



## I-CORE PRODUCT LINE CARD - JANUARY 2007

End-Grain (EG) Balsa structural core panels, a product of I-Core Composites, LLC (I-CORE), have a proven track record of successful application in a wide variety of structural applications including, but not limited to; marine vessels, wind turbine airfoils, automobiles, transit systems and military applications. I-CORE products are designed and manufactured to meet customer specifications and custom products are available upon request.

**Beginning February 2007 all of the following products are available with a Proprietary Polymer Coating.**

I-CORE Product Nomenclature	Nominal Density*	
	<i>lb/ft<sup>3</sup></i>	<i>Kg/m<sup>3</sup></i>
<b>EG Balsa</b> <small>LITE™</small>	<b>7.0</b>	<b>112</b>
<b>EG Balsa</b> <small>GRADE™</small>	<b>10.0</b>	<b>160</b>
<b>EG Balsa</b> <small>PITH™</small>	N/A	N/A

N/A – Not applicable (industrial grade) \* - ± 10%

I-CORE products are available in both a **RIGID** and **CONTOURABLE** configuration.

- Available sheet thickness: 3/16" (4.75mm) through 4.0" (101.6mm) [-0.020 (0.51mm) +0.0]
- Available length: 48" (1219.2mm) ± 1/16" (1.6mm)
- Available width: 24" (609.6mm) ± 1/16" (1.6mm)
- Diagonally square: within a 1/16" (1.6mm)
- Fillet Strips: Standard length is 2 feet; custom thickness and bevel available
- Moisture Content: 10-12% - Vacuum sealed at the I-CORE Plant

### **Contents/Carton Chart – Fourteen (14) Cartons per Pallet Standard**

EG Balsa Panels <i>inches(mm)</i>	Panels/ Carton	ft <sup>2</sup> /Carton	m <sup>2</sup> /Carton	Fillet Strips <i>inches(mm)</i>	Pieces-Linear ft/ Carton
<b>3/16" (4.75)*</b>	70	560	52.02	NS	N/A
<b>1/4" (6.35)</b>	51	408	37.90	NS	N/A
<b>3/8" (9.53)</b>	33	264	24.53	<b>3/8" (9.53)</b>	896-1792
<b>7/16" (11.10)</b>	29	232	21.55	<b>7/16" (11.10)</b>	702-1404
<b>1/2" (12.70)</b>	25	200	18.58	<b>1/2" (12.70)</b>	624-1248
<b>5/8" (15.87)</b>	20	160	14.86	<b>5/8" (15.87)</b>	418-836
<b>11/16" (17.50)</b>	18	144	13.38	NS	N/A
<b>3/4" (19.05)</b>	17	136	12.63	<b>3/4" (19.05)</b>	352-704
<b>1" (25.40)</b>	13	104	9.66	<b>1" (25.40)</b>	216-432
<b>1-1/4" (30.15)</b>	10	80	7.43	<b>1-1/4" (30.15)</b>	126-252
<b>1-1/2" (38.10)</b>	8	64	5.95	<b>1-1/2" (38.10)</b>	128-256
<b>1-3/4" (44.45)</b>	7	56	5.20	NS	N/A
<b>2" (50.80)</b>	6	48	4.46	<b>2" (50.80)</b>	60-120
<b>2-1/2" (63.50)**</b>	5	40	3.72	NS	N/A
<b>3" (76.20)**</b>	4	32	2.97	NS	N/A
<b>4" (101.6)**</b>	3	24	2.23	NS	N/A

(\* - Only available Contoured) (\*\* - Only available Rigid) (NS – Not a standard product) (N/A – Not applicable)

#### **I-CORE Balsa Products – FEATURES and BENEFITS:**

- Made in the USA
- I-CORE material is held to tight specifications with regard to thickness and dimensions
- I-CORE's PlyScrim100™ (exclusive to I-CORE) is securely bonded to our contourable EG Balsa Products. Even after being "wet out" the modules of balsa in our EG Balsa panels remain attached to the scrim securely allowing greater "working time"
- PlyScrim 100™ has an open "web" pattern, enhancing significantly the bond strength on the scrim side of the laminate
- PlyScrim 100™ is flush with the surface, minimizing "print through" and keeping the EG Balsa Core close to the laminate (i.e., bonding surface)
- All EG Balsa Products are vacuum-packed and protected from moisture/contaminants
- Proprietary Polymer Coating Available February 2007

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### End-Grain Balsa Core Mechanical Properties (Typical)

I-CORE Product Nomenclature	Units	EG BALSALITE™	EG BALSAGRADE™
Nominal Density ASTM C 271	Lb/ft <sup>3</sup>	7.0	10.0
	Kg/m <sup>3</sup>	112	160
Shear Strength ASTM C 273	psi	313	454
	N/mm <sup>2</sup>	2.16	3.13
Shear Modulus ASTM C 273	psi	17924	23828
	N/mm <sup>2</sup>	123	164
Compressive Strength ASTM C 365	psi	1161	1932
	N/mm <sup>2</sup>	8.00	13.32
Compressive Modulus ASTM C 365	psi	363975	598502
	N/mm <sup>2</sup>	2510	4127
Tensile Strength ASTM C 297	psi	1308	1998
	N/mm <sup>2</sup>	9.02	13.78

### End-Grain Balsa Core Thermal Properties (Typical)

I-CORE Product Nomenclature	Units	EG BALSALITE™	EG BALSAGRADE™
Nominal Density ASTM C 271	Lb/ft <sup>3</sup>	7.0	10.0
	Kg/m <sup>3</sup>	112	160
Thermal Conductivity ASTM C 177	BTU.in/ft <sup>2</sup> .h.°F	0.38	0.48
	W/mK	0.055	0.071
R – Value Based on K factor of +10°C	12 mm / 1/2"	1.7	1.2
	25mm / 1.0"	3.7	2.4
	51mm / 2.0"	7.1	4.6

Nominal Moisture Content: 10 – 12% “vacuum sealed” at the I-CORE manufacturing plant.

#### Coefficient of linear expansion (ASTM D 696)

- Longitudinal      2.0 x 10<sup>-6</sup> (in/in/°F)      2.8 x 10<sup>-5</sup> (mm/mm/°C)
- Radial              6.9 x 10<sup>-6</sup>                              9.8 x 10<sup>-5</sup>
- Tangential        8.6 x 10<sup>-6</sup>                              1.2 x 10<sup>-4</sup>

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**Disclaimer of Liability:** The information and data contained herein is believed to be accurate, is similar to information provided by other industry participants, and has been compiled from several sources believed to be reliable.

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