



SECTION 08841

POLYCARBONATE SHEET GLAZING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Solid polycarbonate plastic glazing.
- B. Multiwall polycarbonate plastic glazing.
- C. Corrugated polycarbonate plastic glazing.
- D. Accessories for installation of plastic glazing.
- E. Skylight Glazing.

1.2 RELATED SECTIONS

- A. Section 08800 - Glazing.
- B. Section 08620 - Unit Skylights.

1.3 REFERENCES

- A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials.
- B. ANSI Z97.1 - American National Standard for Glazing Materials Used in Buildings.
- C. ASTM D 635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position.
- D. ASTM D 648 - Standard Test Method for Deflection Temperature of Plastics Under Flexural Load.
- E. ASTM D 696 - Standard Test Method for Coefficient of Linear Thermal Expansion.
- F. ASTM D 790/ASTM D 790M - Standard Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- G. ASTM D 1003 - Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics.
- H. ASTM D 1044 - Standard Test Method for Resistance of Transparent Plastic to Surface Abrasion.
- I. ASTM D 1929 - Standard Test Method for Ignition Properties of Plastics.
- J. ASTM D 2843 - Standard Test Method for Density of Smoke from the Burning and Decomposition of Plastics.
- K. ASTM D 3763 - Standard Test Method for Impact Resistance of Flat, Rigid Plastic

Specimen by Means of A Striker Impacted by A Falling Weight (40 ft-lbs).

- L. ASTM G 53 - Standard Practice for Operating Light and Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Non-Metallic Materials.
- M. QUV 313B - Accelerated Weathering Test of Non-Metallic Materials.
- N. ISO-9002 - International Standards Organization.

1.4 SYSTEM DESCRIPTION

- A. Design requirements for installed plastic glazing systems:
 - 1. Windload resistance:
 - a. Positive pressure: ___ pounds per square foot (___ MPa).
 - b. Negative pressure: ___ pounds per square foot (___ MPa).
- B. Performance requirements for polycarbonate sheet glazing: Conforming to requirements of 16 CFR 1201, ANSI Z97.1, and the following:
 - 1. Coefficient of expansion, when tested in accordance with ASTM D 696: .0000375 inch per inch per degree F (0.0000675 ratio per degree C).
 - 2. Modulus of elasticity, when tested in accordance with ASTM D 4065: 340,000 pounds per square inch (2343.96 MPa).
 - 3. Flexural strength, when tested in accordance with ASTM D 790: 13,500 pounds per square inch (93.06 MPa).
 - 4. Deflection temperature, when tested in accordance with ASTM D 648: 270 degrees F (132.2 degrees C) under 274 pounds per square inch (1.88 MPa) load.
 - 5. Self-ignition temperature, when tested in accordance with ASTM D 1929: Minimum 1000 degrees F (537.7 degrees C).
 - 6. Smoke density rating, when tested in accordance with ASTM D 2843: Maximum 75.
 - 7. Maximum allowable continuous service temperature: 180 degrees F (82.2 degrees C).

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Polycarbonate sheet manufacturer's descriptive literature for each glazing type specified, including documentation of code compliance; include descriptive literature for recommended installation accessories.
- C. Selection Samples: Two sets of color chips representing polycarbonate sheet manufacturer's full range of available colors.
- D. Verification Samples: Two samples, minimum size 4 inches (102 mm) square, representing actual color and finish of products to be installed.
- E. Quality Control Submittals:
 - 1. Design Data: Analysis by polycarbonate sheet manufacturer verifying compliance of polycarbonate sheet glazing; include details of glazing edge engagement, and allowance for anticipated thermal movements.
 - 2. Provide Computer Aided Sheet Engineering (CASE) report based on project information available prior to bidding.
 - 3. Manufacturer Qualifications: Documentation of specified manufacturer qualifications.
 - 4. Manufacturer's Instructions: Printed installation instructions for polycarbonate

sheet glazing; include storage, requirements, recommended glazing techniques, and installation accessories.

5. Specimen warranty documents.
6. Operation and maintenance data: Printed instructions on recommended cleaning and maintenance materials and methods.
7. Warranty documents specified in WARRANTY Article of PART 1 of this section.

