

*This section includes the following Arch Deco Glass® laminated glass products. **Sumiglass®**, used at various interior glazing locations, either shop or site installed. This section incorporates product and installation requirements for many types of installations. This section also, by direct reference, refers to the frame opening destined to receive the laminated glass. This may include metal frames, doors, windows, glazed wall and other sections. To minimize redundant specifying, this section should address all laminated glass types required for a project. Sealant compounds for glazing can be specified in this section or referenced to Section 07900 - Joint Sealers. This section includes performance, proprietary and descriptive type specifications. Edit to avoid conflicting requirements.*

PART 1 GENERAL

1.1 SECTION INCLUDES

Edit the first paragraph for applicability to all sections referencing this section - identified in the next Article. Alternately, edit the subsequent paragraph for application specific statements without specific reference.

- .1 Arch Deco Glass® laminated Sumiglass® glass and glazing for sections referencing this section, INTERIOR APPLICATIONS ONLY.
- .2 Arch Deco Glass® laminated glass and glazing for [hollow metal work,] [handrail balusters,] [windows,] [glazed walls,] [doors,] [cabinet shelves,] [cabinet doors,] [and] [_____].
- .3 Flat glass

1.2 RELATED SECTIONS

Edit this Article and delete (or add) paragraphs that require glass units. The following is a "shopping list" of possible sections that may occur on a project.

- .1 Section 05720 – Ornamental Handrails and Railings
- .2 Section 06200 - Finish Carpentry: Framed openings with requirement for laminated glass.
- .3 Section 06410 - Custom Casework: Cabinets with requirement for laminated glass shelves [and] [_____].
- .4 The following section should be referenced if the sealant materials are not specified in this section.
- .5 [Section 07900 - Joint Sealers: Sealant and back-up material.]
- .6 Section 08112 - Standard Steel Doors: Glazed doors.
- .7 Section 08115 - Custom Steel Doors: Glazed doors.
- .8 Section 08211 - Flush Wood Doors: Glazed doors.
- .9 Section 08219 - Stile and Rail Wood Doors: Glazed doors.

- .10 Section 08260 - Sliding Glass Doors.
- .11 Section 08360 - Sectional Overhead Doors.
- .12 Section 08511 - Rolled Steel Windows: Glazed windows.
- .13 Section 08512 - Sheet Steel Windows: Glazed windows.
- .14 Section 08520 - Aluminum Windows: Glazed windows.
- .15 Section 08550 - Wood Windows: Glazed windows.
- .16 Section 08560 - Tubular Plastic Windows: Glazed windows
- .17 Section 08800 - Glass and Glazing: Glass types other than within this section
- .18 Section 08950 - Translucent Panel Glazing System.
- .19 Section 08960 – Interior Sloped Glazing System.
- .20 Section 08970 - Suspended Glass System.
- .21 Section 10616 - Demountable Gypsum Board Partitions.
- .22 Section [_____] – [_____]

1.3 REFERENCES

List reference standards that are included within the text of this Section. Edit the following as required for project conditions.

- .1 ANSI Z97.1 2004 - Standard for Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test.
- .2 ASTM C509 - Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing.
- .3 ASTM C669 - Specification for Glazing Compounds for Back Bedding and Face Glazing of Metal Sash.
- .4 ASTM C864 - Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
- .5 ASTM C920 - Specification for Elastomeric Joint Sealants (tentative).
- .6 ASTM C1036 - Specification for Flat Glass.
- .7 ASTM C1048 - Specification for Heat-Treated Flat Glass - Kind HS, Kind FT Coated and Uncoated Glass.

- .8 ASTM C1115 - Standard Specification for Dense Elastomeric Silicone Rubber Gaskets and Accessories.
- .9 ASTM C1172 - Specification for Laminated Architectural Flat Glass.
- .10 ASTM C1193 - Guide Use of Joint Sealants.
- .11 ASTM E90 - Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions.
- .12 ASTM E413 - Classification for Rating Sound Insulation.
- .13 CPSC (Consumer Products Safety Commission) 16CFR 1201.
- .14 GANA (Glass Association of North America) - Glazing Manual.
- .15 GANA (Glass Association of North America) - Sealant Manual.
- .16 GANA (Glass Association of North America) - Laminated Glass Design Guide.

1.4 PERFORMANCE REQUIREMENTS

1.5 SUBMITTALS FOR REVIEW

Do not request submittals if drawings sufficiently describe the products of this section or if proprietary specifying techniques are used. The review of submittals increases the possibility of unintended variations to drawings, thereby increasing the Specifier's liability. The following submittals are intended for review and acceptability.

