



INVENT. BUILD. DELIVER.

SUPPLIER QUALITY EXPECTATIONS MANUAL



THE PGT INNOVATIONS FAMILY OF BRANDS





PURPOSE

The purpose of this document is to provide clear expectations of suppliers to PGT Innovations and its subsidiaries. This document is the basis for cooperation between PGT Innovations and its suppliers towards achieving all performance objectives.

PGT Innovations is committed to providing our customers with the highest quality products and services and recognizes the importance of our suppliers' partnership in support of this effort. The quality of items delivered by our suppliers is a critical factor in ensuring:

- 1. THE CORRECT FORM FIT, FUNCTION, AND RELIABILITY OF PGT INNOVATIONS PRODUCTS.**
- 2. THE FLOW OF THESE PRODUCTS AND SERVICES THROUGH PGT INNOVATIONS FACTORIES.**

Meeting these two objectives results in customer satisfaction and end user satisfaction. PGT Innovations expects all suppliers to have a mindset for Continuous Improvement and to engage with its customers to ensure product / process innovations.



SCOPE

The Supplier Expectations document complements all of the other information provided by PGT Innovations. If there are any questions, please consult with your PGT Innovations contact. PGT Innovations reserves the right to change this document at any time. It is recommended that suppliers ask their PGT Innovations contact for the latest version.

PGT Innovations leverages concepts and standards as set forth in the International Organization for Standardization document – ISO 9001:2015.

CODE OF BUSINESS CONDUCT AND ETHICS

PGT Innovations suppliers must share our Code of Business Conduct and Ethics and commitment to **“Say what we will do and do what we say.”**

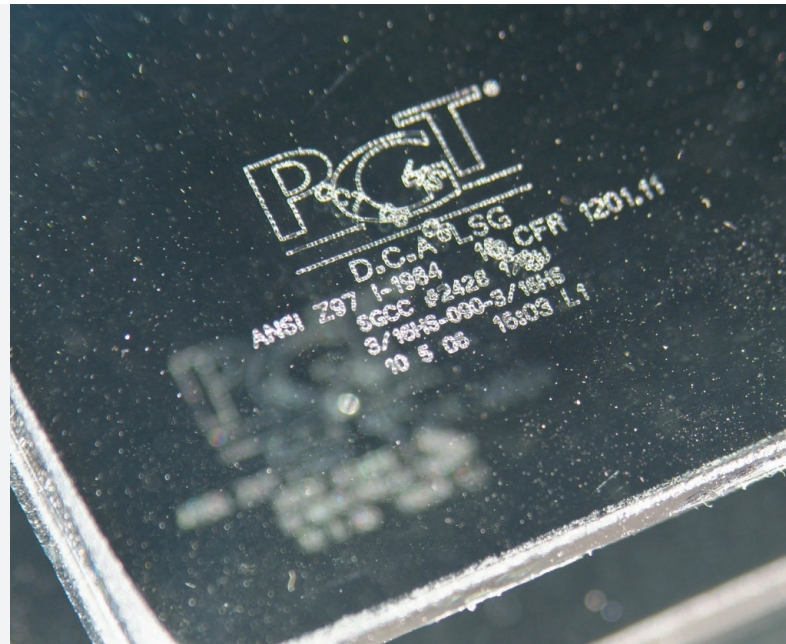
- **WE WILL DEMONSTRATE INTEGRITY.**
- **WE WILL BE HONEST AND STRAIGHTFORWARD IN EVERYTHING WE DO.**
- **WE WILL PROVIDE HIGH-QUALITY PRODUCTS AND SERVICES.**
- **WE WILL CONDUCT OUR BUSINESS BY FOLLOWING BOTH THE LETTER AND SPIRIT OF ALL APPLICABLE LAWS AND REGULATIONS.**

QUALITY SYSTEM REQUIREMENTS

PGT Innovations sites will determine the requirements of third party registrations and the process for providing periodic compliance assessments for their suppliers. Suppliers must promptly notify PGT Innovations of any changes that may affect quality. These changes include, but are not limited to, changes in key management or personnel, changes in source of supply of key materials, changes in processes, and changes in address or site configuration.