F. Manufacturer Qualifications:

1. Minimum ten (10) years experience producing plastic glazing products.
2. Minimum five (5) completed projects on which manufacturer has supplied plastic glazing, similar in type and scope to this project; each completed project to be minimum five (5) years old.
3. Registered in accordance with ISO-9002 quality standards.

G. Regulatory Requirements: Glazing materials to comply with the following building code:

1. ICC Evaluation Report: ES22-21.
2. International Building Code (IBC), 2006 Edition.
3. International Residential Code (IRC), 2006 Edition.
4. Dade County, FL.

H. Mock-Ups: Supply materials for mock-ups required in affected sections.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not slide, drag, or drop polycarbonate sheet materials.
- B. Do not store polycarbonate sheet materials in areas subject to direct UV exposure.
- C. Store products of this section with polycarbonate sheet manufacturer's protective film intact.
- D. Maintain storage area in accordance with polycarbonate sheet manufacturer's instructions until installation of products.

1.7 WARRANTY

- A. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.
 1. Duration: Three (3) year warranty against defects in Thermoclear Easy Clean materials.
 2. Duration: Five (5) year warranty against defects in Lexan 9030 and 9030FR materials.
 3. Duration: Ten (10) year warranty against defects in materials.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: AmeriLux International LLC. 1212 Enterprise Dr, DePere, WI 54115; Tel: (920) 336-9300; Fax: (920) 336-9301; <http://ameriluxinternational.com/html/quickData/index.php> ; E-Mail: tech.service@ameriluxinternational.com
- B. Requests for substitution will be considered in accordance with provisions of Section 01600.

- C. Substitutions: Not permitted.

2.2 SCOPE / APPLICATIONS

- A. Provide polycarbonate glazing panels for use in glazed curtain wall assemblies.
- B. Provide polycarbonate glazing panels for use in signage applications.
- C. Provide polycarbonate glazing panels for use in unit skylight applications.
- D. Provide polycarbonate glazing panels for use in field fabricated skylight applications.
- E. Provide polycarbonate glazing panels for use in protective railing applications.

2.3 SOLID PANELS

- A. LEXAN Margard MR10: Translucent polycarbonate sheet with UV-resistant and abrasion resistant hardcoat surface treatment both sides.

1. Grade/Type: _____.
2. Sheet Thickness: 0.118 inch (3mm) nominal, plus or minus 5 percent.
3. Sheet Thickness: 0.177 inch (4.5mm) nominal, plus or minus 5 percent.
4. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
5. Sheet Thickness: 0.375 inch (9.5mm) nominal, plus or minus 5 percent.
6. Sheet Thickness: 0.5 inch (12.7mm) nominal, plus or minus 5 percent.
7. Color: Clear/Transparent
8. Color: Bronze.
9. Color: Grey.
10. Color: Light Green.
11. Color: Green.
12. Performance:
 - a. Light transmission: Change not to exceed ___ percent.
 - b. Thermal Transmission (U-Value): ___ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ___.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ___ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ___ percent.
 - h. Coating integrity: Intact after testing period.

- B. LEXAN Solar Control IR Sheet:

1. Grade/Type: Exell D SC IR.
2. Sheet Thickness: 0.118 inch (3mm) nominal, plus or minus 5 percent.
3. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
4. Sheet Thickness: 0.315 inch (8mm) nominal, plus or minus 5 percent.
5. Sheet Thickness: 0.472 inch (12mm) nominal, plus or minus 5 percent.
6. Color: Bronze.
7. Color: Grey.
8. Color: Light Green.
9. Color: Green.
10. Performance:
 - a. Light transmission: Change not to exceed ___ percent.
 - b. Thermal Transmission (U-Value): ___ as determined by calculations based on test data, in accordance with ASHRAE procedures.

- c. Sound Transmission: STC ____.
- d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
- e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
- f. Yellowing intensity: Change not to exceed a delta of ____.
- g. Haze: Change not to exceed ____ percent.
- h. Coating integrity: Intact after testing period.

