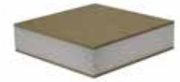
THINK LIGHTWEIGHT

LIGHTWEIGHT PANEL TECHNOLOGY SOLUTIONS

Available Products

FOAM LIGHT

Foam core faced with 1/8 HDF. PAGES 6 - 7

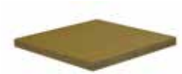


3/8" COMB LIGHT

3/8 cell honeycomb core faced with 1/8 HDF. PAGES 8 - 9

LIGHT TACK

Natural fiberboard faced with a specialty engineered wood fiber surface material. PAGES 10 - 11



1/8" COMB LIGHT

1/8 cell structural core faced with 1/8 HDF. PAGES 12 - 13

1/8" LUXA LIGHT

1/8 cell structural core with a specialty engineered wood fiber surface material. PAGES 14 - 15

STRUCTA LIGHT

Extruded particle board core faced with 1/8 HDF PAGES 16 - 17

Hollowcore just makes sense.
What is more green than air?

We all know reclaiming material destined for a landfill site is a good idea. The more energy and raw materials we use, the more harm we do to our environment.

It stands to reason, if a product can be made lighter, why wouldn't we? Simply put, energy conservation in a myriad of ways can be achieved by reducing the mass of a given product.

Lighter and easier to handle than solid core products.
Weight: Strength ratio is optimized and tested.
Re-uses material destined for landfill sites.
Less Energy to produce. Less Fuel to transport. Less waste.
Better for our Environment, better for you!

Simply put, energy conservation in a myriad of ways can be achieved by reducing the mass of a given product.

Statistics show that the number of sawmills in North America has declined by approximately 30% in the last few years. This means that the residues available for the particleboard industry have declined along with it. This shortage has increased the competition for those resources significantly.

Hollowcore products are the answer to this problem.

Hollowcore products consume far less material to achieve high strength to weight ratios and re-use product that may otherwise be scrapped. Consumers are looking for light weight replacements for what would have been previously purchased as solid wood products. With being easier to work with and showing a concern for our environment, it is obviously the right way to go.

FOAM LIGHT

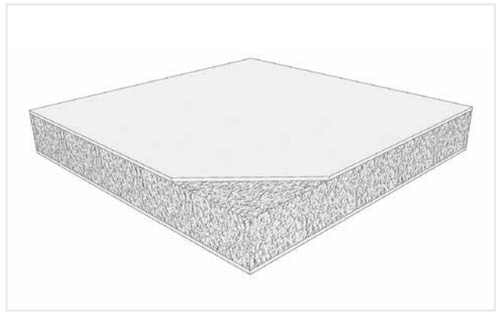
Foam core faced with 1/8 HDF.

ADVANTAGES

- Up to 85% reduced weight compared to plywood, particleboard and MDF
- Easily apply face materials (veneer, laminate, and coatings)
- Finish with a variety of edge options
- Rigid face material supports selected methods of attachment
- Optional skin thicknesses are available

SIZES AVAILABLE

- 3/4”x49x97
- 1”x49x97
- 1-1/4”x49x97
- 1-1/2”x49x97
- 1-3/4”x49x97
- 2”x49x97
- 3/4”x49x121
- 1”x49x121
- 1-1/4”x49x121
- 1-1/2”x49x121
- 1-3/4”x49x121
- 2”x49x121



TECHNICAL DATA

	MATERIAL THICKNESS					
	3/4”	1”	1-1/4”	1-1/2”	1-3/4”	2”
SKIN THICKNESS	0.118”	0.118”	-	0.118”	0.118”	0.118”
CORE THICKNESS	0.514”	0.764”	-	1.264”	1.514”	1.764”
MAX SCREW WITHDRAWN FORCE, LBF	80	-	-	78	-	-
MAX SCREW TENSILE FORCE, LBF	125	-	-	175	-	-
MAX TENSILE STRENGTH, PSI	30	-	-	45	-	-
COMP, STRENGTH @5% STRAIN, PSI	26	-	-	28	-	-
MAX FLEXURE FORCE, LBF	110	-	-	125	-	-
MODULUS OF RUPTURE, PSI	1595	-	-	870	-	-
MODULUS OF ELASTICITY, PSI	145185	-	-	122124	-	-
WEIGHT PER PANEL, LB** (49 x 97)	40	41	-	43	44	45