PGT INNOVATIONS QUALITY POLICY

As the nation's leader in impact-resistant windows and doors, PGT Innovations is committed to providing strong, reliable, and attractive products designed through innovation, built with quality, and delivered on time and in full. The success of our business is founded on meeting our customers' requirements and expectations with complete satisfaction.



APPROVED STATUS

The typical approval process includes review/analysis by the sourcing plant contact, a Supplier Capability Assessment, and a Supplier Quality Audit. Potential suppliers must fully engage in this process to gain PGT Innovations' approval. Additionally, suppliers are required to complete all corrective action requests (CARs) as a result of a Supplier Quality Audit. Approved status is granted and revoked by PGT Innovations at their discretion and can include probation periods with increased oversight for new (or underperforming) suppliers.

CHANGES TO PRODUCT SERVICES

PGT Innovations suppliers must assure that the current configuration of all drawings, specifications, and instructions required by the contract/purchase order, as well as authorized changes, are used for manufacturing, inspecting, packaging, and testing. Suppliers must assure they have the capability to manage document revisions and purchase order changes.

“Authorized changes” means that PGT Innovations approves, in writing, all manufacturing and design changes in advance of their implementation.

Suppliers with design authority are required to promptly notify PGTI, in writing, of any changes of fit, form, function, manufacturing process, reliability, or safety of product and obtain approval prior to manufacture and delivery.

Suppliers must submit to their PGT Innovations contact, in advance of implementation, proposed changes that may include, but are not limited to, changes in:

- Process (ex. finish, anodizing, etc.)
- Subcontractor
- Material
- Design
- Packaging
- Manufacturing Location



NONCONFORMING MATERIAL

GENERAL

PGT Innovations' suppliers must establish procedures to ensure that nonconforming material is promptly identified and prevented from inadvertent use or delivery. Nonconforming material means material that does not conform to drawings, specified requirements, standards, purchase order requirements, and/or acceptance criteria. This definition includes material provided by subsupplier.

IDENTIFICATION AND SEGREGATION

PGT Innovations' suppliers must immediately identify any material suspected of being nonconforming and prevent their use, shipment, or mixing with conforming material. In order to prevent their further use and processing, suppliers must segregate from acceptable material, by an appropriate method, any material that is suspect or has been determined to be nonconforming.

CONTAINMENT OF NONCONFORMING MATERIAL

Upon discovery or notification by PGT Innovations, suppliers must take immediate action to determine if the nonconformance exists:

- In finished goods or incoming material at the supplier's location
- In any work-in-process (WIP)
- In transit to PGT Innovations
- In prior shipments to PGT Innovations

PGT Innovations' suppliers must execute and document containment action within **24 hours** of discovery of the nonconformance or notification by PGT Innovations. In the case of a containment action, continued shipments may require PGT Innovations' approval.

NOTIFICATION OF NONCONFORMING MATERIAL

Suppliers must promptly notify PGT Innovations if nonconforming product has been shipped. The notification includes:

- Part numbers affected
- Traceability (lot, serial, manufacturer numbers) of the defective product
- Purchase order number (PO #)
- Ship dates of the defective product
- Quantities of the defective product

- A description of the nonconformance
- Immediate action taken by the supplier to contain the condition
- Corrective action being taken to eliminate/prevent future occurrences

PGT Innovations' suppliers must send written notification to the attention of:

- The PGT Innovations contact at the purchase order issuing site
- The PGT Innovations Quality Assurance representative at the site

MANAGING DEFECTIVE PARTS SHIPPED TO PGT INNOVATIONS

When defective parts are found at a PGT Innovations facility, suppliers will be notified immediately and may be required to implement the identification, segregation, containment, and notification actions described above. Such goods are not to be replaced without a purchase order from the PGT Innovations affected site.