C. LEXAN XL102 UV Sheet:

- 1. Grade/Type: XL102UV.
- 2. Sheet Thickness: 0.118 inch (3mm) nominal, plus or minus 5 percent.
- 3. Sheet Thickness: 0.177 inch (4.5mm) nominal, plus or minus 5 percent.
- 4. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
- 5. Sheet Thickness: 0.375 inch (9.5mm) nominal, plus or minus 5 percent.
- 6. Sheet Thickness: 0.5 inch (12.7mm) nominal, plus or minus 5 percent.
- 7. Color: Clear
- 8. Color: Bronze.
- 9. Color: Grey.
- 10. Color: Green.
- 11. Color: Blue.
- 12. Color: Opal White.
- 13. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ____.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ____ percent.
 - h. Coating integrity: Intact after testing period.

D. LEXAN 9030:

- 1. Grade/Type: 9030.
- 2. Sheet Thickness: 0.030 inch (0.75 mm) nominal, plus or minus 5 percent.
- 3. Sheet Thickness: 0.040 inch (1 mm) nominal, plus or minus 5 percent.
- 4. Sheet Thickness: 0.060 inch (1.5 mm) nominal, plus or minus 5 percent.
- 5. Sheet Thickness: 0.080 inch (2mm) nominal, plus or minus 5 percent.
- 6. Sheet Thickness: 0.118 inch (3mm) nominal, plus or minus 5 percent.
- 7. Sheet Thickness: 0.158 inch (4mm) nominal, plus or minus 5 percent.
- 8. Sheet Thickness: 0.197 inch (5mm) nominal, plus or minus 5 percent.
- 9. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
- 10. Sheet Thickness: 0.315 inch (8mm) nominal, plus or minus 5 percent.
- 11. Sheet Thickness: 0.375 inch (9.5mm) nominal, plus or minus 5 percent.
- 12. Sheet Thickness: 0.472 inch (12mm) nominal, plus or minus 5 percent.
- 13. Color: Clear/Transparent.
- 14. Color: Bronze
- 15. Color: Opal white.
- 16. Performance:
 - a. Light transmission: Change not to exceed __ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations

based on test data, in accordance with ASHRAE procedures.

- c. Sound Transmission: STC ____.
- d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
- e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
- f. Yellowing intensity: Change not to exceed a delta of ____.
- g. Haze: Change not to exceed ____ percent.
- h. Coating integrity: Intact after testing period.

E. Lexan 9034:

- 1. Grade/Type: 9034.
- 2. Sheet Thickness: 0.030 inch (0.75 mm) nominal, plus or minus 5 percent.
- 3. Sheet Thickness: 0.040 inch (1 mm) nominal, plus or minus 5 percent.
- 4. Sheet Thickness: 0.060 inch (1.5 mm) nominal, plus or minus 5 percent.
- 5. Sheet Thickness: 0.080 inch (2mm) nominal, plus or minus 5 percent.
- 6. Sheet Thickness: 0.093 inch (2.36mm) nominal, plus or minus 5 percent.
- 7. Sheet Thickness: 0.118 inch (3mm) nominal, plus or minus 5 percent.
- 8. Sheet Thickness: 0.177 inch (4.5mm) nominal, plus or minus 5 percent.
- 9. Sheet Thickness: 0.220 inch (5.6mm) nominal, plus or minus 5 percent.
- 10. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
- 11. Sheet Thickness: 0.375 inch (9.5mm) nominal, plus or minus 5 percent.
- 12. Sheet Thickness: 0.500 inch (12.7mm) nominal, plus or minus 5 percent.
- 13. Color: Clear/Transparent
- 14. Color: Grey.
- 15. Color: Greylite.
- 16. Color: Bronze.
- 17. Color: Light Green.
- 18. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ____.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ____ percent.
 - h. Coating integrity: Intact after testing period.

2.4 MULTIWALL PANELS

A. LEXAN Thermoclick Sheet:

- 1. Grade/Type: _____.
- 2. Panel Thickness: 1.58 inch (40mm) nominal, plus or minus 5 percent.
- 3. Color: Opal white
- 4. Color: Transparent/clear
- 5. Color: Green
- 6. Color: Orange
- 7. Color: Purple
- 8. Color: Blue
- 9. Color: Grey
- 10. Color: Red

11. Color: Yellow
12. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ____.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ____ percent.
 - h. Coating integrity: Intact after testing period.