PACKAGING QUANTITY PER SKID

	MATERIAL THICKNESS					
SHEET SIZE	3/4”	1”	1-1/4”	1-1/2”	1-3/4”	2”
49 X 97	64	48	38	32	27	24

* Testing conducted with Varianta Screw HC 013.30.900

** Actual measured weight may vary due to temperature and humidity.
Weight provided is for comparative analysis only

3/8” COMB LIGHT

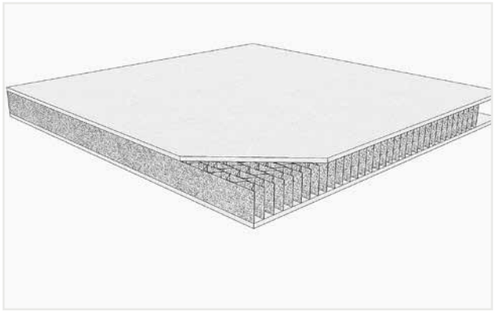
3/8 cell honeycomb core faced with 1/8 HDF.

ADVANTAGES

- This material has been proved to be a great design solution for many applications where strong, lightweight and thick panels are required
- Easily apply face materials (veneer, laminate, and coatings)
- Finish with a variety of edge options
- Rigid face material supports selected methods of attachment
- Optional skin thicknesses are available

SIZES AVAILABLE

- 3/4”x49x97
- 1”x49x97
- 1-1/4”x49x97
- 1-1/2”x49x97
- 1-3/4”x49x97
- 2”x49x97
- 3/4”x49x121
- 1”x49x121
- 1-1/4”x49x121
- 1-1/2”x49x121
- 1-3/4”x49x121
- 2”x49x121



TECHNICAL DATA

	MATERIAL THICKNESS					
	3/4”	1”	1-1/4”	1-1/2”	1-3/4”	2”
SKIN THICKNESS	0.118”	0.118”	-	0.118”	0.118”	0.118”
CORE THICKNESS	0.514”	0.764”	-	1.264”	1.514”	1.764”
MAX SCREW WITHDRAWN FORCE, LBF	70	-	-	64	-	-
MAX SCREW TENSILE FORCE, LBF	47	-	-	78	-	-
MAX TENSILE STRENGTH, PSI	11	-	-	19	-	-
COMP, STRENGTH @5% STRAIN, PSI	29	-	-	27	-	-
MAX FLEXURE FORCE, LBF	71	-	-	120	-	-
MODULUS OF RUPTURE, PSI	1886	-	-	870	-	-
MODULUS OF ELASTICITY, PSI	214079		-	155483	-	-
WEIGHT PER PANEL, LB** (49 x 97)	43	44	-	47	49	51

PACKAGING QUANTITY PER SKID

	MATERIAL THICKNESS					
SHEET SIZE	3/4”	1”	1-1/4”	1-1/2”	1-3/4”	2”
49 X 97	64	48	38	32	27	24

* Testing conducted with Varianta Screw HC 013.30.900

** Actual measured weight may vary due to temperature and humidity.
Weight provided is for comparative analysis only

LIGHT TACK

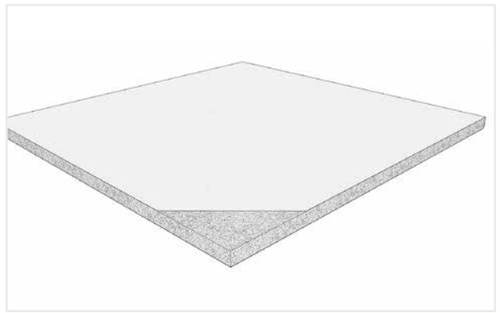
Natural fiberboard faced with a specialty engineered wood fiber surface material.