Additionally, suppliers may be asked to support any or all of the following at PGT Innovations' discretion:

- Immediate return of the entire affected delivery to the supplier
- Sorting activity carried out by the supplier at the PGT Innovations facility
- Sorting activity carried out by PGT Innovations or by a company appointed by PGT Innovations
- Compensation for PGT Innovations' costs incurred, including salvaging parts or sort/labor charges
- Visual indication of inspected material (ex. ACCEPTED stickers on boxes or signage on pallets)

SUPPLIER REQUEST FOR APPROVAL (SRA)

PGT Innovations' suppliers may request consideration for nonconforming material that cannot be reworked to fully conform to drawing or purchase order requirements. Suppliers must submit SRAs on site-directed forms. Whenever requested by PGT Innovations, samples that are representative of the nonconformance will also be submitted. Nonconforming material cannot be shipped by the supplier until the completed, dispositioned, and approved Supplier Request for Approval document is returned to the supplier. Example: paint nozzle change, IG spacer change, process change, site location change, etc.



SUPPLIER CORRECTIVE ACTION REQUESTS (CAR)

PGT Innovations sites may issue CARs to suppliers in order to provide feedback on specific nonconformances and to provide a firm basis for continuous improvement. PGT Innovations believes that CARs are an opportunity for learning and improvement and should follow the 8D format (8 Discipline problem-solving methodology). Suppliers are expected to respond to these CARs within **five (5) business days** of notification and with the same belief that these CARs are opportunities for learning and improvement. Poor response to a CAR by suppliers may be considered a lack of commitment to continuous improvement and may require further action by PGT Innovations. Verification of corrective actions by the supplier is required to close a CAR and is expected **thirty (30) calendar days** after the permanent corrective measures are implemented by the issue date.

ENGLISH LANGUAGE

English is the required language to provide a common basis for all Suppliers' communications and information provided to PGT Innovations. Translations may be done by agreement, but the English versions govern.



AUDIT RIGHTS RESERVED/RIGHT OF ENTRY

Supplier acknowledges that PGT Innovations may, from time to time, ask supplier to participate in a Quality Assurance audit which may include, but not be limited to, supplying its Quality Assurance Manual for PGT Innovations' reasonable review. Periodic supplier performance evaluations may be performed to assess supplier's quality as it relates to such issues as on-time deliveries, packaging, service/warranty, and nonconforming materials as reported through PGT Innovations' Nonconforming Product (NCP) process. Any audit activity as described above will be conducted during normal business hours and with advance written notice to suppliers. Any findings as a result of the above audit activity will be acted on promptly by the supplier.

CONTINGENCY PLANS

Suppliers are required to prepare contingency plans for issues such as line interruptions, utilities failures, labor problems, equipment breakdowns, etc., to protect PGT Innovations' supply of product in the event of an emergency, including natural disasters. Request for Contingency Plan(s) will be made during Supplier Quality Audits.



SUPPLIER PERFORMANCE SCORECARDS

Supplier quality will be measured in Nonconforming Product (NCP) issued and reschedules to PGT Innovations' customers. Supplier delivery will be measured in percent (%) for On Time Delivery (OTD) and Yield – On Time Performance (YIELD OTP) in the following manner:

1) ON TIME DELIVERY (OTD)

- DESCRIPTION – This metric represents the percent of line items received on time, compared to the PGT Innovations requested line items, delivered on the delivery date.
- TIMEFRAME – This metric is calculated monthly.
- COMPUTATION – Actual number of lines delivered to PGT Innovations (on time, labeled correctly, and correct quantity) as a percent of total lines delivered to PGT Innovations in a given month.
- TARGET – Material delivered 98% on time to PGT Innovations' dock within 2 days early/0 days late to delivery date.

$$\text{OTD\%} = \frac{\text{Lines Delivered} - \text{Late Lines} - \text{Early Lines}}{\text{Lines Delivered}}$$

2) NONCONFORMING PRODUCT (NCP)

- DESCRIPTION – This metric represents the number of NCPs issued by PGT Innovations for rejected supplier material.
- TIMEFRAME – This metric is calculated monthly.
- COMPUTATION – Actual number of NCPs issued from PGT Innovations' tracking system.
- TARGET – Zero NCPs for rejected supplier materials.