- .1 Section 01300: Submission procedures.
- .2 Product Data on Arch Deco Glass® Laminated Glass Types: Provide structural, physical and environmental characteristics, size limitations, color or pattern of interlayer, special handling or installation requirements.
- .3 Template of glass logo that includes Arch Logo and safety glazing standard.
- .4 Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations or special application requirements. Identify available colors.
- .5 Include the following paragraph for submission of physical samples for selection of finish, color, or decorative pattern.

Samples: Submit [one (1)] [____] samples, [__ x __] inches ([__ x __] mm) in size, exemplifying laminated glass [units,] color, pattern or decorative pattern using actual glass to be used in the project

1.6 SUBMITTALS FOR INFORMATION

The following submittals are for information only; do not request these submittals if the information submitted will be assessed for acceptability.

- .1 Section 01300: Submission procedures.
- .2 Certificates: Certify that [Products] [_____] meet or exceed specified requirements.
- .3 Manufacturer's Certificate: Certify that [sealed insulated] [environmental] [_____] , meets or exceeds specified requirements.

1.7 QUALITY ASSURANCE

When utilizing the following paragraphs, ensure coordination with execution statements regarding installation.

- .1 Perform Work in accordance with [GANA Glazing Manual,] [GANA Sealant Manual,] [and] [GANA - Laminators Glass Design Guide] for glazing installation methods. [Maintain [one (1)] [_____] copy on site.]
- .2 Installer Qualifications: Company specializing in performing the work of this section [with minimum [_____] years [documented] experience,] [approved by manufacturer].

1.8 MOCK-UP

Use this article for assessing full sized erected assemblies for review of construction, coordination of work of several sections, testing, or observation of operation. Expand the second paragraph to include other elements of the intended mock-up prototype. If both glass and glazing are identified in another section, delete this article.

- .1 Section 01400: Requirements for mock-up.
- .2 Provide mock-up of [_____] including laminated glass glazed into position.
- .3 Locate where directed.
- .4 Mock-up may [not] remain as part of the permanent Work.

1.9 PRE-INSTALLATION MEETING

- .1 Section 01300: Pre-installation meeting.
- .2 Convene [one (1)] [_____] week before starting Work of this section.

1.10 ENVIRONMENTAL REQUIREMENTS

Consider including this article if the specified glazing compounds are low-temperature sensitive for installation.

- .1 Section 01600: Environmental conditions affecting products on site.
- .2 Do not install glazing when ambient temperature is less than [50] [____] degrees F ([10] [____] degrees C).
- .3 Maintain minimum ambient temperature before, during, and [24] [____] hours after installation of glazing compounds.

1.11 WARRANTY

This article extends the warranty period beyond one year because the first year warranty is usually covered by the Contract. Extended warranties add to the construction cost and may present difficulties to the Owner in enforcing them. Specify with caution. Use of this article could modify the protection afforded the Owner offered by applicable legal statutes at the place of Work.

- .1 Section 01700: Warranties.
- .2 In the following paragraph, the term warranty described is offered by most reputable glass laminators.
- .3 Provide a five (5) [____] year warranty to include coverage for delamination.

1.12 EXTRA MATERIALS

- .1 Section 01700: Extra materials.
- .2 Provide [two (2)] [____] of each glass size [and each glass type,] of [_____].

PART 2 PRODUCTS

The paragraphs in the following articles offer a choice to specify by reference standard or proprietary methods in conjunction with manufacturer names listed in the relevant articles. Glass thickness can be indicated by one or a combination of methods: by specifying thickness, by scheduling thickness at end of this section or by permitting the performance criteria statements in the Performance Requirements article on wind pressure and suction loads to govern thickness. Edit the descriptive specifications to identify project requirements and to eliminate any conflict with manufacturer's names specified.

2.1 FLAT GLASS MATERIALS

In this article, list the manufacturers acceptable for this project. If substitution is allowed, include the substitutions subparagraph.

- .1 Interlayer Manufacturers:
 - .1 Sumiglass® [_____] as manufactured by Arch Deco Glass® (1-800-870-2519)
 - .2 Substitutions: Not permitted.

Safety glass is available in a variety of base glass types, from single pane heat strengthened or tempered to multiple layer laminated panes. Most types are required to conform to CPSC 16CFR 1201 or ANSI Z97.1 by regulatory code or public safety agencies. Laminated glass is available in many edge treatments; exposed edges are susceptible to degradation by organic solvents and some glazing compounds. Laminated glass also has good acoustic control properties and can be used for detention or security purposes. Refer to GANA - Laminators Glass Design Guide for assistance in editing the following paragraphs. If selecting ASTM C1172 in the following paragraph, further definition of glass type may be required.

