

A. SUMMARY

1. This Section includes glazing for the following products and applications:
 - a. Doors.
 - b. Glazed entrances.
 - c. Interior borrowed lites.
 - d. Storefront framing.
 - e. Annealed monolithic glass mirrors.
 - f. Tempered glass mirrors qualifying as safety glazing.
 - g. Monolithic acrylic glazing.
2. All glazing types shall be noted on the exterior elevations for each opening. The intention of this requirement is for record-keeping for repairs.

B. LEED PRODUCT REQUIREMENTS

1. Materials Requirements for Credit MR 4: Materials/products shall contain the maximum amount of recycled content allowed that retains material integrity.
2. Materials Requirements for IEQ 4.1 Low-Emitting Paints and Coatings and IEQ 4.2 Low-Emitting Adhesives and Sealants.

C. GLASS PRODUCTS

1. Architect shall size glazing to facilitate replacement (8' x 8' maximum size). Larger sizes to be approved by the School District.
2. Insulating glass is mandatory for exterior applications and tinted or low "E" glass (higher shading coefficient) is preferred over clear glass or reflective glass.
3. Provide tempered or laminated safety glass in areas as required by the IBC. The School District prefers to use laminated safety glass.
4. Insulating glass shall be factory double sealed units with 1/2" minimum air space.
5. Labels: Every individual piece of glass shall bear a label designating type, thickness and quality.
6. Tint Color: As selected by Architect from manufacturer's full range. Review with XXXX District prior to final selection.
7. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.
8. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include:
 - Kalwall Corporation.
 - PPG Industries, Inc.
 - Oldcastle, Inc.
 - Viracon, Inc.
 - Libby—Owens-Ford Co.
 - Guardian Industries.

D. RECOMMENDED CLASSROOM GLAZING SCHEDULE

1. Solar control low-E insulating glass units (North exposure):
 - a. Overall Unit Thickness and Thickness of Each Lite: 1 inch overall (25.2 mm) and 1/4 inch per lite (6.0 mm).
 - b. Interspace Content: Air.
 - c. Outdoor Lite: Class 1 Green (match GL-2) float glass heat strengthened with low-E coating on No. 2 surface.
 - d. Indoor Lite: Class 1 clear float glass heat strengthened.
 - e. Visible Light Transmittance: 62 to 70 percent.
 - f. Winter Nighttime U-Factor: 0.32 maximum.
 - g. Summer Daytime U-Factor: 0.30 maximum.
 - h. Shading Coefficient: 0.35 to 0.45.
 - i. Solar Heat Gain Coefficient: 0.40 percent maximum.
 - j. Exterior Reflectance: 9 to 11 percent.
2. Solar control low-E insulating glass units (East, South and West exposure):
 - a. Overall Unit Thickness and Thickness of Each Lite: 1 inch overall (25.2 mm) and 1/4 inch per lite (6.0 mm).
 - b. Interspace Content: Air.
 - c. Outdoor Lite: Class 1 Green (match GL-3) float glass surface heat strengthened with low-E coating on No. 2 surface.
 - d. Indoor Lite: Class 1 clear float glass heat strengthened.

- e. Visible Light Transmittance: 32 to 36 percent.
 - f. Winter Nighttime U-Factor: 0.32 maximum.
 - g. Summer Daytime U-Factor: 0.30 maximum.
 - h. Shading Coefficient: 0.24 to 0.30.
 - i. Solar Heat Gain Coefficient: 0.22 percent maximum.
 - j. Exterior Reflectance: 10 to 12 percent.
3. Translucent insulating glass units (East, South and West Daylighting/Clerestory):
 - a. Overall Unit Thickness and Thickness of Each Lite: 1 inch overall (25.2 mm) and 1/4 inch exterior lite (6.0 mm) and 3/8 inch interior lite (8 mm).
 - b. Interspace Content: Air.
 - c. Outdoor Lite: Class 1 Green (match GL-4) float glass surface heat strengthened with low-E coating on No. 2 surface.
 - d. Indoor Lite: Laminated glass (from exterior to interior) 3/16 inch Class 1 clear float glass heat strengthened with sandblast on No. 3 surface and 0.030 frosted (Arctic Snow or similar) pvb and 3/16 inch clear.
 - e. Visible Light Transmittance: 26 percent.
 - f. Winter Nighttime U-Factor: 0.32 maximum.
 - g. Summer Daytime U-Factor: 0.28 maximum.
 - h. Shading Coefficient: 0.28 to 0.32.
 - i. Solar Heat Gain Coefficient: 0.22 to 0.26.
 - j. Exterior Reflectance: 10 to 12 percent.
 4. Spandrel Glazing (Exterior): Overall Unit Thickness and Thickness of Each Lite: 1 inch overall and 1/4 inch per lite.
 - a. Interspace Content: Air.
 - b. Outdoor Lite: Class 1 float glass surface heat strengthened with low-E coating with painted #4 opaque surface interior.
 - c. Indoor Lite: Class 1 clear float glass heat strengthened.
 5. Interior Glass: Float: ASTM C 1036, Type I (transparent glass, flat), Quality q3 (glazing select); class as indicated in schedule below.
 - a. Provide Kind FT (fully tempered) glass where safety glass is indicated or where required by applicable laws and Codes.
 - b. Provide Kind FT (fully tempered) products where coated safety glass at all locations required by Code.
 6. Ceramic-Coated Glass: Allowed only with District approval of application.
 7. Laminated Glass: Laminate glass with polyvinyl butyral interlayer or cast-in-place and cured-transparent-resin interlayer to comply with interlayer manufacturer's written recommendations. ASTM C 1172, and complying with testing requirements in 16 CFR 1201 for Category II materials.
 - a. Interlayer Color: As selected by Architect.
 8. Interior Fire Rated: Specialty glazing allowed only with District approval of application.

E. MIRRORS

1. Glass Mirrors, General: ASTM C 1503.
2. Tempered Clear Glass: Mirror Glazing Quality, for blemish requirements; and comply with ASTM C 1048 for Kind FT, Condition A, tempered float glass before silver coating is applied. Nominal Thickness: 6.0 mm.
3. Mirror Size: At Fitness and Exercise Rooms provide a max. width of single unit shall be 36". Provide top and bottom frame for continuous run of mirrors along wall as directed by XXXX. Hold mirror units a min. of 24" AFF. Locate outlet below units.
4. Restroom/Toilets: Provide full framed mirror units in manufactures standard sizes.
5. Mirror Hardware: Aluminum J-Channels (top and bottom) Aluminum extrusions with a return deep enough to produce a glazing channel to accommodate mirrors of thickness indicated and in lengths required to cover bottom and top edges of each mirror in a single piece. Finish shall be clear bright anodized.
6. Manufacturers: Subject to compliance with requirements, but are not limited to, the following:
 - Avalon Glass and Mirror Company.
 - Gilded Mirrors, Inc.
 - National Glass Industries.

F. MONOLITHIC ACRYLIC GLAZING

1. Plastic Glazing: Transparent acrylic sheet; ASTM D 4802, Category A-1 (cell cast), Finish 1 (smooth or polished), Type UVF (UV filtering).
2. Color: Colorless.
3. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - Altuglas International, Division of Arkema Inc.; Plexiglas G.
 - Cyro Industries, a subsidiary of Degussa Corporation; Acrylite GP.
 - Spartech Corporation; Polycast.