

## KEMPLY® ACP Laminated Panels

**PRODUCT CODE: KEM**

### PRODUCT

KEMPLY ACP Laminated Wall and Ceiling Panels are manufactured by laminating a fiberglass reinforced panel (FRP) "skin" to an aluminum composite core (ACP) and a variety of other materials.

Due to the fluctuation in substrate material costs, panels are quoted on a custom basis and quotes are valid for 60 days from date quoted unless otherwise negotiated.

### PURPOSE

KEMPLY Laminated Wall and Ceiling Panels are used in a variety of applications where a sturdy laminated wall or ceiling panel is required.

#### DESIGN PROPERTIES

SUBSTRATE	SUBSTRATE THICKNESS	AVAILABLE SIZES
<b>Aluminum Composite Core (ACP)</b>	0.12"   3 mm and 0.24"   6 mm	23-3/4" x 23-3/4"   23-3/4" x 48" 603.3mm x 603.3mm   603.3mm x 1219.2mm
<b>ACP 3mm with FSI 0.075" Panel</b> (overall panel thickness of FRP & substrate)	0.19"   4.9 mm	23-3/4" x 23-3/4"   23-3/4" x 48" 603.3mm x 603.3mm   603.3mm x 1219.2mm

#### TYPICAL PHYSICAL PROPERTIES OF ACP CORE

PROPERTY	ACP 3 mm	ACP 6 mm	TEST METHOD
<b>ALUMINUM THICKNESS DEVIATION</b>	±0.1mm	±0.1mm	DIN 1784
<b>WEIGHT</b>	1.0 lb/ft²	1.95 lb/ft²	
<b>TOLERANCE IN LENGTH</b>	-0/+2 mm	-0/+2 mm	DIN 16927/ISO11833-
<b>TOLERANCE IN WIDTH</b>	-0/+1.5 mm	-0/+1.5 mm	DIN 16927/ISO11833-
<b>TOLERANCE IN THICKNESS</b>	±0.15mm	±0.15mm	DIN 16927/ISO11833-
<b>HORIZONTAL FLATNESS</b>	5 mm	4 mm	DIN ISO 1101
<b>LONGITUDINAL ROUGHNESS</b>	5 mm	5 mm	DIN ISO 1101
TECHNICAL PROPERTIES	ACP 3 mm	ACP 6 mm	TEST METHOD
<b>SECTION MODULUS W</b>	125 cm³/m	275 cm³/m	DIN 53293
<b>RIGIDITY (POISSON'S RATIO <math>\mu = 0.3</math>) E.J.</b>	014 kNm²/m	063 kNm²/m	DIN 53293
<b>ALLOY</b>	1100 ENAW	1100 ENAW	EN 573-3
<b>TEMPER OF COVER SHEETS</b>	H16/H18	H16/H18	EN 515
<b>MODULUS OF ELASTICITY</b>	70000 N/mm²	70000 N/mm²	EN 199 1-1
<b>TENSILE OF STRENGTH OF ALUMINUM</b>	$R_m \geq 145$ N/mm²	$R_m \geq 145$ N/mm²	EN 485-2
<b>0.2% PROOF STRESS</b>	$R_{p0.2} \geq 100$ N/mm²	$R_{p0.2} \geq 100$ N/mm²	EN 485-2
<b>ELONGATION</b>	$A_{50} \geq 2\%$	$A_{50} \geq 2\%$	EN 485-2
<b>LINEAR THERMAL EXPANSION</b>	2.4 mm/m°C at 100°C temp difference	2.4 mm/m°C at 100°C temp difference	EN 1999 1-1
CORE	ACP 3 mm	ACP 6 mm	TEST METHOD
<b>POLYETHYLENE, TYPE LDPE</b>	0.935 g/cm³	0.935 g/cm³	
<b>SURFACE</b>	Coil Coating	Coil Coating	
<b>LACQUERING</b>	Fluorocarbon based (PE)	Fluorocarbon based (PE)	
<b>THICKNESS OF COATING</b>	$\geq 16$ $\mu$ m	$\geq 16$ $\mu$ m	
<b>GLOSS (INITIAL VALUE)</b>	20% - 100%	20% - 100%	ECCA T2
<b>PENCIL HARDNESS</b>	2H	2H	ECCA T4

ACOUSTICAL PROPERTIES	ACP 3 mm	ACP 6 mm	TEST METHOD
SOUND ABSORPTION FACTOR $\alpha_s$	0.05	0.05	ISO 354
SOUND TRANSMISSION LOSS $R_w$	25 DB	28 DB	ISO 717-1
LOSS FACTOR $\alpha$	0.007	0.014	EN ISO 6721
THERMAL PROPERTIES	ACP 3 mm	ACP 6 mm	TEST METHOD
THERMAL RESISTANCE R	0.0069m <sup>2</sup> K/W	0.0172m <sup>2</sup> K/W	DIN 52612
HEAT TRANSITION COEFFICIENT U	5.65 W/m <sup>2</sup> K	5.34 W/m <sup>2</sup> K	DIN 4108
TEMPERATURE RANGE	-50°C... +80°C	-50°C... +80°C	

## FINISHED PANEL QUALITY

See KEMPLY technical data sheet (form #65025) for detailed information.

