PART I - GENERAL

1.01 DESCRIPTION

A. Scope: Work under this Section shall include all materials and installation necessary to provide Glass and Glazing as shown and detailed on the Drawings and specified herein.

1.02 QUALITY ASSURANCE

A. References:

1. American National Standards Institute (ANSI):

2. Flat Glass Marketing Association (FGMA): Glazing and Sealant Manuals.


1.03 SUBMITTALS

A. Shop Drawings: Submit list of materials proposed for use; identify each glazing condition.

B. Samples: Manufacturer's standard color range.

C. Product Data: None required for specified products; required for alternate products.

1.04 PRODUCT HANDLING

A. Delivery: Deliver with manufacturer's labels intact; do not remove until completion of final inspection.

1.05 SITE CONDITIONS

A. Environmental Requirements: Glaze in dry conditions; minimum temperature 40°F during and 48 hours after installation of glazing compounds.

B. Protection: Protect glass from damage until occupancy of building; replace glass damaged or broken before final acceptance.
1.06 MAINTENANCE

A. Guarantee:

1. General: Provide in required form for stated period from date of final acceptance by Owner.

2. Float Glass: Per requirements of ASTM C1036 and ASTM C1048.

3. Reflective Glass: Reflective coating; ten (10) years.

4. Transparent (Two-way) Mirrors: Reflective coating; ten (10) years.

5. Insulating Glass: Five (5) years.

PART II - PRODUCTS

2.01 MATERIALS

A. Manufacture:

1. PPG Industries, Inc. Glass Group, unless otherwise indicated, Southwall Technologies, or equal.

2. Tempered Glass and Safety Glazing: Comply with United States Consumer Product Safety Commission's "Safety Standards for Owner's Architectural Glazing Materials" (16 CFR part 1201) category I or II, as applicable; UBC Standard 54-2 and Section 5406 (c) of CBC.

B. Flat Glass:

1. General: Size and thickness as shown.

2. Float Glass: ASTM C1036, Type 1 transparent flat, Class 1 clear, quality q3 glazing select.

3. Tempered Glass: ASTM C1048, fully tempered with horizontal tempering.

4. Low E Glass: "Sungate 100" clear [gray] [bronze] [Solagreen] [Azurlite] [Solex]; thickness as shown, or equal, no known equal.

5. Wire Glass:

   a. "Baroque" manufactured by Libby-Owens-Ford Co., ¼" thick clear glass, reinforced with welded wire mesh 24 gage or heavier, with square openings not larger than ½", PPG Industries, Inc., or equal.

6. Obscure Glass:

   a. "Burlap" manufactured by Hordis Brothers, Inc.; .200" patterned glass, PPG Industries, Inc., or equal.

8. Very Low Transmission Glass (V.L.T.) at Butt-joint Glazing: "Solargray"; ½" thick; tempered where required, or equal, no known equal.

9. Spandrel Glass: "Spandrelite"; ¼" thick, heat strengthened with permanent, colored ceramic frit fused to interior face; color as selected by Owner's Representative.

10. Reflective Glass: "Solarcool Gray"; ¼" thick, annealed with permanent gray color, light and heat reflective metallic oxide coating, fired on exterior face, tempered where required.

11. Reflective Spandrel Glass: "Solarcool Gray Spandrelite"; ¼" thick, heat strengthened with permanent gray color, light and heat reflective metallic oxide coating fired on exterior face, and opaque, colored ceramic frit fused permanently to interior face. Interior color as selected by Owner's Representative.

12. Insulated Glass Units: ASTM E774 and E773; double pane with glass elastomer edge seal; outer pane ⅜" clear glass, inner pane of ⅜" clear glass; inter pane space purged by dry air; total unit thickness of ⅞". IGCC class CBA rating.

13. Laminated Safety Glass: ¼" thick, tinted 14% light transmittance, consisting of two ⅛" inch thick lites laminated with special plastic interlayer between.