B. LEXAN Thermopanel:

1. Grade/Type: _____.
2. Panel Thickness: 1.18 inch (30 mm) nominal, plus or minus 5 percent.
3. Color: Opal White.
4. Color: Clear/Transparent.
5. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ____.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ____ percent.
 - h. Coating integrity: Intact after testing period.

C. LEXAN Thermorooft Sheets:

1. Grade/Type: _____.
2. Sheet Thickness: 2.17 inches (55mm) nominal, plus or minus 5 percent.
3. Sheet Thickness: 2.56 inches (65mm) nominal, plus or minus 5 percent.
4. Color: Opal White.
5. Color: Clear/Transparent.
6. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ____.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ____ percent.
 - h. Coating integrity: Intact after testing period.

D. LEXAN Thermoclear:

1. Grade/Type: _____.

2. Sheet Thickness: 0.177 inch (4.5 mm) nominal, plus or minus 5 percent.
3. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
4. Sheet Thickness: 0.315 inch (8mm) nominal, plus or minus 5 percent.
5. Sheet Thickness: 0.395 inch (10mm) nominal, plus or minus 5 percent.
6. Sheet Thickness: 0.629 inch (16mm) nominal, plus or minus 5 percent.
7. Sheet Thickness: 0.787 inch (20mm) nominal, plus or minus 5 percent.
8. Sheet Thickness: 0.98 inch (25mm) nominal, plus or minus 5 percent.
9. Sheet Thickness: 1.26 inch (32mm) nominal, plus or minus 5 percent.
10. Sheet Thickness: 2.36 inch (60mm) nominal, plus or minus 5 percent.
11. Color: Opal White
12. Color: Blue
13. Color: Blue-Green
14. Color: Light Green
15. Color: Dark Grey
16. Color: Bronze
17. Color: Emerald
18. Color: Red
19. Color: Clear/Transparent
20. Performance:
 - a. Light transmission: Change not to exceed ___ percent.
 - b. Thermal Transmission (U-Value): ___ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ___.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ___ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ___.
 - g. Haze: Change not to exceed ___ percent.
 - h. Coating integrity: Intact after testing period.
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E. LEXAN Thermoclear IR:

1. Grade/Type: _____.
2. Sheet Thickness: 0.177 inch (4.5 mm) nominal, plus or minus 5 percent.
3. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
4. Sheet Thickness: 0.315 inch (8mm) nominal, plus or minus 5 percent.
5. Sheet Thickness: 0.395 inch (10mm) nominal, plus or minus 5 percent.
6. Sheet Thickness: 0.629 inch (16mm) nominal, plus or minus 5 percent.
7. Sheet Thickness: 0.787 inch (20mm) nominal, plus or minus 5 percent.
8. Sheet Thickness: 0.98 inch (25mm) nominal, plus or minus 5 percent.
9. Sheet Thickness: 1.26 inch (32mm) nominal, plus or minus 5 percent.
10. Sheet Thickness: 2.36 inch (60mm) nominal, plus or minus 5 percent.
11. Color: Green.
12. Color: Light Green.
13. Performance:
 - a. Light transmission: Change not to exceed ___ percent.
 - b. Thermal Transmission (U-Value): ___ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ___.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ___ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:

- f. Yellowing intensity: Change not to exceed a delta of ____.
- g. Haze: Change not to exceed ____ percent.
- h. Coating integrity: Intact after testing period.

F. LEXAN Thermoclear Soft Lite:

- 1. Grade/Type: _____.
- 2. Sheet Thickness: 0.177 inch (4.5 mm) nominal, plus or minus 5 percent.
- 3. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
- 4. Sheet Thickness: 0.315 inch (8mm) nominal, plus or minus 5 percent.
- 5. Sheet Thickness: 0.395 inch (10mm) nominal, plus or minus 5 percent.
- 6. Sheet Thickness: 0.629 inch (16mm) nominal, plus or minus 5 percent.
- 7. Sheet Thickness: 0.787 inch (20mm) nominal, plus or minus 5 percent.
- 8. Sheet Thickness: 0.98 inch (25mm) nominal, plus or minus 5 percent.
- 9. Sheet Thickness: 1.26 inch (32mm) nominal, plus or minus 5 percent.
- 10. Sheet Thickness: 2.36 inch (60mm) nominal, plus or minus 5 percent.
- 11. Color: Light Diffusing Opal White.
- 12. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ____.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ____ percent.
 - h. Coating integrity: Intact after testing period.

