

**FILON® FLEXROOF** Smooth Roof Panels

**PRODUCT CODE: G4SR**
**PRODUCT**

Filon Flexroof is a smooth, gel-coat finished fiberglass reinforced plastic (FRP) panel, formulated for use as an RV roof. Filon has been the industry standard for nearly three decades. The smooth gel-coat surface is designed to be flexible and abrasion resistant with excellent weathering conditions.

**PURPOSE**

Filon Flexroof Roof panels are engineered for use as a flexible, one piece roof panel for recreational vehicles and campers. Its flexibility allows the panel to bend around the radius that is created where the sidewall and roof meet. This results in a seamless, no leak roof panel.

**DESIGN PROPERTIES**

PRODUCT CODE	NOMINAL THICKNESS	NOMINAL WEIGHT	FINISH	MAXIMUM LENGTH	MAXIMUM WIDTH	MINIMUM BEND RADIUS
<b>G4SR</b>	0.04"   1.0 mm	0.28b/ft²   1.4 kg/m²	Smooth	Up to 750'   228.6 m	Available up to 110"   2.8 m	2"   50.8 mm

**TYPICAL PHYSICAL PROPERTIES**

PROPERTY	RVSR 0.04"	TEST METHOD
<b>FLEXURAL STRENGTH</b>	1.88 x 10 <sup>4</sup> psi 129 MPa	ASTM - D790
<b>FLEXURAL MODULUS</b>	5.5 x 10 <sup>5</sup> psi 3792 MPa	ASTM - D790
<b>TENSILE STRENGTH</b>	9.8 x 10 <sup>3</sup> psi 68 MPa	ASTM - D638
<b>TENSILE MODULUS</b>	5.9 x 10 <sup>5</sup> psi 4067 MPa	ASTM - D638
<b>IZOD IMPACT</b>	8 ft-lb/in notched 0.43 J/mm	ASTM - D256
<b>COEFFICIENT OF LINEAR THERMAL EXPANSION</b>	1.7 x 10 <sup>-5</sup> in/in/°F 31 µm/m/°C	ASTM - D696
<b>WATER ABSORPTION</b>	0.3%/24hrs @77°F   25°C	ASTM - D570
<b>BARCOL HARDNESS</b>	37	ASTM - D2583

## SPECIFICATIONS

Valto Engineered Materials (called VALTO hereafter) panels are manufactured in lengths and widths as required.

## COMPOSITION

Reinforcement: Random chopped fiberglass roving.

Resin Mix: Modified polyester resin and inorganic fillers and pigments.

## FINISHED PANEL QUALITY

Panels shall have smooth finish on the front side. Color shall be uniform throughout. Backside imperfections which do not affect functional properties are not cause for rejection.

Physical properties shall be as set forth in Table 1.

Dimensions shall be as specified on purchase order, subject to the following tolerances:

WIDTH:  $\pm 1/8"$  ( $\pm 3.2$  mm)

LENGTH:  $\pm 1/8"$  ( $\pm 3.2$  mm) up to 8' (2.4 m)  
 $\pm 1/4"$  ( $\pm 6.4$  mm) up to 40' (12.2 m)

SQUARENESS:  $1/8"$  (3.2 mm) in 48" (1.2 m) of width

Disclaimer: VALTO does not make any claims to the combustibility rating of the products listed on this data sheet. Not intended for interior applications.

## CERTIFICATIONS

Meets flammability standards for motor vehicle interior materials as tested in CFR49 V 571.302 (FMVSS 302).

## FABRICATING RECOMMENDATIONS

NOTE: Protect your eyes with goggles; cover your nose and mouth with a filter mask; cover exposed skin when cutting VALTO panels.

HAND FABRICATING: Drilling—High speed drill bit (60° cutting angle, with 12°-15° clearance) or hole saw.

STAPLING: Standard pneumatic stapler.

CUTTING: Sheet metal shears or circular saw with reinforced carborundum or carbide-tipped blade.

PRODUCTION FABRICATING: Use carbide-tipped tools. Straight cuts can be sheared (90° cutting edge with 0.002" [0.05 mm] clearance) or sawed. For irregular cuts, use die punch or band saw.

