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*Technology and manufacturing from a single source. Translucent faces continuously manufactured for unparalleled longevity and fire performance enhance comfort while adding performance and structural integrity beyond comparison.*

**HEAT & LIGHT TRANSMISSION:** Available in Sweets Downloads & Resources entitled "Light Transmission & SHGC", includes the light transmission, shading coefficients and U-values for some Kalwall Panel face sheet combinations. Others are available.

**FIRE TESTS:** Although some Kalwall panels contain combustible binder resins (ignition temperature greater than 800°F), they will withstand a 1200°F flame for one hour with no flame penetration (SWRI). Kalwall panels pass the Class "A" Burning Brand Test (ASTM E-108). A special configuration of Kalwall is a UL Listed Class A Roof system. All interior faces are 1 in. or less Burn Extent, by ASTM D-635. Several categories of interior and exterior flame-spread/smoke developed by UL 723 tunnel tests, including Class 1, are available. Kalwall is listed by: ICC #PFC-1705; ICC #9446; ATI CCRR-0173; several state and local areas and U.L. Canada, British Standard 476, Parts 3, 6, 7; FM Class I and NFPA 268 – Radiant Panel Test-Exterior Walls.

Whenever reference is made to fire tests, the numerical rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

#### **SPECIAL APPROVALS & LISTINGS:**

- FM Explosion Venting Walls standard 4440
- FM Wall and Roof Systems standards 4411 and 4471
- S. Florida Hurricane-resistant Systems
- NFRC Certified Products Listing
- UL Listings for Class A Roof System and Faces
- DoD/GSA Blast Resistant Construction
- European Technical Approval ETA 07-0244
- CA-SFM12-7A-2 Woodland Standard

**IMPACT:** Standard exterior faces will withstand 70 ft.-lbs. impact. Optional hi-impact faces will withstand 230 ft.-lbs. (311J) impact. Hurricane-Resistant and Blast-Resistant Systems also available at even higher resistance.

**BOND STRENGTH:** Panels are a specially engineered composite designed for maximum architectural and structural life. Panels and adhesives are tested according to the stringent requirements of "Criteria for Sandwich Panels" issued by ICC (International Code Council) and must pass severe tensile and shear tests before and after numerous exposure conditions. Before specifying an alternate, insist on actual field proof of bond integrity over a 20-year period. Caution is urged in accepting "look-alikes" as equivalents.

**EXPANSION:** The coefficient of linear thermal expansion of Kalwall is  $1.24 \times 10^{-5}$  in/in/°F. ( $2.23 \times 10^{-5}$  mm/mm/°C). An 8' panel will expand lengthwise approximately 1/8" when the temperature rises 100°F or a 2 m long panel will expand approximately 2 mm when the temperature rises 40°C.

**WEIGHT:** Most panels and systems weigh under 3 PSF (14.65 kg/m<sup>2</sup>).

**WEATHERING/COLOR CHANGE:** Kalwall's exterior face is made with innovative super-weathering and colorfast resins the full thickness... not a low-grade substrate overlaid with thin plastic film or gel to simulate weatherability. All standard exterior faces include a permanent glass-veil erosion barrier to prevent "fiber bloom"! This is just one built-in quality bonus not offered by look-alikes!

#### **COMPUTER-MODELED DAYLIGHT ANALYSIS**

Take the guesswork out of natural daylight level estimating and qualify your needs — contact us!

