



SABIC
Innovative
Plastics™



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; www.ameriluxinternational.com ; E: 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 Thermoroof 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 Dripguard:

- 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
 2. <MF SQ 08800 and polycarbonate sheet manufacturer's instructions, and are plumb and level to required tolerances#08 83 13 - Mirrored Glass Glazing>.
 3. 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