PAINTING PREPARATION: To properly prepare the panel surface for painting, make sure the surface is clean, dry, and free from all oils, grease, silicones, dust, and other contaminants. Alkaline detergents or clean water may be used for this purpose. Sanding or roughening of the panel surface is recommended to achieve acceptable paint adhesion, using 600 grit or finer sand paper or a 3M "Ultrafine" Scotch-Brite® pad.

RV Cleaning Instructions: Available from VALTO.

SDS: Prior to working with our products, see our most current SDS at [valtoem.com/sds](http://valtoem.com/sds)

## PLEASE NOTE THE FOLLOWING PRODUCT USE INFORMATION:

Products manufactured by VALTO will provide a clean, aesthetically pleasing finished installation. However, by nature, fiberglass reinforced plastic panels may occasionally have small areas that are aesthetically unacceptable for use. Panels should be inspected on-site prior to installation or lamination and original VALTO skid tag/ticket number removed and retained. If any portion of material will not provide an acceptable appearance, VALTO should be notified at once. Please report the non-conforming product utilizing the retained skid tag/ticket number. Upon verification of unacceptability, VALTO will replace or refund the purchase price of the non-conforming product. This product has not been tested under ASTM E-84 for use in building interiors.

## STORAGE REQUIREMENTS

VALTO panels are designed for peak performance prior to and after the panels have been applied. Careful handling during the manufacturing process is important. Avoid excessive clamping, dropping and scraping. Keep contents dry. Store indoors in a well ventilated area.

## LAMINATION

VALTO recommends that the moisture content of the substrate be no greater than 12% at the time of lamination and that the glue coverage between the VALTO panel and the substrate be 100% coverage at the weight and thickness recommended by the adhesive manufacturer. Approved substrates include lauan plywood, Azdel, SymaLITE, Fortis, and NTXT (only flat applications approved for NTXT). Use of any substrate must be pre-approved by VALTO to be covered under warranty. Prior to lamination the FRP panel must be free of debris, moisture, particulates or backside contaminants to ensure 100% bond. The quality of the substrate surface must also be free of debris or particulates prior to lamination. VALTO will not be responsible for any loss resulting from sub-standard lamination processes.

Laminating to substrates such as layered paper-based products will void warranty.

After lamination, the substrate must not be subjected to water intrusion or leakage as this may cause delamination and/or gel coat blistering, which will not be covered by under warranty.

## SIDEWALL CONSTRUCTION WITHOUT SUBSTRATES

VALTO should be consulted before specifying and installing any substrate-free product.

## MINIMUM BEND RADIUS

VALTO recommends all radius bends be supported by a solid substrate and not exceed the minimum bend radius specified on the product technical data sheet.

## DARK COLORS

Dark colors, whether gel-coated or painted, will affect panel performance. Dark colored panels should be tested for performance under all appropriate conditions to make sure such colors will meet the requirements of the application. Dark colors may cause excessive heat build-up on the panel resulting in possible sidewall rippling, delamination, cracking, or decal failure.

To be covered under warranty, dark colors must be pre-approved by VALTO.

## APPLYING & PAINT FINISHES

Be aware that the application of certain paint or decal film colors, normally those with a darker appearance, may cause excessive heat build-up on the panel resulting in possible sidewall rippling, delamination, or cracking. Dark colored panels should be tested under all appropriate conditions to make sure such colors will meet the requirements of the application. The use of a heat gun to apply or remove decals is not recommended as it will cause cracking of the gel-coat finish and will void this warranty. To be covered under warranty dark colors must be pre-approved by VALTO.

## COLOR CHANGE

All products, when exposed to weathering and sunlight, change color over time as part of the aging process.

At Valto, we partner with our customers, and through innovation, deliver advanced materials that enhance everyday environments. We succeed through a culture of collaboration, continuous improvement, and excellence. With integrity at our core, we challenge the status quo and pursue innovative approaches that benefit our customers and associates.

Since 1954, Valto Engineered Materials has provided innovative products and services and is a leading provider of FRP composite panels. Our lightweight composite products deliver unsurpassed strength and durability; and we continue to pioneer next level performance in building materials, recreational vehicles, and transportation.