## FIRE RATINGS AND PHYSICAL PROPERTIES

Due to the wide variation in skin-substrate combinations, the composite panels quoted have not been tested for physical properties or fire ratings per ASTM E-84, except for the laminated panels detailed below. All of the FRP panel "skins" have been tested for surface burning characteristics per ASTM E-84 and each product has a published technical data sheet which can be found at [www.valtoem.com](http://www.valtoem.com). Physical properties and fire rating information on the substrate may be available from the specific substrate manufacturer and available upon request. VALTO makes no representation or warranty as to the composite laminate panel's fitness for any specific application, overall physical properties, fire resistance or burning characteristics.

The following composite laminated panels have been tested to ASTM E-84:

- .075" Smooth GLASBORD Class A (FSI) to .12" (3mm) Aluminum Composite Core (ACP) single-sided skin
- .075" Smooth GLASBORD Class A (FSI) to .12" (3mm) Aluminum Composite (ACP) double-sided skins

## CERTIFICATIONS

1. Meets minimum requirements of major model building codes for Class A interior wall and ceiling finishes of flame spread  $\leq 25$ , smoke developed  $\leq 450$  (per ASTM E-84).
2. This panel has earned GREENGUARD® Indoor Air Quality Certification (Certificate #15955-410) [greenguard.org](http://greenguard.org).



## STORAGE REQUIREMENTS

All laminated panels should be stored in a dry place indoors. Exposure to humid or wet conditions prior to installation can cause panel warping. Efforts to limit this exposure during storage can reduce this warp-age. Standing water on the surface laminate during storage can cause discoloration.

## SERVICEABLE TEMPERATURE RANGE

Panels will perform in temperatures from -40°F (-40°C) to 130°F (55°C). For use in environments beyond this range contact VALTO for recommendations.

## FABRICATING AND INSTALLATION

See KEMPLY technical data sheet (form #65025) for detailed information. Prior to working with our products, see our most current SDS at [valtoem.com/sds.html](http://valtoem.com/sds.html)

## CUTTING REQUIREMENTS

Use triple chin thin curve carbide blade - with extra teeth.

## LIMITATIONS

Near Heat Source: VALTO panels will discolor when installed behind or near any heat source which radiates temperatures exceeding 130°F (55°C), such as cookers, ovens, and deep fryers. Do not install near a heat source.  
In Areas of Extreme Temperature Fluctuation: (over 20°F/7°C), laminated panels with polypropylene substrate must be laminated on both sides to avoid warping and installed with mechanical fasteners.  
Smooth Finish Panels: Panels with a smooth FRP face are shipped with a protective film to help avoid scratching. Remove the film prior to installation.  
Lay-in Ceiling Panels: Lay-in ceiling panels with gypsum, plywood, oriented strand board or polypropylene substrates should be laminated with double-sided skins to avoid warping due to temperature or humidity changes.

## VALTO TESTING

CLEANABILITY TEST: When GLASBORD with Surfaseal and an ordinary FRP panel are heavily soiled, the GLASBORD panel exhibits up to 10 times more cleanability per MacBeth Computer Colorimeter.

Stain Resistance Test: Prolonged direct contact to concentrated ammonia-based cleaner exhibited no color change per MacBeth Color Colorimeter.

## NOTICE

Panels will provide a clean, aesthetically-pleasing finished installation. However, by nature, fiberglass reinforced plastic paneling may occasionally have small areas that are aesthetically unacceptable for use. Panels should be inspected on-site prior to installation. If any portion of material does not provide an acceptable appearance, VALTO should be notified at once. Upon verification of unacceptability, that portion of material will be replaced by VALTO. VALTO's sole responsibility is for the replacement of defective materials but not for labor or other handling or installation expenses.

### FLAME SPREAD AND SMOKE DEVELOPMENT RATINGS

The numerical flame spread and smoke development ratings are not intended to reflect alleged hazards presented by VALTO products under actual fire conditions and this product has not been tested by VALTO except as set forth below. These ratings are determined by small-scale tests conducted by Underwriters Laboratories and other independent testing facilities using the American Society for Testing and Materials E-84 test standard (commonly referred to as the "Tunnel Test").

VALTO PROVIDES THESE RATINGS FOR MATERIAL COMPARISON PURPOSES ONLY. Like other organic building materials (e.g. wood), panels made of fiberglass reinforced plastic resins will burn. When ignited, FRP may produce dense smoke very rapidly. All smoke is toxic. Fire safety requires proper design of facilities and fire suppression systems, as well as precautions during construction and occupancy. Local codes, insurance requirements and any special needs of the product user will determine the correct fire-rated interior finish and fire suppression system necessary for a specific installation. We believe all information given is accurate, without guarantee. Since conditions of use are beyond our control, all risks are assumed by the user. Nothing herein shall be construed as a recommendation for uses which infringe on valid patents or as extending a license under valid patents. [www.astm.org/Standards/E84.htm](http://www.astm.org/Standards/E84.htm).

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.