[CompanyName]

Architectural Glass and Metal

Quality Manual

Operating Policies of the
[CompanyName] Quality System

Management acceptance

This Quality Manual has been reviewed and accepted.

Endorsed By: (Name / Title)	[PresidentName], President		
Signature:	*[PresidentName]*	Date:	[Date]

QUALITY MANUAL

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3. CONTRACT SPECIFICATIONS

DEFINE CUSTOMER QUALITY EXPECTATIONS

3.1. OVERVIEW

Fulfilling customer contract expectations is a primary objective of the [CompanyName] Quality System. To ensure that customer expectations will be fulfilled, [CompanyName] clearly defines the requirements for each contract before it is approved.

The Project Manager ensures that the information in customer contracts clearly defines customer expectations and that the necessary details are provided to set requirements for design, fabrication, and installation.

3.2.1. ARCHITECTURAL GLASS AND METAL SPECIFICATION REQUIREMENTS

All Architectural Glass and Metal contracts must specify:

- Glass construction, thermal performance, coatings, and fire rating including the manufacturer's make and model if applicable.
- Frame construction and finish of exposed surfaces including the manufacturer's make and model if applicable.
- Engineering requirements
- Testing requirements for fabrication and installation
- Nominal square feet of coverage and location on structure
- Substrate and anchor points
- Applicable building code and version
- Sealants or [CompanyName] selected sealants.

3.2.2. ARCHITECTURAL GLASS AND METAL PERFORMANCE FIELD TESTING REQUIREMENTS

When the contract requires field performance testing, the contract must specify:

- The product or system to be tested
- The title and version of the test specification
- Approved testing organizations or required qualifications of the testing organization
- The frequency or number of tests to be performed
- Pass/Fail criteria

3.3. CONTRACT DRAWINGS

The Project Manager obtains customer supplied drawings that have been approved by local government regulators. Superintendents have access to approved architectural drawings for the work they supervise.

All [CompanyName] activities comply with the drawing details and specifications cited in the drawings.

[CompanyName] extends compliance to contract specifications to all customer-approved submittals. All [CompanyName] activities comply with customer-approved submittals.

3.4.1. Contract Submittal Schedule

The Project Manager identifies submittals that apply to a specific contract and when they should be submitted, including:

- Contract requirement reference (if applicable)
- Submittal type: Shop drawing, product data, quality inspection and test plan, request for information, or allowances and unit prices
- Description
- Due date for submission to customer by [CompanyName]
- Due date for approval by the customer. Due dates may be a number of days after a project plan milestone.
- Approval date

3.4.2. Architectural Glass and Metal Shop Drawing Submittals

The Project Manager prepares shop drawing submittals that supplement contract drawings. Shop drawings are required when additional details are necessary for fabrication or installation. The following information is included, as applicable:

- Dimensions established by field measurement
- Relationships to adjoining construction
- Identification of products and materials
- Fabrication and installation drawings
- Diagrams showing locations of field-installations
- Shop fabricated manufacturing instructions
- Templates and patterns
- Design calculations
- Compliance with specified standards

- Additional requirements as specified in the contract, contract technical requirements, or contract drawings.

[CompanyName] extends contract specifications to include customer approved shop drawings.

3.4.4. Allowances and Unit prices Submittals

When customer contracts specify allowances and unit prices that the customer will select after the contract is awarded, the Project Manager prepares an allowance and unit price submittal for customer approval.

When a customer selects or approves allowances and unit prices, the customer indicates the allowance and unit price selection on the signed submission return.

[CompanyName] extends compliance to contract specifications to customer approved allowances and unit prices.

3.4.5. Request for Information (RFI) Submittals

The Project Manager submits a request for additional information to the customer when errors are found or when required information is not contained in the contract, contract technical specifications, or contract drawings.

Should any number of contract technical specifications or contract drawings result in conflicting requirements, the Quality Manager submits a request for information to the customer to select the standard that applies.

[CompanyName] extends compliance to contract specifications to customer requests for information.

3.4.6. Change Order Submittals

Contract requirements or contract technical specifications may require a change after the contract is awarded. The Project Manager submits the change order to the customer for approval, including any contract price adjustments.

When a customer approves a change order, the customer signs the submission return.

[CompanyName] extends contract specifications to include customer approved change orders.

3.4.7. First Article and Mock-up Demonstration Submittals

The Quality Manager prepares first article and mock-up submittals as required by contract. Additionally, the Quality Manager specifies when first article approvals are necessary to ensure customer expectations are clearly identified.

