adequacy prior to issue.
- b) Review and update as necessary and re-approve documents.
- c) Ensure that changes and the current revision status of documents are identified.
- d) Ensure that relevant versions of applicable documents are available at points of use.
- e) Ensure that documents remain legible and readily identifiable.
- f) Ensure that documents of external origin determined by PPG to be necessary for the planning and operation of the quality management system are identified and their distribution controlled.
- g) Prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.

#### **4.2.4. Control of records**

Records established to provide evidence of conformity to requirements and of the effective operation of the quality management system are controlled. Records are legible, readily identifiable and retrievable. Work Instruction WI-008 Quality Records defines controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

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## 5. Management responsibility

### 5.1. Management commitment

Top management provides evidence of PPG Industries, Inc. commitment to the development and implementation of the quality management system and continually improving its effectiveness by:

- a) Communicating to PPG Industries, Inc. personnel the importance of meeting customer as well as statutory and regulatory requirements.
- b) Establishing the quality policy.
- c) Ensuring that quality objectives are established.
- d) Conducting management reviews.
- e) Ensuring the availability of resources.

### 5.2. Customer focus

Top management ensures that customer requirements are determined and are met with the aim of enhancing customer satisfaction.

### 5.3. Quality policy

Top management ensures that the quality policy:

- a) Is appropriate to the purpose of the organization.
- b) Includes a commitment to comply with requirements and continually improve the effectiveness of the quality management system.
- c) Provides a framework for establishing and reviewing quality objectives.
- d) Is communicated and understood within the organization
- e) Is reviewed for continuing suitability.



### 5.4. Planning

#### 5.4.1. Quality objectives

Top management ensures that quality objectives, including those needed to meet requirements for product, are established at relevant functions and levels within the organization. The quality objectives are measurable and consistent with the quality policy.

#### 5.4.2. Quality management system planning

Top management ensures that:

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- a) The planning of the quality management system is carried out in order to meet the requirements given in 4.1, as well as the quality objectives.
- b) The integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

## **5.5. Responsibility, authority and communication**

### **5.5.1. Responsibility and authority**

Top management ensures that responsibilities and authorities are defined and communicated within PPG Industries, Inc.

### **5.5.2. Management representative**

Top management has appointed the Little Rock Technical Manager as the management representative. Each facility shall have a management representative who reports to the Little Rock Technical Manager for Quality Systems and who irrespective of other responsibilities have the responsibility and authority for:

- a) Ensuring that processes needed for the quality management system are established, implemented and maintained.
- b) Reporting to top management on the performance of the quality management system, including needs for improvement.
- c) Ensuring the promotion of awareness of customer requirements throughout PPG Industries, Inc.

The management representatives for the facilities are as follows:



- a) Little Rock – Quality Assurance Manager
- b) East Point Manufacturing – Technical Manager
- c) East Point R&D – Senior Development Chemist

### **5.5.3. Internal communication**

Top management has established appropriate communication processes (e.g. memos, verbal communication, e-mail, and employee meetings) within PPG Industries, Inc. and ensures that communication takes place regarding the effectiveness of the quality management system.

## **5.6. Management review**

### **5.6.1. General**

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Top management reviews the quality management system at least once per calendar year to ensure its continuing suitability, adequacy and effectiveness. Each review includes assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy and quality objectives.

Records from management reviews are maintained.

### 5.6.2. Review input

The input to the management review includes:

- a) Audit results.
- b) Feedback from customers.
- c) Process performance and product conformity.
- d) Status of preventive and corrective actions.
- e) Follow-up actions from previous management reviews.
- f) Changes that could affect the quality management system.
- g) Recommendations for improvement.

### 5.6.3. Review output

The output from the management review includes decisions and actions related to the:

- a) Improvement of the effectiveness of the quality management system and its processes.
- b) Improvement of product related to customer requirements.
- c) Resource needs.

## 6. Resource management

### 6.1. Provision of resources



PPG Industries, Inc. determined and provides the resources needed to:

- a) Implement and maintain the quality management system and continually improve its effectiveness.
- b) Enhance customer satisfaction by meeting customer requirements.

### 6.2. Human resource

#### 6.2.1. General

Personnel performing work affecting product quality are competent on the basis of applicable education, training, skills and experience.

