

STEALTH Concealment Solutions

STEALTHSKIN V ESSV Panel

DESCRIPTION Through testing and the experience of thousands of concealment sites constructed, Raycap has determined that the type and placement of materials used for screening antennas play a vital role in their performance. All our concealment panels allow for superior antenna signal transmission compared to fiberglass without the durability problems of fiber blooming or cracking over time. Panels are engineered and manufactured to become part of the existing structure and withstand extreme weather conditions while maintaining their original appearance.

APPLICATIONS ESSV panels are generally specified for dark color and desert climate applications. ESSV panels can be used to manufacture a variety of rooftop and tower-type concealment products including screenwalls, wall replacements, side-mounted boxes, clock towers and bell towers. The panel can be factory textured to match most existing architectural appearances such as brick, stucco, aggregate and split face block as well as custom applications.

RECOMMENDED FREQUENCIES Raycap generally recommends ESSV panels for frequencies up to 3GHz. We have testing currently in process for higher frequency applications and have insertion loss lab testing for most panel and texture combinations up to 100 GHz at multiple incidence angles. Please contact us to help select the best concealment panel for your site.

SIZES AND STYLES AVAILABLE ESSV panels are available in 4' x 8' and 4' x 10', and 4' x 12' standard sizes. Custom sizes are available upon request. Nominal panel thickness is 2.1875". Panel weight is 1.5 lb/sf for a smooth/painted texture.

PHYSICAL PROPERTIES ESSV panels are manufactured with sandwich panel geometry. FRP (fiberglass reinforced plastic) skins are laminated to an extruded polystyrene core using an ICBO approved adhesive. Physical performance properties of the skins and core are listed to the right.

FABRICATION/INSTALLATION ESSV panels can be fabricated into various sizes and bent into corner panels and other shapes including radius applications. Due to the critical design aspects of many of its applications, We recommend that qualified designers or consultants design a total concealment system to support the panels.

AVAILABILITY Raycap maintains limited inventory of ESSV panels and has custom manufacturing capability in its facilities in South Carolina. Please contact us at 843-207-8000 or toll free at 800-755-0689 for sales information.

TECHNICAL SERVICES Raycap can provide technical information and support to address questions when using ESSV panels.

PHYSICAL PERFORMANCE PROPERTIES OF FRP SKINS

| PROPERTY | UNITS | TEST METHOD | RESULTS |
|---|---------------------------|-------------|---------------------------|
| Coefficient of Linear Thermal Expansion | 10 ⁵ /IN/IN/°C | ASTM D-696 | 3.46 |
| Water Absorption (24 hours) | % | ASTM D-570 | 0.17% |
| Tensile Modulus | psi x 10 ² | ASTM D-638 | 9.43 x 10 ⁵ |
| Tensile Strength, Yield | psi | ASTM D-638 | 8,000 |
| Elongation, Yield | % | ASTM D-638 | 1.20% |
| Flexural Modulus | psi x 10 ² | ASTM D-790 | 6.0 x 10 ⁵ |
| Flexural Strength | psi | ASTM D-790 | 17,000 |
| Compressive Strength | psi | ASTM D-695 | 18043/13042 Transverse |
| Compressive Modulus | psi x 10 ² | ASTM D-695 | 0.783/0.508 Transverse |
| IZOD Impact | F 0 lbs. Inch Notch | ASTM D-256 | 7.0 |

PHYSICAL PERFORMANCE PROPERTIES OF EXTRUDED POLYSTYRENE CORE

| PROPERTY | UNITS | TEST METHOD | RESULTS |
|---|----------------------------|---------------------------|---------|
| Density | Lb/ft ³ | ASTM D-1622 | 1.5 |
| Compressive Strength | Lb/in ² | ASTM D-1621 (vertical) | 20 |
| Tensile Strength | Lb/in ² | ASTM D-1623 (vertical) | 50 |
| Shear Strength | Lb/in ² | ASTM C-273 | 25 |
| Shear Modulus | Lb/in ² | ASTM C-273 | 330 |
| Flexural Strength | Lb/in ² | ASTM C-203 | 50 |
| Flexural Modulus | Lb/in ² | ASTM-203 | 1,600 |
| Water Absorption | % by volume | ASTM C-272 | 0.5 |
| R-Value per inch | F ft ² h/Btu | ASTM C-518 | 5.0 |
| Surface Burning Characteristics (Flame Spread / Smoke Developed) | - | ASTM E84 | 15/165 |