3) YIELD ON-TIME PERFORMANCE (YIELD OTP)

- DESCRIPTION – This metric represents the percentage of defect-free line items received on time compared to the PGT Innovations' requested line items, delivered on the delivery date.
- TIMEFRAME – This metric is calculated monthly.
- COMPUTATION – Actual number of lines delivered to PGT Innovations (on time, labeled correctly, defect-free, and in the correct quantity) as a percentage of total lines delivered to PGT Innovations in a given month.
- TARGET – Material delivered 98% on time to PGT Innovations' dock within 2 days early/0 days late to delivery date.

$$\text{Yield OTP\%} = \frac{\text{Lines Delivered} - \text{Late Lines} - \text{Early Lines} - \text{NCPs}}{\text{Lines Delivered}}$$



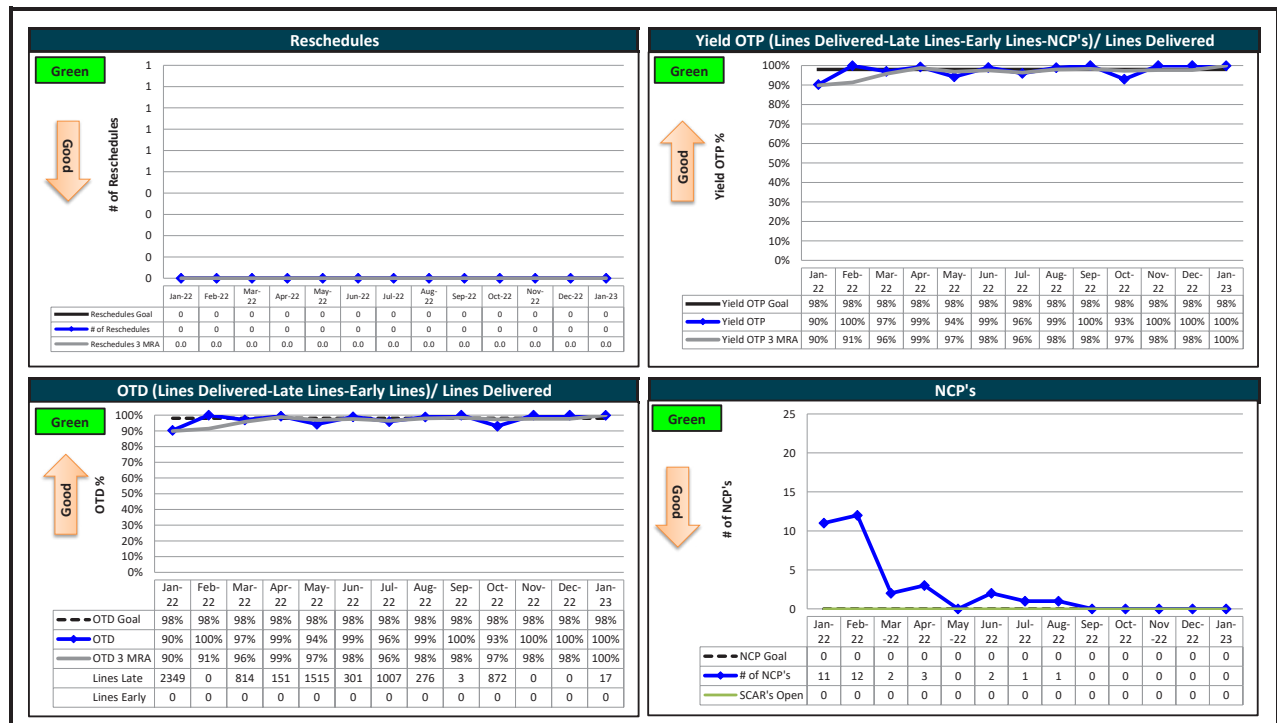
4) RESCHEDULES (MISSED DELIVERIES TO PGT INNOVATIONS' CUSTOMERS)

- DESCRIPTION – This metric represents the number of reschedules to PGT Innovations' customers' original request date, where the reschedule is caused by a supplier-related issue (rejected material, late purchase order, incomplete on-time order, etc.)
- TIMEFRAME – This metric is calculated monthly.
- COMPUTATION – Number of reschedules assigned to supplier-related issue, per PGT Innovations' log.
- TARGET – Zero supplier-caused reschedules to PGT Innovations' customers.