3.4.7.1. Architectural Glass and Metal Demonstration Submittals

Architectural glass and metal demonstration submittals are a section of framework and glass that demonstrates:

- Framing fabricated and assembled
- Attachment to mock anchors
- Glass set in the frame with sealant
- Stops, pressure plates, and facing
- Exterior sealants.
- Assembly methods

3.5. Customer Submittal Approval

The Project Manager obtains the signature of an authorized customer representative.

[CompanyName] extends compliance to contract specifications to customer-approved submittals.

Work in the affected area of a pending submittal requirement does not start until the customer approves the submittal.

3.6. Contract Warranty

The Project Manager ensures that customer contracts clearly specify warranty coverage including:

- Scope
- Starting date
- Duration

All First Time Quality Samples are Copyright Protected

3.7. Contract Review and Approval

The President conducts customer contract reviews to ensure that:

- Customer requirements and specifications are complete

4. PROJECT-SPECIFIC QUALITY STANDARDS

APPLICABLE REGULATIONS, INDUSTRY, AND COMPANY STANDARDS

4.1. OVERVIEW

[CompanyName] personnel, subcontractors, and suppliers are accountable for compliance to standards-based written specifications.

To achieve expectations reliably and consistently, specifications are clearly spelled out, not only for results but also for processes. Specifications apply to materials, work steps, qualified personnel and subcontractors and suppliers, safe work rules, and environmental work conditions.

Standards ensure that results are specified rather than left to discretionary practices.

4.2. REGULATORY CODES

All [CompanyName] design, fabrication, and installation activities comply with the relevant regulations. The Quality Manager identifies regulatory requirements applicable to the jurisdictions served, including:

- Applicable Federal regulations
- Applicable State regulations
- Applicable building codes and local addenda to building codes
- Additional regulations specified by the customer contract

The Quality Manager identifies regulatory requirements that apply to a specific project on the Project

contract technical specifications, or approved drawings.

4.3.1. ARCHITECTURAL GLASS AND METAL INDUSTRY STANDARDS

[CompanyName] fabrication and installation activities comply with the following architectural glass and metal industry standards and guidelines when applicable to the scope of work being performed.

- GANA Publications: "Laminated Glazing Reference Manual" and "Glazing Manual."
- AAMA Publications: AAMA GDSG-1, "Glass Design for Sloped Glazing," and AAMA TIR A7, "Sloped Glazing Guidelines."
- IGMA Publication for Sloped Glazing: IGMA TB-3001, "Guidelines for Sloped Glazing."
- IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."
- ASTM C1193 Standard Guide for Use of Joint Sealants

- ASTM C1401 Standard Guide for Structural Sealant Glazing

4.4. Material Specifications

The Quality Manager ensures that all types of materials and equipment that affect quality are identified and controlled.

The Quality Manager evaluates the expected use of materials and equipment and identifies types of materials and equipment that may affect project quality. For each item, the Quality Manager sets specifications for their intended use, including:

- Compliance to contract requirements
- Compliance to code and industry standards and listing requirements
- Structural integrity
- Performance
- Durability
- Appearance
- Product identification for traceability.

The Quality Manager identifies controlled material and equipment that apply to the project.

The Quality Manager ensures that purchase orders for listed materials and equipment include the relevant specifications as specified in section 5.5 Purchase Order Requirements.

Only approved materials are used in the fabrication and installation process.

4.5. Equipment Specifications

The selection and use of equipment are controlled to assure the use of only correct and acceptable equipment on the project.

The Quality Manager determines the specifications of required equipment that affect quality and the specifications of quality-controlled equipment.

When equipment is received, the Superintendent verifies that equipment is as specified.

4.7. Quality Controlled Materials for Architectural Glass and Metal

The Quality Manager determines the types of project materials affect quality. The Quality Manager must approve the purchase and use of quality-controlled materials. The types of materials quality controlled for architectural glass and metal projects include:

- Metal frame
- Glass
- Flashing
- Sealants, adhesives, fire stopping
- Clips, supports, and fasteners
- Stops, pressure plates and facing

Only approved quality-controlled materials may be purchased.

4.8. Measuring Device Control and Calibration

The Quality Manager evaluates the project requirements and determines if there are measuring devices

4.8.1. Architectural glass and metal Quality controlled measuring devices

Types of measuring devices that are controlled include:

- Fabrication jigs
- Measuring tapes and lasers
- Laser levels
- Calipers

4.9. [CompanyName] Quality Standards

[CompanyName] quality standards supplement contract requirements when they are necessary to ensure quality.

The Quality Manager identifies supplemental requirements for [CompanyName] Quality standards that apply to a specific project on the Project Quality Management System.

When [CompanyName] quality standards differ from industry standards or product manufacturer instructions, the Quality Manager justifies that the standard reliably achieves quality results and then documents the justification.

All [CompanyName] design, fabrication, and installation activities conform to the company quality standards.