ADVANTAGES

- A cost effective tackable material made from 98% recycled materials that makes a high performance stable panel
- Its smooth and water resistant surface is excellent for laminating, paint finishes, and fabric wrapping

SIZES AVAILABLE

- 1/2”x48x96



TECHNICAL DATA

	MATERIAL THICKNESS				
	1/2”	-	-	-	-
SKIN THICKNESS	0.026”	-	-	-	-
CORE THICKNESS	0.438”	-	-	-	-
MAX SCREW WITHDRAWN FORCE, LBF	20	-	-	-	-
MAX SCREW TENSILE FORCE, LBF	28	-	-	-	-
MAX TENSILE STRENGTH, PSI	7	-	-	-	-
COMP, STRENGTH @5% STRAIN, PSI	22	-	-	-	-
MAX FLEXURE FORCE, LBF	44	-	-	-	-
MODULUS OF RUPTURE, PSI	1160	-	-	-	-
MODULUS OF ELASTICITY, PSI	173178	-	-	-	-
WEIGHT PER PANEL, LB** (48 x 96)	25	-	-	-	-

PACKAGING QUANTITY PER SKID

	MATERIAL THICKNESS				
SHEET SIZE	1/2”				
4 X 8	96				

* Testing conducted with Varianta Screw HC 013.30.900

** Actual measured weight may vary due to temperature and humidity.
Weight provided is for comparative analysis only

1/8” COMB LIGHT

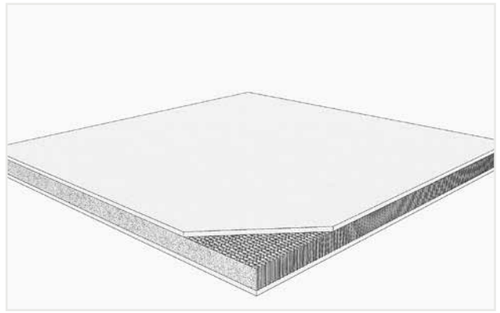
1/8 cell structural core faced with 1/8 HDF.

ADVANTAGES

- With this high density structural core, lightweight panels are taken to the next level
- Easily apply face materials (veneer, laminate, and coatings)
- Finish with a variety of edge options
- Rigid face material supports selected methods of attachment
- Optional skin thicknesses are available

SIZES AVAILABLE

- 3/4”x49x97
- 1”x49x97
- 1-1/4”x49x97
- 1-1/2”x49x97
- 1-3/4”x49x97
- 2”x49x97
- 3/4”x49x121
- 1”x49x121
- 1-1/4”x49x121
- 1-1/2”x49x121
- 1-3/4”x49x121
- 2”x49x121



TECHNICAL DATA

	MATERIAL THICKNESS					
	3/4”	1”	1-1/4”	1-1/2”	1-3/4”	2”
SKIN THICKNESS	0.118”	0.118”	-	0.118”	0.118”	0.118”
CORE THICKNESS	0.514”	0.764”	-	1.264”	1.514”	1.764”
MAX SCREW WITHDRAWN FORCE, LBF	78	87	-	81	-	-
MAX SCREW TENSILE FORCE, LBF	130	213	-	230	-	-
MAX TENSILE STRENGTH, PSI	32	52	-	56	-	-
COMP, STRENGTH @5% STRAIN, PSI	139	125	-	123	-	-
MAX FLEXURE FORCE, LBF	233	264	-	254	-	-
MODULUS OF RUPTURE, PSI	3481	2901	-	1886	-	-
MODULUS OF ELASTICITY, PSI	310821	248889	-	214079	-	-
WEIGHT PER PANEL, LB** (49 x 97)	51	56	-	68	73	79