G. LEXAN Thermoclear Venetian:

- 1. Grade/Type: _____.
- 2. Sheet Thickness: 0.177 inch (4.5 mm) nominal, plus or minus 5 percent.
- 3. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
- 4. Sheet Thickness: 0.315 inch (8mm) nominal, plus or minus 5 percent.
- 5. Sheet Thickness: 0.395 inch (10mm) nominal, plus or minus 5 percent.
- 6. Sheet Thickness: 0.629 inch (16mm) nominal, plus or minus 5 percent.
- 7. Sheet Thickness: 0.787 inch (20mm) nominal, plus or minus 5 percent.
- 8. Sheet Thickness: 0.98 inch (25mm) nominal, plus or minus 5 percent.
- 9. Sheet Thickness: 1.26 inch (32mm) nominal, plus or minus 5 percent.
- 10. Sheet Thickness: 2.36 inch (60mm) nominal, plus or minus 5 percent.
- 11. Color: Clear/Transparent with Colored Strips.
 - a. Strip Color: White.
 - b. Strip Color: Light Blue.
 - c. Strip Color: Blue.
 - d. Strip Color: Yellow.
- 12. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ____.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:

- f. Yellowing intensity: Change not to exceed a delta of ____.
- g. Haze: Change not to exceed ____ percent.
- h. Coating integrity: Intact after testing period.

H. LEXAN Thermoclear Easy Clean:

- 1. Grade/Type: _____.
- 2. Sheet Thickness: 0.177 inch (4.5 mm) nominal, plus or minus 5 percent.
- 3. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
- 4. Sheet Thickness: 0.315 inch (8mm) nominal, plus or minus 5 percent.
- 5. Sheet Thickness: 0.395 inch (10mm) nominal, plus or minus 5 percent.
- 6. Sheet Thickness: 0.629 inch (16mm) nominal, plus or minus 5 percent.
- 7. Sheet Thickness: 0.787 inch (20mm) nominal, plus or minus 5 percent.
- 8. Sheet Thickness: 0.98 inch (25mm) nominal, plus or minus 5 percent.
- 9. Sheet Thickness: 1.26 inch (32mm) nominal, plus or minus 5 percent.
- 10. Sheet Thickness: 2.36 inch (60mm) nominal, plus or minus 5 percent.
- 11. Color: Clear/Transparent
- 12. Color: White.
- 13. Color: Blue.
- 14. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC __.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ____ percent.
 - h. Coating integrity: Intact after testing period.

I. LEXAN Thermoclear Plus:

- 1. Grade/Type: _____.
- 2. Sheet Thickness: 0.177 inch (4.5 mm) nominal, plus or minus 5 percent.
- 3. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
- 4. Sheet Thickness: 0.315 inch (8mm) nominal, plus or minus 5 percent.
- 5. Sheet Thickness: 0.395 inch (10mm) nominal, plus or minus 5 percent.
- 6. Sheet Thickness: 0.629 inch (16mm) nominal, plus or minus 5 percent.
- 7. Sheet Thickness: 0.787 inch (20mm) nominal, plus or minus 5 percent.
- 8. Sheet Thickness: 0.98 inch (25mm) nominal, plus or minus 5 percent.
- 9. Sheet Thickness: 1.26 inch (32mm) nominal, plus or minus 5 percent.
- 10. Color: Transparent/Clear.
- 11. Color: White.
- 12. Color: Blue.
- 13. Color: Green.
- 14. Color: Bronze.
- 15. Color: Grey.
- 16. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC __.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.

- e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
- f. Yellowing intensity: Change not to exceed a delta of ____.
- g. Haze: Change not to exceed ____ percent.
- h. Coating integrity: Intact after testing period.