14. Acoustic Insulated Glass: Two (2) laminated ¼" glass panes with special acoustic edge seal; ½" total thickness; STC rating of 38.

15. One-way Vision Glass:
   a. "Mirropane" manufactured by Libby-Owens-Ford Co.; ¼" thick glazing quality, tempered clear glass with scratch-proof evaporated chromium alloy reflective coating one side, PPG Industries, Inc., or equal.

16. Leaded Glass:
   a. Manufactured by Ameray Corp; thickness as required to provide X-ray absorption equal to that provided by ⅛" thick sheet lead, Nuclear Associates Division of Victoreen, Inc., or equal.

C. Acrylic Plastic Glazing:

1. Lexan Products Division of the General Electric Co.; ¼" thick gray, 14% visible light transmission, AtoHaas North America, Inc., or equal.

D. Glazing Materials:

1. General: Factory mixed materials recommended by glass manufacturer for each glazing condition. Provide glazing and bedding putties to match color of frame, sealants, tapes, and other materials necessary to perform glazing work. Provide setting blocks, shims, compression seals, felt and neoprene or vinyl glazing channels as required.

2. Butyl Glazing Tape:
   a. General: 1202T as manufactured by 3M Construction Markets, the Pecora Corp., or equal.
E. Accessories:

1. General: Materials recommended by glass or glazing material manufacturer.

2. Setting Blocks and Spacers: Neoprene chemically compatible with specified sealants.


4. Filler Rod: Compressible synthetic rubber or foam.

5. Primer-Sealers and Cleaners: As recommended by glass manufacturer.

PART III - EXECUTION

3.01 PREPARATION

A. Surface Preparation: Clean contact surfaces with solvent and wipe dry. Seal porous glazing channels or recesses with material compatible with sealer. Prime surfaces scheduled to receive sealant.

3.02 INSTALLATION

A. General: Install in conformance with referenced standards, manufacturer's written directions, as shown, and as specified.

B. Glass:

1. Dimensions: As shown; tolerances as recommended by manufacturer.

2. Edges: Per referenced standards; nipped edges, or edges treated with abrasives are not acceptable.

C. Glazing:

1. General: Use glass as shown; glaze with glazing compound or glazing gaskets as required.

2. Float Glass: Type and thickness, as shown.

3. Tempered Glass:
   a. General: Type and thickness, as shown.
   b. Tinted: Install at exterior, as shown.
   c. Heat Absorbing: Install at exterior, as shown.
   d. Reflective: Install at exterior, as shown.
   e. Spandrel: Install at exterior, as shown.

4. Wire Glass: Install where shown; set with wire square to opening.

5. Obscure Glass: Install where shown; set with pattern on interior side.
6. Insulated Glass Units:
   a. General: Install on exterior, where shown.
   b. Low-E Glass: Install coated surface on inside of insulated glazed units.
7. Laminated Safety Glass: Install where shown.
8. Acoustic Insulated Glass: Install in acoustic rated frames, where shown.
10. Leaded Glass: Install in lead lined frames, where shown.
11. Plastic Glazing: Cut to size; unmask sheets and clean edges; set sheets with glazing tape, per manufacturer’s directions. Protect plastic glazing from damage with paper or cloth covering.
12. All individual panes of safety glazing shall have a permanent seal (mark) indicating type of glaze.

D. Special Conditions:
   1. Glass Shelves: ¼” thick, tempered, with all edges rounded.
   2. Display Case Glass: ¼” thick, tempered, with ground edges and finger pulls.

E. Wood Stops: Do not glaze openings in wood doors or openings with wood stops until rebates and stops have been prime-coated as specified in Division 9, Section 09900 – Painting.

3.03 CLEANING

A. General: Upon completion, thoroughly clean glass and frames of labels, smears, spots and other markings or defacement. Do not use alkaline or abrasive agents to clean glass.

END OF SECTION 08810