PACKAGING QUANTITY PER SKID

	MATERIAL THICKNESS					
SHEET SIZE	3/4”	1”	1-1/4”	1-1/2”	1-3/4”	2”
49 X 97	64	48	38	32	27	24

* Testing conducted with Varianta Screw HC 013.30.900

** Actual measured weight may vary due to temperature and humidity.
Weight provided is for comparative analysis only

1/8” LUXA LIGHT

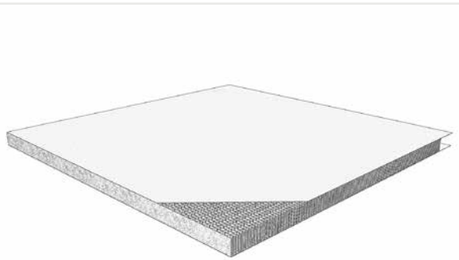
1/8 cell structural core with a specialty engineered wood fiber surface material.

ADVANTAGES

- This extremely lightweight material has very good rigidity and strength values
- Easily apply face materials (veneer, laminate, and coatings)
- Finish with a variety of edge options
- Rigid face material supports selected methods of attachment

SIZES AVAILABLE

- 1/2”x49x97
- 3/4”x49x97
- 1”x49x97
- 1-1/4”x49x97
- 1-1/2”x49x97
- 1/2”x49x121
- 3/4”x49x121
- 1”x49x121
- 1-1/4”x49x121
- 1-1/2”x49x121



TECHNICAL DATA

	MATERIAL THICKNESS				
	1/2”	3/4”	1”	1-1/4”	1-1/2”
SKIN THICKNESS	0.026”	0.026”	0.026”	0.026”	0.026”
CORE THICKNESS	0.448”	0.698”	0.948”	1.198”	1.448”
MAX SCREW WITHDRAWN FORCE, LBF	28	-	-	21	-
MAX SCREW TENSILE FORCE, LBF	259	-	-	277	-
MAX TENSILE STRENGTH, PSI	64	-	-	68	-
COMP, STRENGTH @5% STRAIN, PSI	138	-	-	123	-
MAX FLEXURE FORCE, LBF	94	-	-	117	-
MODULUS OF RUPTURE, PSI	1740	-	-	1015	-
MODULUS OF ELASTICITY, PSI	287759		-	167666	-
WEIGHT PER PANEL, LB** (49 x 97)	15	20	25	31	36

PACKAGING QUANTITY PER SKID

	MATERIAL THICKNESS				
SHEET SIZE	1/2”	3/4”	1”	1-1/4”	1-1/2”
49 X 97	96	64	48	38	32

* Testing conducted with Varianta Screw HC 013.30.900

** Actual measured weight may vary due to temperature and humidity.
Weight provided is for comparative analysis only

STRUCTA LIGHT

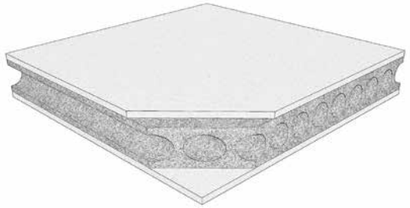
Extruded particle board core faced with 1/8 HDF.

ADVANTAGES

- This unique material has design principles that give a high strength to weight ratio with the advantages of great impact resistance and low thickness swelling
- Easily apply face materials (veneer, laminate, and coatings)
- Finish with a variety of edge options
- Rigid face material supports selected methods of attachment
- Optional skin thicknesses are available

SIZES AVAILABLE

- 1-3/8”x49x97
- 1-5/8”x49x97
- 1-3/4”x49x97
- 2”x49x97
- 2-1/4”x49x97



TECHNICAL DATA

	MATERIAL THICKNESS				
	1-3/8”	1-5/8”	1-3/4”	2”	2-1/4”
SKIN THICKNESS	0.118”	0.240”	0.118”	0.240”	0.375”
CORE THICKNESS	1.120”	1.120”	1.500”	1.500”	1.500”
MAX SCREW WITHDRAWN FORCE, LBF	137	-	138	-	-
MAX SCREW TENSILE FORCE, LBF	138	-	379	-	-
MAX TENSILE STRENGTH, PSI	49	-	97	-	-
COMP, STRENGTH @5% STRAIN, PSI	236	-	324	-	-
MAX FLEXURE FORCE, LBF	218	-	270	-	-
MODULUS OF RUPTURE, PSI	1740	-	1740	-	-
MODULUS OF ELASTICITY, PSI	193483		19143		
WEIGHT PER PANEL, LB** (47 x 97)	116	138	125	147	181