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### 6.2.2. Competence, awareness and training

PPG Industries, Inc.:

- a) Determines the necessary competence for personnel performing work affecting product requirements.
- b) Provides training or takes other actions to satisfy these needs when training is required.
- c) Evaluates the effectiveness of the actions taken.
- d) Ensures that personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.
- e) Maintains appropriate records of education, training, skills and experience.

### 6.3. Infrastructure

PPG Industries, Inc. determined, provides and maintains infrastructure to achieve the conformity of product to requirements, including, as applicable:

- a) Buildings, workspace and associated utilities.
- b) Process equipment (both hardware and software).
- c) Supporting services (such as transport, communication, and information systems)

### 6.4. Work environment

PPG Industries, Inc. determined and manages the work environment needed to achieve conformity to product requirements.



## 7. Product realization

### 7.1. Planning of product realization

PPG Industries, Inc. planned and developed the processes needed for product realization. Planning of product realization is consistent with the requirements of the other processes of the PPG Industries, Inc. quality management system.

In planning the processes for realization of product, PPG Industries, Inc. has determined the following, as appropriate:

- a) Quality objectives and requirements for the product.
- b) The need to establish processes and documents and to provide resources specific to the product.

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- c) Required verification, validation, monitoring, measurement, inspection and test activities, specific to the product and the criteria for product acceptance.
- d) Records needed to provide evidence that the realization processes and resulting product meets requirements.

## **7.2. Customer-related processes**

### **7.2.1. Determination of requirements related to the product**

PPG Industries, Inc. determines:

- a) Requirements specified by the customer, including the requirements for delivery and post-delivery activities.
- b) Requirements not specified by the customer but necessary for specified or intended use, where known.
- c) Statutory and regulatory requirements applicable to the product.
- d) Any additional requirements considered necessary by PPG Industries, Inc.

### **7.2.2. Review of requirements related to the product**

PPG Industries, Inc. reviews the requirements related to the product. This review is conducted prior to the commitment to supply a product to the customer (e.g. submission of a quotation, acceptance of a contract or order, acceptance of changes to a contract or order) and ensures that:



- a) Product requirements are defined.
- b) Contract or order requirements differing from those previously expressed are resolved.
- c) PPG Industries, Inc. has the ability to meet defined requirements.

Records of the results of the review and actions arising from the review are maintained.

Where the customer provides no documented statement of requirement, the customer requirements are confirmed by the organization before acceptance.

Where product requirements are changed, PPG Industries, Inc. ensures that relevant documents are amended and that relevant personnel are made aware of the changed requirements.

### **7.2.3. Customer communication**

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PPG Industries, Inc. determined and implemented effective arrangements for communicating with customers in relation to:

- a) Product information.
- b) Enquiries, contracts or order handling, including amendments.
- c) Customer feedback, including customer complaints.

### **7.3. Design and development (applicable only to East Point R&D location)**

#### **7.3.1. Design and development planning**

PPG Industries, Inc. plans and controls the design and development of the product.

During the design and development planning, PPG Industries, Inc. determines:

- a) The design and development stages.
- b) The review, verification and validation that is appropriate to each design and development stage.
- c) The responsibilities and authorities for design and development.

PPG Industries, Inc. manages the interfaces between different groups involved in design and development to ensure effective communication and clear assignment of responsibility.

Planning output is updated, as appropriate, as the design and development progresses.



#### **7.3.2. Design and development inputs**

Inputs relating to product requirements are determined and records maintained. These include:

- a) Functional and performance requirements.
- b) Applicable statutory and regulatory requirements.
- c) Applicable information derived from previous similar designs.
- d) Other requirements essential for design and development.

These inputs are reviewed for adequacy. Requirements are to be complete, unambiguous and not in conflict with each other.

#### **7.3.3. Design and development outputs**

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The outputs of design and development are in a form suitable for verification against the design and development input and are approved prior to release.

Design and development output assures that PPG Industries, Inc. will:

- a) Meet the input requirements for design and development.
- b) Provide appropriate information for purchasing, production and service provision.
- c) Contain or reference product acceptance criteria.
- d) Specify characteristics of the product that are essential to its safe and proper use.

#### **7.3.4. Design and development review**

At suitable stages, systematic reviews of design and development are performed in accordance with planned arrangements to:

- a) Evaluate the ability to fulfill requirements.
- b) Identify problems and propose necessary actions.

Participants in such reviews include representatives of functions concerned with the design and development stage(s) being reviewed. Records of the results of the reviews and any necessary actions are maintained.