PGT INNOVATIONS' SUPPLIERS MUST COMMIT TO CONTINUOUS IMPROVEMENT IN THEIR QUALITY, DELIVERY, COST, AND SERVICE PERFORMANCE.

Supplier performance, as defined by these criteria, may be used by PGT Innovations to direct improvement activities by the supplier and may drive future PGT Innovations sourcing decisions.

Supplier Scorecard Example - PGT Innovations





SHIPPING AND HANDLING

Suppliers must pack, label, protect from damage, and then ship all products in accordance with PGT Innovations' specifications or, in the absence of such specifications, in a manner that the supplier selects as commercially reasonable, appropriate, and suitable for timely and safe delivery to ensure that the products will not be damaged in transit.

PRODUCT SAFETY EXPECTATIONS

Suppliers must provide products, components, materials, and services that conform to specifications and are free from product safety hazards that would result in personal injury or death, adverse environmental impacts, and/or property damage. When these purchased items are incorporated into PGT Innovations products, they must be safe for our customers, employees, the general public, and the environment.

RECORDS RETENTION

Suppliers must maintain complete and accurate records of all products and services provided to PGT Innovations. Quality approval records shall be retained for a period of **three (3) years** from the date of delivery to PGT Innovations or length of supplier's warranty, whichever is longer. For glass suppliers, records related to IGCC and SGCC certifications shall be retained for a minimum of **ten (10) years**.

PART VERIFICATION PRIOR TO SHIPMENT TO PGT

INSPECTION, MEASUREMENT, AND TEST EQUIPMENT

All inspection, measurement, and test equipment used in product final conformance verification shall be calibrated in accordance with instructions and/or nationally recognized reference standards to equipment of confirmed values. Inspection, measurement, and test equipment shall be re-calibrated at defined intervals. Measurement System Analysis (MSA) should be employed for measuring devices used to approve products for shipment to PGT Innovations.

FIRST ARTICLE INSPECTION

The purpose of first article inspection is to document objective evidence that Suppliers' products conform to the engineering drawing and meet the design specification requirements.

First articles may apply to component parts, assemblies, extrusions/castings/forgings, and/or completed products as contractually specified by the purchase order or contract. First articles are produced using the same process that is used for production.

First articles are required whenever specified by the purchase order or any of the following criteria:

- Initial production run of the part by a new PGT Innovations supplier.
- The engineering drawing revision on the purchase order has changed since the last first article performed by the Supplier.
- As required by the PGT Innovations quality department.
- As specifically noted on the purchase order.

Suppliers must submit first articles for approval with no known non-conformance. Products are not approved for production until first article samples are fully approved. First articles are submitted on a form specified by the PGT Innovations site. Suppliers may elect to submit a first article on their own form, but must have prior approval from their PGT Innovations site. Retain samples shall be kept by Supplier.

PRODUCTION PART APPROVAL PROCESS (PPAP)

When directed by a PGT Innovations site, and in compliance with Advanced Quality Planning (AQP) practices, suppliers must submit a Part Submission Form (PSF) to the required level, with supporting Production Part Approval Process (PPAP) documentation for all new products and changes to existing products. Periodic reviews of the AQP status and progress (including, but not limited to documentation, tooling progress, design reviews, build schedules, etc.) may be required throughout the AQP process prior to actual PPAP submission. All documentation (progress reports, dimensional results, PPAP documentation packages, etc.) must be submitted directly to the manufacturing site Quality representative.