PACKAGING QUANTITY PER SKID

	MATERIAL THICKNESS				
SHEET SIZE	1-3/8”	1-5/8”	1-3/4”	2”	2-1/4”
49 X 97	34	30	27	24	20

* Testing conducted with Varianta Screw HC 013.30.900

** Actual measured weight may vary due to temperature and humidity.
Weight provided is for comparative analysis only

COMPARATIVE WEIGHT ANALYSIS

MATERIAL:			**FOAM** LIGHT	**3/8" COMB** LIGHT	**LIGHT** TACK	**1/8" COMB** LIGHT	**1/8" LUXA** LIGHT	**STRUCTA** LIGHT
3/4" PARTICLE BD	WEIGHT:	91 LBS	40.6 lbs	43.1 lbs	N/A	50.8 lbs	19.4 lbs	N/A
3/4" MDF	WEIGHT:	92 LBS	40.6 lbs	43.1 lbs	N/A	50.8 lbs	19.4 lbs	N/A
1" PARTICLE BD	WEIGHT:	120 LBS	41.3 lbs	44 lbs	N/A	56.3 lbs	24.9 lbs	N/A
1" MDF	WEIGHT:	120 LBS	41.3 lbs	44 lbs	N/A	56.3 lbs	24.9 lbs	N/A
1 1/8" PARTICLE BD	WEIGHT:	136.5 LBS	N/A	N/A	N/A	N/A	N/A	116 LBS (1-3/8")
1 1/4" MDF	WEIGHT:	150 LBS	N/A	N/A	N/A	N/A	N/A	116 LBS (1-3/8")
1 1/2" PARTICLE BD	WEIGHT:	174 LBS	42.5 lbs	47.1 lbs	N/A	67.7 lbs	36.3 lbs	125 LBS (1-3/4")
1 1/2" MDF	WEIGHT:	180 LBS	42.5 lbs	47.1 lbs	N/A	67.7 lbs	36.3 lbs	125 LBS (1-3/4")

NOTES: 4X8 SHT COMPARISONS : actual measured weight may vary due to temperature and huumidity. Weight provided is for comparative analysis only.

In the early days of Hollowcore production...

...failure due to shear and compressive loads indicated that more research needed to be done. Since that point we have learned a great deal in how to achieve a better product, able to withstand far more load.

Understanding factors such as the orientation and choice of the core material in relation to the external layers has helped us produce what the market requires.

Testing has confirmed...

The honeycomb shape has long been recognized as one of the strongest structural shapes. It is common for us to look towards nature for form and efficiency.

We have always known the benefits of reducing weight and working hard to utilize this concept. Think of your parent's car in comparison to what we currently drive today. Vehicles now contain more composites and less metal, and therefore weigh less and have far greater fuel efficiency.
With each new design, cars have become more efficient, lighter and safer.

With modernized fabrication methods, it is now possible to realize both cost and weight savings needed, without sacrificing strength.

We are now in a position to leverage this knowledge.

The basic idea of the Hollowcore panel is very different than dealing with monolithic materials such as solid wood or even MDF. The principle idea of a monolithic material is; the thicker the product, the stronger it is. However, this comes at the cost of weight and the material to make up that thickness. With Hollowcore technology, combinations of materials are selected based on their own individual mechanical properties to achieve a lighter product, while managing thickness and strength simultaneously. The central core layer can be made of a lighter weight, less expensive material. In most cases it no longer carries the inplane stresses like that of a monolithic material. The central core gives bi-directional cross-member behaviors in the transverse direction to the stress and moment resultants. This is where the weight and cost savings advantage comes from. This is not unlike the concept of truss engineering in bridges and roofs or even the skeletal features of light weight powerful animals.