#### **7.3.5. Design and development verification**



Verification is performed in accordance with planned arrangements to ensure that the design and development outputs have met the design and development input requirements. Records of the results of the verification and any necessary actions are maintained.

#### **7.3.6. Design and development validation**

Design and development validation is performed in accordance with planned arrangements to ensure that the resulting product is capable of meeting the requirements for the specified application or intended use, where known. Wherever practicable, validation is completed prior to the delivery or implementation of the product. Records of the results of validation and any necessary actions are maintained.

#### **7.3.7. Control of design and development changes**

Design and development changes are identified and records maintained. The changes are reviewed, verified and validated, as appropriate, and approved before implementation. The review, of

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design and development changes, includes evaluation of the effect of the changes on constituent parts and product already delivered.

Records of the results of the review of changes and any necessary actions are maintained.

## **7.4. Purchasing**

### **7.4.1. Purchasing process**

PPG Industries, Inc. ensures that purchased product conforms to specified purchase requirements. The type and extent of control applied to the supplier and the purchased product is dependent upon the effect of the purchased product on subsequent product realization or the final product.

PPG Industries, Inc. evaluates and selects suppliers based on their ability to supply product in accordance with PPG Industries, Inc. requirements. Criteria for selection, evaluation and re-evaluation are established. Records of the results of evaluations and any necessary actions arising from the evaluation are maintained.

### **7.4.2. Purchasing information**

Purchasing information describes the product to be purchased, including where appropriate:

- a) Requirements for approval of product, procedures, processes and equipment.
- b) Requirements for qualification of personnel.
- c) Quality management system requirements.



PPG Industries, Inc. ensures the adequacy of specified purchase requirements prior to their communication to the supplier.

### **7.4.3. Verification of purchased product**

PPG Industries, Inc. established and implemented activities necessary for ensuring that purchased product meets specified purchase requirements.

Where PPG Industries, Inc. or our customer intends to perform verification at the supplier's premises, the organization states the intended verification arrangements and method of product release in the purchasing information.

## **7.5. Production provision (applicable only to Alexander and East Point locations)**

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**7.5.1. Control of production provision**

PPG Industries, Inc. controls production provisions under controlled conditions. Controlled conditions include, as appropriate:

- a) The availability of information that describes the key characteristics of the product.
- b) The availability of work instructions, as necessary.
- c) The use of suitable equipment.
- d) The availability and use of monitoring and measuring equipment.
- e) The implementation of monitoring and measurement.
- f) The implementation of defined processes for product release and delivery.

**7.5.2. Validation of processes for production and service provision**

PPG Industries, Inc. excludes this requirement. PPG Industries, Inc. has no special processes where the output cannot be verified by subsequent monitoring or measurement.

**7.5.3. Identification and traceability**

Where appropriate, PPG Industries, Inc. identifies the product by suitable means throughout product realization.

PPG Industries, Inc. identifies the product status with respect to monitoring and measurement requirements.



PPG Industries, Inc. controls and records the unique identification of the product where traceability is a requirement.

**7.5.4. Customer property**

PPG Industries, Inc. excludes this requirement. Customer supplied property is not used or incorporated into PPG Industries, Inc. products.

**7.5.5. Preservation of product**

PPG Industries, Inc. preserves the product during internal processing and delivery to the intended destination in order to maintain conformity to requirements. As applicable, this preservation includes identification, handling, packaging, storage

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and protection. Preservation also applies to the constituent parts of the product.

### 7.6. Control of monitoring and measuring devices

PPG Industries, Inc. determines the measurements to be made as well as the monitoring and measuring equipment required to assure product conformity to specified requirements.

PPG Industries, Inc. established processes to ensure that monitoring and measurement can be carried out and are carried out in the manner that is consistent with the monitoring and measurement requirements.

Where necessary to ensure valid results, measuring equipment is:

- a) Calibrated or verified, or both, at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such standards exist, the basis used for calibration or verification is recorded.
- b) Adjusted or re-adjusted as necessary.
- c) Identified to enable calibration status to be determined.
- d) Safeguarded from adjustments that would invalidate the measurement result.
- e) Protected from damage and deterioration during handling, maintenance and storage.

In addition, PPG Industries, Inc. assesses and records the validity of the previous measuring results when the equipment is found not to conform to requirements. PPG Industries, Inc. takes appropriate action on the equipment and any product affected. Records of the results of calibration and verification are maintained.



When used in the monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application is confirmed. This is undertaken prior to initial use and reconfirmed as necessary.