**NFRC CERTIFIED SYSTEMS** values follow on next page. For site built analysis, contact Kalwall.

## Kalwall Certified U-Factors and SHGCs based on NFRC 100, 200 and 201-2004:

WALLS					
System U-factor (System SHGC Crystal/Crystal, Crystal/White, White/White)					
	Panel Only	2" Batten		Internal Stiffener	Exposed Stiffener
TB	0.23	<b>0.28</b> (0.33, 0.28, 0.23)		<b>0.30</b> (0.33, 0.28, 0.23)	<b>0.33</b> (0.33, 0.29, 0.23)
	0.14	<b>0.19</b> (0.18, 0.17, 0.15)		<b>0.22</b> (0.19, 0.17, 0.15)	<b>0.24</b> (0.19, 0.17, 0.15)
	0.10	<b>0.16</b> (0.13, 0.13, 0.10)		<b>0.18</b> (0.13, 0.13, 0.11)	<b>0.21</b> (0.14, 0.14, 0.11)
	0.05	<b>0.12</b> (0.29, 0.25, 0.18)		<b>0.14</b> (0.29, 0.25, 0.19)	<b>0.17</b> (0.30, 0.25, 0.19)
	0.05	<b>0.10</b> (0.28, 0.24, 0.18)	(TB Batten)		
4" K100	0.15	<b>0.20</b> (0.10, 0.09, 0.6)	(2.5" Batten)		
	0.08	<b>0.16</b> (0.07, 0.4, N/A)	(2.5" Batten)		
Non-TB	0.29	<b>0.41</b> (0.33, 0.29, 0.23)		<b>0.42</b> (0.33, 0.29, 0.23)	<b>0.45</b> (0.34, 0.29, 0.24)
	0.22	<b>0.34</b> (0.19, 0.17, 0.15)		<b>0.34</b> (0.19, 0.17, 0.15)	<b>0.38</b> (0.20, 0.18, 0.16)
	0.18	<b>0.30</b> (0.14, 0.14, 0.11)		<b>0.30</b> (0.14, 0.14, 0.11)	<b>0.34</b> (0.14, 0.14, 0.12)
ROOFS					
System U-factor (System SHGC Crystal/Crystal, Crystal/White, White/White)					
TB	0.23	<b>0.29</b> (0.32, 0.28, 0.23)		<b>0.32</b> (0.32, 0.28, 0.23)	<b>0.34</b> (0.33, 0.28, 0.23)
	0.14	<b>0.20</b> (0.18, 0.16, 0.15)		<b>0.23</b> (0.18, 0.17, 0.15)	<b>0.25</b> (0.19, 0.17, 0.15)
	0.10	<b>0.17</b> (0.13, 0.13, 0.10)		<b>0.19</b> (0.13, 0.13, 0.11)	<b>0.22</b> (0.14, 0.14, 0.11)
	0.05	<b>0.13</b> (0.29, 0.24, 0.18)		<b>0.15</b> (0.29, 0.24, 0.18)	<b>0.18</b> (0.29, 0.25, 0.19)
	0.05	<b>0.10</b> (0.28, 0.24, 0.18)	(TB Batten)		
4" K100	0.15	<b>0.19</b> (0.10, 0.08, 0.6)	(2.5" Batten)		
	0.08	<b>0.14</b> (0.07, 0.4, N/A)	(2.5" Batten)		
Non-TB	0.29	<b>0.46</b> (0.33, 0.29, 0.23)		<b>0.47</b> (0.33, 0.29, 0.23)	<b>0.50</b> (0.34, 0.29, 0.24)
	0.22	<b>0.38</b> (0.19, 0.17, 0.16)		<b>0.39</b> (0.19, 0.17, 0.16)	<b>0.42</b> (0.20, 0.18, 0.16)
	0.18	<b>0.35</b> (0.14, 0.14, 0.11)		<b>0.36</b> (0.14, 0.14, 0.11)	<b>0.39</b> (0.14, 0.14, 0.12)

1/18/2011 Specifications subject to change without notice.

### Things to remember:

- U-factors are for comparison of like products, not energy calculations as actual installed U-factors may vary from the certified value due to size differences.
- TB systems use thermally broken perimeter. Non-TB systems use standard aluminum perimeter. A TB panel in non-TB perimeter is not an NFRC certified product.
- Certified products may be found listed in the NFRC Certified Products Directory found at [www.nfrc.org](http://www.nfrc.org).
- NFRC Certified SHGC will differ from other published values due to sample size and test method.
- All grid patterns are covered by the above values.
- "Internal" and "External" stiffener groups represent the worst case of several similar products, Actual project U-factor may vary slightly.

# Kalwall CORPORATION

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