The lateral and diagonal cross-members cause stress and loads to be shared and transferred in ways the monolithic counter-part cannot.

This project required three inch by ten inch beams up to twenty-seven feet long. This was achieved using lightweight technology, solving the issue of support structure and saving the client thousands of dollars. The result is spectacular.

TELUS WORLD OF SCIENCE – EDMONTON

The Edmonton Space & Science Foundation, a non-profit organization was looking for a cost effective wall system for their latest Sherlock Holmes exhibit. They were pleasantly surprised with our lightweight wall solution.

Thinklightweight was able to meet their design needs and scheduled time frame all within their target budget!

PIZZA HUT

This popular pizza restaurant recently updated their signature locations to reflect a more upbeat industrial look. The design team was looking for cost reduction and opted for the open ceiling look. In some of the newer locations there were very few features and the idea of steel I-beams was created. Using actual steel I-beams would have this involved enormous material and installation cost. Working along with the designers we were able to provide a hollowcore solution that looked exactly like the real thing and suspended with steel wires.

HARDWARE APPLICATION

LEGEND

EXCELLENT FIT
GOOD FIT
NOT RECOMMENDED

	WOOD SCREW	EURO SCREW	HOLLOWCORE SCREW	BRAD NAIL	DOWELING	HARDWARE DOWEL	THROUGH BOLT	HOTMELT	CONSTRUCTION HOLES	CARPENTERS GLUE
FOAM LIGHT	WOOD SCREW	EURO SCREW	HOLLOWCORE SCREW	BRAD NAIL	DOWELING	HARDWARE DOWEL	THROUGH BOLT	HOTMELT	CONSTRUCTION HOLES	CARPENTERS GLUE
3/8" COMB LIGHT	WOOD SCREW	EURO SCREW	HOLLOWCORE SCREW	BRAD NAIL	DOWELING	HARDWARE DOWEL	THROUGH BOLT	HOTMELT	CONSTRUCTION HOLES	CARPENTERS GLUE
LIGHT TACK	WOOD SCREW	EURO SCREW	HOLLOWCORE SCREW	BRAD NAIL	DOWELING	HARDWARE DOWEL	THROUGH BOLT	HOTMELT	CONSTRUCTION HOLES	CARPENTERS GLUE
1/8" COMB LIGHT	WOOD SCREW	EURO SCREW	HOLLOWCORE SCREW	BRAD NAIL	DOWELING	HARDWARE DOWEL	THROUGH BOLT	HOTMELT	CONSTRUCTION HOLES	CARPENTERS GLUE
1/8" LUXA LIGHT	WOOD SCREW	EURO SCREW	HOLLOWCORE SCREW	BRAD NAIL	DOWELING	HARDWARE DOWEL	THROUGH BOLT	HOTMELT	CONSTRUCTION HOLES	CARPENTERS GLUE
STRUCTA LIGHT	WOOD SCREW	EURO SCREW	HOLLOWCORE SCREW	BRAD NAIL	DOWELING	HARDWARE DOWEL	THROUGH BOLT	HOTMELT	CONSTRUCTION HOLES	CARPENTERS GLUE

DISCLAIMER: THE CHARTS ARE GUIDES WHICH GIVE AN OUTLINE OF ASSEMBLY AND APPLICATION SITUATIONS. AS THERE IS A VARIETY OF CIRCUMSTANCES BEYOND OUR CONTROL WE CANNOT BE HELD RESPONSIBLE FOR ANY LIABILITY OR COSTS RESULTING FROM USE OF THIS TABLE. IF REQUIRED, PLEASE CONTACT THE SALES DESK FOR SPECIFIC RECOMMENDATIONS FOR YOUR APPLICATION.