.2 Glass Pane Components:

- .1 Pane Thickness: [_____].
- .2 Type AN - Clear, annealed; to ASTM C1036.
- .3 Type HS - Clear, heat strengthened; ASTM C1048.
- .4 Type FT - Clear, full tempered, horizontal temper direction, ASTM C1048.

.3 Interlayer:

- .1 Arch Deco Glass® Sumiglass® reference number [_____] , thickness of, [_____].

Consider each of the following attributes carefully. Select and edit only those attributes that apply to the project requirements and delete the others. Consider each of the standards that are referenced and select appropriate or required numeric values for each attribute.

.4 Laminated Glass – Color or Decorative Pattern Type:

- .1 [Double] [Triple] [_____] layers of glass panes with plastic and decorative interlayer between each pane.
- .2 Laminated with Arch Deco Glass® interlayer to ASTM C1172.
- .3 Transparency: [Clear.] [_____].
- .4 Conforming to Safety Regulations: [ANSI Z97.1 2004] [CPSC 16CFR 1201 Cat. I.] [CPSC 16CFR 1201 Cat.II.]
- .5 Sound Transmission Rating: [OITC.] [STC.] , [NUMBER] [_____] to [ASTM E90.] [ASTM E413.] [ASTM E1332.]
- .8 Visible light Transmittance: [_____]. (minimum / maximum)
- .9 Visible Reflectance (Front Surface): [_____].(minimum / maximum)
- .10 Visible Reflectance (Back Surface): [_____].(minimum / maximum)
- .11 UV screening, up to 380 nm: [Greater than 99%].

- .12 Specific Gravity: [_____].
- .13 Coefficient of Thermal Expansion: [_____].

2.2 INSULATING GLASS MATERIALS

- .1 Not Applicable, for interior use ONLY

2.3 GLAZING COMPOUNDS

For assistance in selecting sealants, refer to ASTM C1193. Also consider ASTM C669 for specifying back bedding and face glazing sealants.

- .1 Butyl Sealant:
 - .1 ASTM C920, Grade [____], Class [____], Use [____].
 - .2 Single component, non-skinning.
 - .3 Cured Shore A hardness of [10 to 20] [____to____].
 - .4 Black color.
- .2 Acrylic Sealant:
 - .1 ASTM C920, Type S, Grade NS, Class [____], Use [____].
 - .2 Single component, solvent curing, non-bleeding.
 - .3 Cured Shore A hardness of [15 to 25] [____to____].
 - .4 [_____] color [as selected].

2.4 GLAZING ACCESSORIES

In this article, list the accessory manufacturers acceptable for this project. If substitution is allowed, include the Substitutions subparagraph. Do not specify silicone based products in conjunction with non-silicone accessories.

- .1 Accessory Manufacturers:
 - .1 [_____] Designation [_____].
 - .2 [_____] Designation [_____].
 - .3 [_____] Designation [_____].
 - .4 Substitutions: [Refer to Section 01600.] [Not permitted.]
- .2 Setting Blocks:
 - .1 ASTM C864 Option [I] [II].
 - .2 [Neoprene] [EPDM] [Silicone], [80 to 90] [____to____] Shore A durometer hardness.
 - .3 Length: 1 inch for each square foot (25 mm for each square metre) of glazing or minimum 4 inch (100 mm) x width of glazing

rabbet space minus 1/16 inch (1.5 mm) x height to suit glazing method and pane weight and area.

.3 Spacer Shims:

- .1 ASTM C864 Option [I] [II].
- .2 [Neoprene] [Silicone] [_____], [50 to 60] [____ to ____].
- .3 Cured Shore A durometer hardness.
- .4 Length: Minimum 3 inch (75 mm) long x one half the height of the glazing stop x thickness to suit application, [self adhesive on one face].

There are two common glazing tape types. In the following paragraph, coiled glazing tape will assure continuous seal without joints as compared to cut-to-length tape. In the subsequent paragraph, a common "tape" type is described.

.4 Glazing Tape:

- .1 Preformed [butyl] [_____] compound [with integral resilient tube spacing device].
- .2 Cured Shore A durometer hardness of [10 to 15] [____ to ____].
- .3 Coiled on release paper.
- .4 [____x____] inch ([____x____] mm) size.
- .5 Black color.

.5 Glazing Tape:

- .1 Closed cell polyvinyl chloride foam
- .2 Coiled on release paper over adhesive on two sides.
- .3 Maximum water absorption by volume of 2 %.
- .4 Designed for compression of 25 % to effect an air barrier and vapor retarder seal
- .5 [____x____] inch ([____x____] mm) size.