J. LEXAN Thermoclear Sun XP:

- 1. Grade/Type: _____.
- 2. Sheet Thickness: 0.395 inch (10mm) nominal, plus or minus 5 percent.
- 3. Sheet Thickness: 0.629 inch (16mm) nominal, plus or minus 5 percent.
- 4. Sheet Thickness: 0.787 inch (20mm) nominal, plus or minus 5 percent.
- 5. Sheet Thickness: 0.984 inch (25mm) nominal, plus or minus 5 percent.
- 6. Sheet Thickness: 1.25 inch (32mm) nominal, plus or minus 5 percent.
- 7. Color: Transparent/Clear.
- 8. Color: Bronze.
- 9. Color: Opal White.
- 10. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ____.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ____ percent.
 - h. Coating integrity: Intact after testing period.

K. LEXAN Thermoclear Drippguard:

- 1. Grade/Type: _____.
- 2. Sheet Thickness: 0.177 inch (4.5mm) nominal, plus or minus 5 percent.
- 3. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
- 4. Sheet Thickness: 0.315 inch (8mm) nominal, plus or minus 5 percent.
- 5. Sheet Thickness: 0.395 inch (10mm) nominal, plus or minus 5 percent.
- 6. Sheet Thickness: 0.629 inch (16mm) nominal, plus or minus 5 percent.
- 7. Sheet Thickness: 0.787 inch (20mm) nominal, plus or minus 5 percent.
- 8. Sheet Thickness: 0.984 inch (25mm) nominal, plus or minus 5 percent.
- 9. Sheet Thickness: 1.25 inch (32mm) nominal, plus or minus 5 percent.
- 10. Color: Clear/Transparent.
- 11. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ____.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ____ percent.
 - h. Coating integrity: Intact after testing period.

L. LEXAN Thermoclear Hammered Glass:

1. Grade/Type: _____.
2. Sheet Thickness: 0.177 inch (4.5 mm) nominal, plus or minus 5 percent.
3. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
4. Sheet Thickness: 0.315 inch (8mm) nominal, plus or minus 5 percent.
5. Sheet Thickness: 0.395 inch (10mm) nominal, plus or minus 5 percent.
6. Sheet Thickness: 0.629 inch (16mm) nominal, plus or minus 5 percent.
7. Sheet Thickness: 0.787 inch (20mm) nominal, plus or minus 5 percent.
8. Sheet Thickness: 0.98 inch (25mm) nominal, plus or minus 5 percent.
9. Sheet Thickness: 1.26 inch (32mm) nominal, plus or minus 5 percent.
10. Sheet Thickness: 2.36 inch (60mm) nominal, plus or minus 5 percent
11. Color: Transparent/Clear.
12. Color: Bronze.
13. Color: Green.
14. Color: Blue.
15. Color: Grey.
16. Performance:
 - a. Light transmission: Change not to exceed ___ percent.
 - b. Thermal Transmission (U-Value): ___ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ___.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ___ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ___.
 - g. Haze: Change not to exceed ___ percent.
 - h. Coating integrity: Intact after testing period.

M. LEXAN Thermoclear Metallic Gray:

1. Grade/Type: _____.
2. Sheet Thickness: 0.177 inch (4.5 mm) nominal, plus or minus 5 percent.
3. Sheet Thickness: 0.236 inch (6mm) nominal, plus or minus 5 percent.
4. Sheet Thickness: 0.315 inch (8mm) nominal, plus or minus 5 percent.
5. Sheet Thickness: 0.395 inch (10mm) nominal, plus or minus 5 percent.
6. Sheet Thickness: 0.629 inch (16mm) nominal, plus or minus 5 percent.
7. Sheet Thickness: 0.787 inch (20mm) nominal, plus or minus 5 percent.
8. Sheet Thickness: 0.98 inch (25mm) nominal, plus or minus 5 percent.
9. Sheet Thickness: 1.26 inch (32mm) nominal, plus or minus 5 percent.
10. Color: Opal White with Grey Metal Cap.
11. Performance:
 - a. Light transmission: Change not to exceed ___ percent.
 - b. Thermal Transmission (U-Value): ___ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ___.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ___ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ___.
 - g. Haze: Change not to exceed ___ percent.
 - h. Coating integrity: Intact after testing period.

