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Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat, SectionFormat,* and *PageFormat,* as described in *The Project Resource Manual—CSI Manual of Practice, Fifth Edition.*

The section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all "Specifier Notes" after editing this section.

Section numbers are from *MasterFormat 1995 Edition*, with numbers from *MasterFormat 2004 Edition* in parentheses. Delete version not required.

SECTION 06625 (06 82 56)

BALLISTIC-RESISTANT FIBERGLASS LAMINATE PANELS

Specifier Notes: This section covers Norplex-Micarta "ShotBlocker™" ballistic-resistant fiberglass laminate panels. "ShotBlocker" is used as a reinforcing substrate for ballistic-resistant architectural and building projects. Consult Norplex-Micarta for assistance in editing this section for the specific application.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Ballistic-resistant fiberglass laminate panels.

1.2 RELATED SECTIONS

Specifier Notes: Edit the following list of related sections as required for the project. List other sections with work directly related to this section.

A. Section 08841 (08 88 56) – Bullet-Resistant Plastic Glazing (Ballistics-Resistant Glazing).

1.3 REFERENCES

Specifier Notes: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

A. ASTM D 570 – Standard Test Method for Water Absorption of Plastics.

B. ASTM D 790 – Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

C. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.

D. FAA Federal Aviation Regulation 25.853 – Aircraft Compartment Interiors.

E. ISO 9001:2000 – Quality Management Systems.

F. National Institute of Justice NIJ-STD 0108.01 – Standard for Ballistic Resistance Protective Materials.

G. UL 752 – Standard for Bullet-Resisting Equipment.

1.4 SUBMITTALS

A. Comply with Section 01330 (01 33 00) – Submittal Procedures.

B. Product Data: Submit manufacturer's product data, including installation instructions.

C. Samples:
   1. Submit manufacturer's sample of ballistic-resistant fiberglass laminate panel for each performance level specified.
   2. Size: Nominal 18 inches by 18 inches.

D. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.

E. Warranty: Submit manufacturer's standard warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer's Qualifications:
   1. Manufacturer regularly engaged, for preceding 5 years, in manufacture of ballistic-resistant fiberglass laminate panels of similar type to that specified.
   2. Certification: ISO 9001:2008.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.

C. Handling: Protect materials during handling and installation to prevent damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Norplex-Micarta, 665 Lybrand Street, Postville, Iowa 52162. Toll Free (800) 848-4431. Phone (563) 864-7321. Fax (563) 864-4231. Website www.norplex-micarta.com. E-mail info@norplex-micarta.com.

2.2 BALLISTIC-RESISTANT FIBERGLASS LAMINATE PANELS

A. Ballistic-Resistant Fiberglass Laminate Panels: "ShotBlocker".
   1. Grade: "MC504BR".
   2. Description:
      a. Opaque, self-extinguishing, phenolic-glass thermoset composite, ballistic-resistant material.
      b. Woven-glass fabric impregnated with high-temperature phenolic resin system.
      c. Projectiles typically captured and retained in ballistic-resistant panels.

B. Conformance:
   1. Federal Aviation Regulation 25.853.
   2. Fire and Smoke Rating, ASTM E 84: Class 1-A.
      a. Flame Spread Index: 5.
      b. Smoke Development Index: 0.
   3. UL listed.

C. Typical Properties:
   1. Flexural Strength, ASTM D 790:
      a. Crosswise: Minimum 17,000 psi.
      b. Lengthwise: Minimum 14,000 psi.
   2. Water Absorption, ASTM D 570: Maximum 4 percent.

D. Panels:

Specifier Notes: Specify ballistic-resistant fiberglass laminate panel product by performance level required and not by thickness. Delete panel products not required. Consult Norplex-Micarta if you require assistance in determining which "ShotBlocker" panel product is best suited for a specific application.

   1. Product: "ShotBlocker Panel 01".
      a. UL 752 Performance Level Standard: Level 1.
      b. Minimum Thickness: 0.242 inch (6.15 mm).

Specifier Notes: Standard sheet size for all "ShotBlocker" panels is 48 inches by 96 inches. Consult Norplex-Micarta for availability of other sheet sizes.

c. Nominal Sheet Size: 48 inches by 96 inches (1,219 mm by 2,438 mm).
d. Nominal Sheet Weight: 92 pounds (41.55 kg).
e. Weight Factor: 2.6 to 3.2 pounds per square foot (12.69 to 15.43 kg/m^2).