.6 Preformed Gaskets and Seals: [ASTM C1115, silicone.] [ASTM C509.]

.7 Glazing [Splines] [Gaskets]:

- .1 ASTM C864 Option [I] [II].
- .2 Resilient [polyvinyl chloride] [silicone] [_____] extruded shape to suit glazing channel retaining slot.
- .3 [_____] color [as selected].

.8 Glass Marking After Installation: Removable plastic tape or water-based paste, either method non-destructive to glass surface.

2.5 SOURCE QUALITY CONTROL AND TESTS

Consider including this article for special or custom glass testing and plant quality verification.

- .1 Section 01400: Testing and analysis of glass.
- .2 Provide shop [inspection] [and] [testing] for glass.
- .3 Test samples to [CPSC 16CFR 1201 Cat. I] or [CPSC 16CFR 1201 Cat. II] and/or [ANSI Z97.1 2004,] [ASTM E773,] [ASTM E546,] [ASTM E576,] [and] [_____].

PART 3 EXECUTION

3.1 EXAMINATION

- .1 Section 01700: Verification of existing conditions before starting work.
- .2 Verify that openings for glazing are correctly sized and within tolerance.
- .3 Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear and ready to receive glazing.

3.2 PREPARATION

- .1 Clean contact surfaces with the correct solvent and wipe dry.
- .2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- .3 Prime surfaces scheduled to receive sealant.
- .4 Select one of the following two paragraphs, as appropriate.
- .5 Perform installation in accordance with ASTM C804 for solvent release sealants.

[OR]

- .6 .1 Install sealant in accordance with manufacturer's instructions.

Select one or more of the following glazing methods in conjunction with other sections which reference this section. When glazing a pressure equalized system, it is necessary to create the air barrier and vapor retarder seal at the inside perimeter of the glass unit to create an air space void that equalizes with exterior air pressure and permits moisture drainage to the exterior. For exterior glazing requiring continuity of air and vapour seal from adjacent construction, select the "wet/dry" or "wet" method.

3.3 INSTALLATION - EXTERIOR DRY METHOD (TAPE AND GASKET SPLINE GLAZING)

- .1 Not Applicable, for Interior Use Only

3.4 INSTALLATION - EXTERIOR WET/DRY METHOD (PREFORMED TAPE AND SEALANT)

- .1 Not Applicable, for Interior Use Only

The sealant used must be compatible with the glazing tape compound.

3.5 INSTALLATION - EXTERIOR BUTT GLAZED METHOD (SEALANT ONLY)

- .1 Not Applicable, for Interior Use Only

3.6 INSTALLATION - INTERIOR DRY METHOD

This method may present workmanship difficulties if frame is diagonally distorted.

- .1 Cut glazing tape to length and set against permanent stops, projecting 1/16 inch (1.6 mm) above sight line.
- .2 Place setting blocks at [1/4] [1/3] points with edge block no more than [6] [____] inches ([150] [____] mm) from corners.
- .3 Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.
- .4 Place glazing tape on free perimeter of glazing in same manner described above.
- .5 Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.
- .6 Knife trim protruding tape.

3.7 FIELD QUALITY CONTROL

- .1 Section 01400: Field inspection and testing.
- .2 Inspection will monitor quality of glazing.

3.8 MANUFACTURER'S FIELD SERVICES

- .1 Section 01650.
- .2 This article is included to assist in field quality control of work being installed. The legal affect of this type of article is questionable and will not

relieve the design professional of legal responsibility for the work described in this section.

- .3 Glass and glazing product manufacturers to provide field surveillance of the installation of their Products.
- .4 Monitor and report installation procedures, unacceptable conditions and [_____].

3.9 CLEANING

- .1 Section 01700: Cleaning installed work.
- .2 Remove glazing materials from finish surfaces.
- .3 Remove labels after Work is complete.
- .4 Clean glass and adjacent surfaces per GANA Proper Procedures for Cleaning Architectural Glass Products, Bulletin # 01-0300

3.10 PROTECTION OF FINISHED WORK

- .1 Section 01700: Protecting installed work.
- .2 After installation, mark pane with an 'X'.
- .3 [Do not mark heat absorbing or reflective glass units.]

3.11 SCHEDULE OF GLASS TYPES

The following sample schedule should be utilized to convey the glass types in various locations on the Project. The following are EXAMPLES.

- .1 Glazed Portions of Interior Partitions:
 - .1 Single pane, laminated glass.
 - .2 Flat glass
 - .3 Glass Thickness: 7/16 inch.
 - .4 Glass Pane: Clear laminated glass, with decorative Sumiglass® MF 2003 Linen Metallic Film Interlayer.

END OF SECTION