2.5 CORRUGATED PANELS

- A. LEXAN LCS 100:
1. Grade/Type: _____.
 2. Sheet Thickness: 0.031 inch (0.787mm) nominal, plus or minus 5 percent.
 3. Color: Transparent/Clear.
 4. Color: Bronze.
 5. Color: Opal White.
 6. Color: White.
 7. Color: Green.
 8. Color: Orange.
 9. Color: Light Orange.
 10. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ____.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ____ percent.
 - h. Coating integrity: Intact after testing period.

- B. LEXAN LCS 200 BG:
1. Grade/Type: _____.
 2. Sheet Thickness: 0.031 inch (0.787mm) nominal, plus or minus 5 percent.
 3. Color: Clear/Transparent.
 4. Performance:
 - a. Light transmission: Change not to exceed ____ percent.
 - b. Thermal Transmission (U-Value): __ as determined by calculations based on test data, in accordance with ASHRAE procedures.
 - c. Sound Transmission: STC ____.
 - d. Impact resistance, when tested in accordance with ASTM D 5420 (Drop Dart): ____ foot-pounds (271.16 N m) for 1/4-inch (6 mm) thick material.
 - e. Weather resistance, when tested for 1500 hours in accordance with ASTM G 53 and QUV 313B:
 - f. Yellowing intensity: Change not to exceed a delta of ____.
 - g. Haze: Change not to exceed ____ percent.
 - h. Coating integrity: Intact after testing period.

2.6 ACCESSORIES

- A. Supply joint sealers and installation accessories specified in polycarbonate sheet manufacturer's instructions, or approved by polycarbonate sheet manufacturer, for indicated installation conditions.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions:
1. Openings are in accordance with approved shop drawings required in Section <MF SQ 08800 and polycarbonate sheet manufacturer's instructions, and are plumb and level to required tolerances#08 83 13 - Mirrored Glass Glazing>.
 2. Glazing channels or recesses are sized for correct glazing edge engagement.

3.2 PREPARATION

- A. Clean glazing channels or recesses free of obstructions, soil, debris, and other materials.
- B. Seal porous glazing channels or recesses with primer-sealer compatible with substrate and polycarbonate sheet materials.
- C. Cut polycarbonate sheet materials to exact sizes required, with clean edges free of notches; clean contact edges with solvent compatible with polycarbonate sheet materials, as specified or approved by polycarbonate sheet manufacturer.

3.3 INSTALLATION

- A. Install plastic glazing in accordance with polycarbonate sheet manufacturer's instructions.
- B. Do not use glazing accessories not specified or approved by polycarbonate sheet manufacturer.

3.4 CLEANING

- A. Immediately after completing construction activities relating to installation of polycarbonate sheet materials, remove remainder of strippable masking from surfaces of polycarbonate sheet glazing; do not expose masking to sunlight for an extended period of time.
- B. Immediately after removing masking, clean glazing in accordance with polycarbonate sheet manufacturer's instructions:
 - 1. Rinse surface with lukewarm water.
 - 2. Wash surface with mild soap and lukewarm water.
 - 3. Use soft cloth or sponge gently to loosen dirt and grime; scrubbing glazing surfaces, or using squeegee on glazing surfaces, is not permitted.
 - 4. Repeat rinse as above, and wipe surface dry with soft cloth until surfaces are spotless and dry.

3.5 PROTECTION OF INSTALLED PRODUCTS

- A. Immediately after cleaning, cover polycarbonate sheet glazing surfaces with polyethylene sheeting, or other covering material approved by polycarbonate sheet manufacturer; secure covering in place by taping to framing members - do not tape covering to polycarbonate sheet materials.
- B. Protect installed glazing from damage to function or finish by subsequent construction activities.
- C. Repair minor damage to finishes in accordance with polycarbonate sheet manufacturer's recommendations.
- D. Replace glazing having damage to function, and glazing having damage to finishes which cannot be repaired to Architect's acceptance.

END OF SECTION