2. Product: "ShotBlocker Panel 02".
   a. UL 752 Performance Level Standard: Level 2.
   b. NIJ-STD 0108.01 Performance Level Standard: Type IIA.
   c. Minimum Thickness: 0.352 inch (8.94 mm).
   d. Nominal Sheet Size: 48 inches by 96 inches (1,219 mm by 2,438 mm).
   e. Nominal Sheet Weight: 137 pounds (62.14 kg).
   f. Weight Factor: 3.9 to 4.7 pounds per square foot (19.04 to 23.09 kg/m^2).
3. Product: "ShotBlocker Panel 03".
   a. UL 752 Performance Level Standard: Level 3.
   b. NIJ-STD 0108.01 Performance Level Standard: Type II and Type IIIA.
   c. Minimum Thickness: 0.396 inch (10.06 mm).
   d. Nominal Sheet Size: 48 inches by 96 inches (1,219 mm by 2,438 mm).
   e. Nominal Sheet Weight: 149 pounds (67.59 kg).
   f. Weight Factor: 4.3 to 5.1 pounds per square foot (20.99 to 25.10 kg/m^2).
4. Product: "ShotBlocker Panel 04".
   a. UL 752 Performance Level Standard: Level 4 and Level 5.
   b. NIJ-STD 0108.01 Performance Level Standard: Type III.
   c. Minimum Thickness: 1.188 inches (30.18 mm).
   d. Nominal Sheet Size: 48 inches by 96 inches (1,219 mm by 2,438 mm).
   e. Nominal Sheet Weight: 446 pounds (202.30 kg).
   f. Weight Factor: 12.8 to 15.4 pounds per square foot (62.50 to 75.04 kg/m^2).
5. Product: "ShotBlocker Panel 05".
   a. UL 752 Performance Level Standard: Level 8.
   b. Minimum Thickness: 1.320 inches (33.53 mm).
   c. Nominal Sheet Size: 48 inches by 96 inches (1,219 mm by 2,438 mm).
   d. Nominal Sheet Weight: 492 pounds (223.17 kg).
   e. Weight Factor: 14.2 to 17.0 pounds per square foot (69.33 to 82.81 kg/m^2).

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas to receive ballistic-resistant fiberglass laminate panels.

B. Notify Architect of conditions that would adversely affect installation or subsequent use.

C. Do not begin installation until unacceptable conditions are corrected.

3.2 INSTALLATION

A. Install ballistic-resistant fiberglass laminate panels in accordance with manufacturer's instructions at locations indicated on the Drawings.

Specifier Notes: Edit the following paragraphs and add additional paragraphs to suit the specific use of the ballistic-resistant fiberglass laminate panels.

B. Cut and drill ballistic-resistant fiberglass laminate panels in accordance with manufacturer's instructions.

C. Install ballistic-resistant fiberglass laminate panels plumb, level, square, and true to line.

D. Secure ballistic-resistant fiberglass laminate panels securely in place to supports.

E. Decorative Laminates:
   1. Bond decorative laminates to ballistic-resistant fiberglass laminate panels with adhesive in accordance with manufacturer's instructions.
   2. Apply adhesive uniformly to both surfaces to be bonded.
   3. Follow instructions of adhesive manufacturer.
   4. Clean ballistic-resistant fiberglass laminate panel surface in accordance with manufacturer's instructions before bonding to decorative laminates to remove dirt, dust, oil, grease, and other coatings.

F. Stud Walls:
   1. Pre-drill holes in ballistic-resistant fiberglass laminate panels to hang panels on stud walls.
   2. Pre-drill Hole Diameter: Slightly larger than screw shank.
   3. Place screws every 12 inches to 24 inches (305 mm to 610 mm).
   4. Screw Length: Sufficient length to anchor firmly in stud.

G. Butt Joints: Install 4-inch (102-mm) wide batten-strip backing of same panel product at butt joints for 2-inch (51-mm) overlap on each side of joints for ballistic-resistant fiberglass laminate panels.

3.3 PROTECTION

A. Protect installed ballistic-resistant fiberglass laminate panels from damage during construction.

END OF SECTION