RECOMMENDED INSPECTION METHODS AND TEST EQUIPMENT

Specification Type	Total Tolerance	Method(s)
External edge to edge	Less than .001"	Keyence / vision system
	.001" – 12.000"	Outside micrometers / calipers with .0005" resolution
	Greater than 12.000"	CMM / open inspection setup / custom gauging
Internal edge to edge	Less than .011"	Keyence / vision system
	.011" – 1.000"	Gauge pins / inside micrometers / calipers / Keyence / CMM
	1.001" – 12.000"	Inside micrometers / calipers / Keyence / vision system / CMM
Outside diameter	Less than .001"	N/A
	.001" – 12.000"	Outside micrometers / calipers / Keyence / vision system / CMM
	Greater than 12.000"	CMM / open inspection setup / custom gauging
Inside diameter	Less than .001"	Keyence / vision system
	.001" – 12.000"	Gauge pins / inside micrometers / calipers / Keyence / CMM
	Greater than 12.000"	Inside micrometers / calipers / Keyence / vision system / CMM
Angles	1 deg or less	Keyence / vision system
	Greater than 1 deg	Keyence / vision system / sine bar / custom gauging
	Break edge	Visual

1. Color meter / Spectrophotometer: BYK-Gardner CC-6801 Ergonomic Color/Gloss Meter; 45/0 Color Geometry, 60° Gloss Geometry.
2. Gloss meter (stand alone device): BYK Micro-Glossmeter 60° XS Model 4561.
3. Paint thickness: Elcometer 456 Basic N type and Probe for non-ferrous metal (ex. used for aluminum, but not steel).
4. Paint adhesion: Cross Hatch Adhesion Tester Cross-Cut Adhesion Tester Kits with 1mm (for liquid thickness) or 2mm (for powder thickness) blades, magnifier, handle, brush, and 3M tape.
5. Metal hardness: Webster Hardness Tester Gauge for Aluminum Alloy Profiles Model B.
6. ACT Orange Peel Standards for visual paint surface evaluation; ACT Test Panel Technologies Item No. 14941, set of 10.
7. Low-e Coating: ETEKT+ Low-E Coating Detector (single or dual pane) Model #AE1601.
8. Low-e Coating: EDTM Glass-Check ELITE with Laminates Model #GC3200.

GLOSSARY

- **AAMA** – American Architectural Manufacturers Association
- **AQP** – Advanced Quality Planning
- **ASQ** – American Society of Quality
- **CAR** – Corrective Action Report
- **DMR** – Defective Material Report
- **eQMS** – Electronic Quality Management System
- **FAI** – First Article Inspection
- **FGIA** – Fenestration and Glazing Industry Alliance
- **IGCC** – Insulated Glass Certification Council
- **ISO 9001:2015** – International Organization for Standardization
- **NCP** – Nonconforming Product Report
- **NFRC** – National Fenestration Rating Council
- **NOA** – Notice of Acceptance – Miami-Dade County certification
- **OOS** – Out of Specification
- **OOT** – Out of Tolerance
- **PAR** – Preventive Action Report
- **PSF** – Part Submission Form
- **PSW** – Part Submission Warrant
- **PPAP** – Production Part Approval Process
- **QA** – Quality Administrator
- **QA** – Quality Assurance
- **QC** – Quality Control
- **QE** – Quality Engineer
- **QM** – Quality Manager
- **QMS** – Quality Management System
- **QT** – Quality Technician
- **QT9** – Electronic Quality Management System used at PGTI
- **QT9 Supplier Portal** – Access point for supplier to view NCPs, CARs, Evaluations and Surveys
- **SGCC** – Safety Glazing Certification Council
- **SQA** – Supplier Quality Audit
- **SRA** – Supplier Request for Approval
- **VCL** – Verified Components List – AAMA and FGIA compliance listing website



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A collection of the best brands in windows and doors coming together to invent, build, and deliver the highest quality and safest products in the fenestration industry.

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