## 8. Measurement, analysis and improvement

### 8.1. General

PPG Industries, Inc. plans and implements monitoring, measurement, analysis and improvement processes needed to:

- a) Demonstrate conformity to product requirements.
- b) Ensure conformity of the quality management system.
- c) Continually improve the effectiveness of the quality management system.

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This includes determination of applicable methods, including statistical techniques, and the extent of their use.

## **8.2. Monitoring and measurement**

### **8.2.1. Customer satisfaction**

PPG Industries, Inc. monitors customer complaints, product reviews, nonconformances, and sales to determine trends that express the customer perception as to whether PPG Industries, Inc. meets customer requirements.

### **8.2.2. Internal audit**

PPG Industries, Inc. conducts internal audits at planned intervals to determine whether the quality management system:

- a) Conforms to the planned arrangements, to the requirements of ISO9001:2008 and to the quality management system requirements established by PPG Industries, Inc.
- b) Is effectively implemented and maintained.



An audit schedule is planned, taking into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits. The audit criteria, scope, frequency and methods are defined. Selection of auditors and conduct of audits ensure objectivity and impartiality of the audit process. Auditors do not audit their own work.

Work Instruction WI-005 internal auditing defines the responsibilities and requirements for planning and conducting audits, and for reporting results and maintaining records.

The management responsible for the area being audited ensures that any necessary corrections and corrective actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities include the verification of the actions taken and the reporting of verification results.

### **8.2.3. Monitoring and measurement of processes**

PPG Industries, Inc. applies suitable methods for monitoring and, where applicable, measurement of the quality management system processes. These methods demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, correction and corrective action are taken, as appropriate.

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#### **8.2.4. Monitoring and measurement of product**

PPG Industries, Inc. measures and monitors the characteristics of the product to verify that requirements for the product are met. This is carried out as planned at appropriate stages of the product realization process.

Evidence of conformity with the acceptance criteria is maintained and records indicate the person(s) authorizing release of product for delivery to the customer.

Release of product and delivery of service to the customer does not proceed until the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority and, where applicable, by the customer.

#### **8.3. Control of nonconforming product**

PPG Industries, Inc. ensures that product which does not conform to requirements is identified and controlled to prevent unintended use or delivery. These activities and responsibilities are defined in work instruction WI-003 Control of Nonconforming Product.

Where applicable, PPG Industries, Inc. handles nonconforming product by one of the following ways:

- a) Taking action to eliminate the detected nonconformity.
- b) Authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer.
- c) Taking action to preclude its original intended use or application.



Records of the nonconformities and any subsequent actions taken, including concessions obtained, are maintained.

#### **8.4. Analysis of data**

PPG Industries, Inc. determines, collects and analyzes appropriate data to determine the suitability and effectiveness of the quality management system and to identify improvements that can be made. This includes data generated by monitoring and measurement activities and other relevant sources.

PPG Industries, Inc. analyzes this data to provide information on:

- a) Customer satisfaction and/or dissatisfaction.
- b) Conformity to product requirements.
- c) Characteristics of trends of processes and products including opportunities for preventive action.

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d) Suppliers.

## 8.5. Improvement

### 8.5.1. Continual improvement

PPG Industries, Inc. continually improves the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

### 8.5.2. Corrective action

PPG Industries, Inc. takes corrective action to eliminate the causes of nonconformities in order to prevent recurrence. Corrective actions taken are appropriate to the impact of the nonconformities encountered.

Work instruction WI-106 CAIR: Corrective Adjustment / Incident Reporting System define requirements for:

- a) Reviewing nonconformities (including customer complaints).
- b) Determining the causes of nonconformities.
- c) Evaluating the need for actions to ensure that nonconformities do not recur.
- d) Determining and implementing the corrective action needed.
- e) Recording results of action taken.
- f) Reviewing the effectiveness of corrective action taken.

### 8.5.3. Preventive action

PPG Industries, Inc. identifies preventive action to avoid and eliminate the causes of potential nonconformities to prevent occurrence. Preventive actions taken are appropriate to the impact of the potential problems.

Work instruction WI-106 CAIR: Corrective Adjustment / Incident Reporting System define requirements for:

- a) Determining potential nonconformities and their causes.
- b) Evaluating the need for action to prevent occurrence of nonconformities.
- c) Determining and implementing action needed.
- d) Recording results of action taken.
- e) Reviewing the effectiveness of preventive action taken.