PROCESS APPLICATION

LEGEND

EXCELLENT FIT
GOOD FIT
NOT RECOMMENDED

	LAMINATING-WHITE GLUE	LAMINATING-CONTACT CEMENT	COLD PRESSING	VENEER PRESSING	TABLE SAW	BEAM SAW	CNC ROUTING	CNC DRILLING	STRAIGHT EDGE BANDING	CONTOUR EDGE BANDING	HAND EDGING	V-GROOVING
FOAM LIGHT												
3/8" COMB LIGHT												
LIGHT TACK												
1/8" COMB LIGHT												
1/8" LUXA LIGHT												
STRUCTA LIGHT												

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PRODUCT APPLICATION

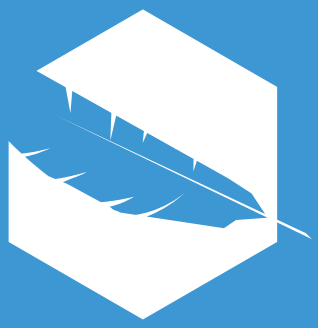
LEGEND

EXCELLENT FIT
GOOD FIT
NOT RECOMMENDED

	DOORS	WORK SURFACE	FURNITURE	STORE FIXTURE	SHELVING	ARCHITECTURAL PANELS	DISPLAY	SIGNAGE	SUSPENDED PANELS	WHITEBOARDS	TACKBOARDS	TRANSPORTATION APPLICATIONS
FOAM LIGHT	DOORS	WORK SURFACE	FURNITURE	STORE FIXTURE	SHELVING	ARCHITECTURAL PANELS	DISPLAY	SIGNAGE	SUSPENDED PANELS	WHITEBOARDS	TACKBOARDS	TRANSPORTATION APPLICATIONS
3/8" COMB LIGHT	DOORS	WORK SURFACE	FURNITURE	STORE FIXTURE	SHELVING	ARCHITECTURAL PANELS	DISPLAY	SIGNAGE	SUSPENDED PANELS	WHITEBOARDS	TACKBOARDS	TRANSPORTATION APPLICATIONS
LIGHT TACK	DOORS	WORK SURFACE	FURNITURE	STORE FIXTURE	SHELVING	ARCHITECTURAL PANELS	DISPLAY	SIGNAGE	SUSPENDED PANELS	WHITEBOARDS	TACKBOARDS	TRANSPORTATION APPLICATIONS
1/8" COMB LIGHT	DOORS	WORK SURFACE	FURNITURE	STORE FIXTURE	SHELVING	ARCHITECTURAL PANELS	DISPLAY	SIGNAGE	SUSPENDED PANELS	WHITEBOARDS	TACKBOARDS	TRANSPORTATION APPLICATIONS
1/8" LUXA LIGHT	DOORS	WORK SURFACE	FURNITURE	STORE FIXTURE	SHELVING	ARCHITECTURAL PANELS	DISPLAY	SIGNAGE	SUSPENDED PANELS	WHITEBOARDS	TACKBOARDS	TRANSPORTATION APPLICATIONS
STRUCTA LIGHT	DOORS	WORK SURFACE	FURNITURE	STORE FIXTURE	SHELVING	ARCHITECTURAL PANELS	DISPLAY	SIGNAGE	SUSPENDED PANELS	WHITEBOARDS	TACKBOARDS	TRANSPORTATION APPLICATIONS

DISCLAIMER: THE CHARTS ARE GUIDES WHICH GIVE AN OUTLINE OF ASSEMBLY AND APPLICATION SITUATIONS. AS THERE IS A VARIETY OF CIRCUMSTANCES BEYOND OUR CONTROL WE CANNOT BE HELD RESPONSIBLE FOR ANY LIABILITY OR COSTS RESULTING FROM USE OF THIS TABLE. IF REQUIRED, PLEASE CONTACT THE SALES DESK FOR SPECIFIC RECOMMENDATIONS FOR YOUR APPLICATION.

A corporate jet provider's requirement for an attractive and transportable tradeshow booth, was achieved using hollowcore laminate panels. These interlockable sections were designed and engineered to form private offices complete with doors.



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