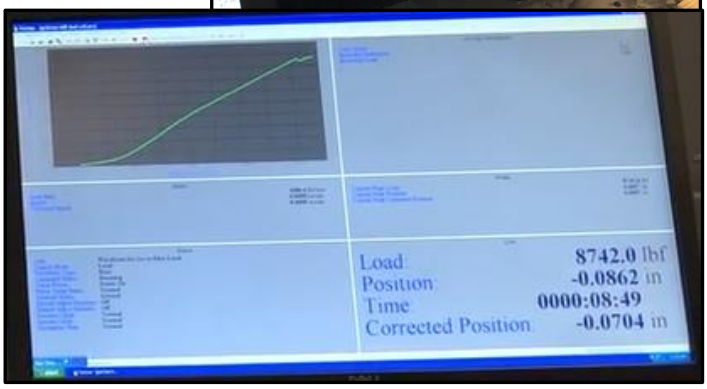
QWIK GUIDE: COREPLATE™ ADVANCED COMPOSITE

Lighter than Balsa, Stronger than Oak….

CorePlate is an advanced composite sandwich panel manufactured by BelleFlex LLC using Dyplast's ISO-CF® polyiso rigid foam (an improved polyurethane) as its core. BelleFlex embeds microstructural components within the ISO-CF sheet that dramatically increase the strength (see table below), while marginally increasing the weight - - and while retaining most of the thermal resistance and other respected properties of polyiso. By varying the density, thickness, skin, and the placement of the embedments, CorePlate can achieve unparalleled Compressive Strengths - - ***exceeding 8000 psi*** - - comparable to oak, with densities less than balsa

BelleFlex Technologies, a subsidiary of one of the oldest companies in the U.S., only recently expanded into advanced composites markets. The CorePlate technology utilizing ISO-CF will likely revolutionize the sandwich composite markets where high strength, low weight, and lower lifetime costs are critical. Example markets include floors and walls in truck, rail, ship/boat, and aircraft applications (particularly when thermal resistance is advantageous). The flexibilities inherent in the manufacture of CorePlate enable considerable customization to produce light-weight composite panels withstanding compressive loads far in excess of traditional higher density composites. CorePlate panel attributes include reduced weight, increased strengths moduli, high fracture toughness and modulus of elasticity, improved thermal resistance, and improved moisture resistance unmatched by traditional core technologies like balsa, PET, carbon, and honeycomb. CorePlate is typically manufactured in high volumes with thicknesses from 1-3 inches, widths up to 8 feet, and virtually any length.



Representative CorePlate Material Properties:

PROPERTY	CORE CONSTRUCTION ONLY				TYPICAL COMPOSITE SKIN	
	Composite Balsa Composite	Oak	CorePlate2.5K Core	CorePlate 8K Core	CorePlate 2.5K	CorePlate 8K
Weight (lb/ft^2 @ 2.25 thick)	3.0	8.4	0.80	1.4	2.9	3.5
Compressive Strength (psi)	3,000	8,000	Up to 650	Up to 2,200	2,500	8,000
R value*	2.5	1.91	4.8-6.5	4.8-6.5	4.8-6.5	4.8-6.5

*apparent Thermal Resistance per ASTM C177 (aged 6 months @ 73 ± 4°F) (°F·ft^2·hr)/BTU

Contact Dyplast for more information; and View Other *Qwik Guides* on our website:

[1] CorePlate is a trademark of BelleFlex LLC

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