4.10. Application of Multiple Sources of Specifications

Should multiple sources of specifications apply to a work task, the higher level of specification applies. When there are equal levels of specifications that conflict, the specifications are applied in this order:

- Submittals approved by the customer

7. INSPECTIONS AND TESTS

ASSURE COMPLIANCE

7.1. OVERVIEW

Inspections are necessary to verify that work processes and results conform to both contract requirements and [CompanyName] quality standards.

Qualified personnel inspect every project throughout the design, fabrication, and installation process. Additional reviews validate the accuracy of the field quality inspections and ensure that the quality standards apply uniformly.

An inspection and test plan defines the quality inspections and tests required for a specific project.

Personnel may only inspect work activities for which the Quality Manager has qualified them.

7.2. REQUIRED GLASS AND METAL INSPECTIONS AND TESTS

Glass and metal inspections requirements are determined by the type of fabrication and installation including:

- Storefront
- Curtainwall
- Window wall
- Doors and Frames
- Interior glass walls
- Glass handrails
- Metal panels and louvers
- Skylights

Required inspection for each type of glass and metal include:

Required Inspection	Type of Glass and Metal							
	Storefront	**Curtainwall**	**Window wall**	**Doors and Frames**	**Interior glass walls**	**Glass handrails**	**Metal panels and louvers**	**Skylights**
Field measurement	All except "hold to opening" contract specifications	All except "hold to opening" contract specifications	All except "hold to opening" contract specifications	All except "hold to opening" contract specifications	All except "hold to opening" contract specifications	All except "hold to opening" contract specifications	All except "hold to opening" contract specifications	All except "hold to opening" contract specifications
Shop Specifications package	All	All	All	All	All Frame items are not applicable	All	All Glass requirements apply to metal panels and louvers.	All
Fabricated Frame Components	All	All	All	All	Not Applicable	All	All	All
Fabricated	All	All	All	All	All	All	Not Applicable	All

Frame installation	All	All	All	All Applies to both door and frame	Not Applicable	All	All	All
Install Glass	All	All	All	All	All	All	Not Applicable	All
Field Water Penetration Testing	As specified in by contract	As specified in by contract	As specified in by contract	Not Applicable	Not Applicable	Not Applicable	As specified in by contract	As specified in by contract
Final project inspection	Once per project or major phase of a large project							
Client Inspection and Punchlist	Once per project or major phase of a large project							

7.2.1. Field Inspection

Verify the substrate is suitable for installation and measure size for custom-fit installations (Not required when contract specifies client responsibility to "hold to opening" drawing dimensions).

7.2.2. Shop specifications package Inspection

Verify the shop specifications package is complete and accurate including applicable drawings, take-offs, approvals, and installation plans.

7.2.3. Fabricated Frame Components

Verify each set of fabricated frame components meet the shop specifications including materials, dimensions, and labelling.

7.2.4. Fabricated Glass Inspection

Verify each glass panel must meet the shop specifications including materials, dimension, and labelling.

7.2.5. Frame Assembly Inspection

Verify each frame assembly meets the shop specifications including materials, locations, dimensions, and labelling.

7.2.6. Shipping and transport Inspection

Verify each shipment including match to bill of lading, matches the specification package specification, and is properly packaged and secured.

7.2.7. Pre-installation opening acceptance check

Verify the installation site is suitable for installation including required approvals, substrate, openings, and flashings before beginning installation.

7.2.8. Frame installation Inspection

Verity installed frames (before installing glass) including level, anchoring, sealing, and alignment.

7.2.9. Glass Installation Inspection

Verify glass installation including setting and gaskets.

7.2.10. Final project inspection

Verify completion to contract requirements before turnover to client.

requires separate quality controls to assure and control quality results. Each Task triggers a set of requirements for quality control inspections before, during and after work tasks.

7.4. Required Material Inspections and Tests

Material quality inspections and tests ensure that purchased materials meet purchase contract quantity and quality requirements.

13. FORMS

[CompanyName]
Material Inspection and Receiving Report

Contract ID	Contract Name	Purchase Order No.	Supplier	Bill of Lading No.	Date
[ProjectNumber]	[ProjectName]				

Item No.	Stock/Part No.	Description	Quantity Received	Condition	Marking	Accept	Conditional Use	Reject
						☐	☐	☐
						☐	☐	☐
						☐	☐	☐
						☐	☐	☐
						☐	☐	☐
						☐	☐	☐

Receiving Quality Control

ACCEPTANCE

Listed items have been accepted by me or under my supervision

☐Conform to contract specifications EXCEPT as noted herein or on supporting documents.
☐Received in apparent good condition EXCEPT as noted

Signature of authorized person and date: _____

EXCEPTIONS: