WEYERHAEUSER

LUMIN

Weyerhaeuser | South America

LUMIN™ plywood products offer excellent performance, aesthetics and environmental benefits in a sustainably produced lineup.

Weyerhaeuser Company, one of the world's largest forest products companies, was incorporated in 1900. In 2008, sales were $8 billion. It has offices or operations in 13 countries, with customers worldwide. Weyerhaeuser is principally engaged in the growing and harvesting of timber; the manufacture, distribution and sale of forest products; and real estate development, construction and related activities. Our vision is to release the potential in trees to solve important problems for people and the planet. We invite you to enjoy our company's rich history of environmental stewardship, customer commitment and community involvement. Additional information about Weyerhaeuser's businesses, products and practices is available at weyerhaeuser.com.

WEYERHAEUSER LATIN AMERICA

Weyerhaeuser established its presence in Uruguay through a series of joint-venture relationships and began planting trees there in 1996. Ten years later, outside the small town of Tacuarembó in the North Central region of Uruguay, our Lumin plywood mill, Weyerhaeuser Productos S.A., started operating amid a diverse landscape of forest, agriculture and grazing lands. Weyerhaeuser's total land base in Uruguay as of the first quarter of 2008 is 140,000 hectares planted with pine, eucalyptus and poplar.

Depending on its suitability, nonforested land is destined to other uses such as cattle and sheep grazing, agriculture for biofuels, and apiculture, or it is left in its natural state as environmental reserve tracts.

Harvesting operations began in 2005 with the first commercial thinning operations on company land. Our plywood plant, Weyerhaeuser Productos S.A. in Tacuarembó (400 kilometers north of Montevideo), is exporting product to Europe, Latin America and the United States.

The Weyerhaeuser plywood and veneer mill began operating in Tacuarembó in June 2006. In 2007, the company announced the continuation of its industrial growth with new industrial investments in Tacuarembó that will be complemented by expansion of its plantation acquisitions. Both investments will include renewable energy facilities operating using mill residuals and biomass fuel sources. Further analysis is being conducted for manufacturing investments that will include plants for biofuels, engineered wood products and lumber. Because of the positive economic impact these investments will have on rural Uruguay, our projects were named "Projects of National Interest" in 1999 and 2004.

Sustainable Forestry

Through sustainable forest management, Weyerhaeuser provides products that meet a wide range of human needs while preserving a healthy environment. As one of the world's largest owners and managers of softwood forests and a major purchaser of fiber and products derived from wood, we have both a responsibility and an economic interest in the long-term viability of forest resources.

We agree with a vision emerging among governments and nongovernmental organizations that the best way to sustain forest resources globally is through a balance of three approaches:

- Protect one category of forests for biological diversity, recreation, and other social and environmental values.
- Manage another category intensively to produce as much wood and fiber as possible while protecting the environment.
- Manage a third category less intensively to maintain more natural qualities, both to meet global needs for wood and to sustain local communities.

All three categories are represented among the land in our care. We manage this land in compliance with internationally recognized standards of sustainable forestry, and independent auditors regularly inspect our management and certify our compliance. What's more, we do not operate in native tropical forests, and we do not purchase wood products from forests at risk.

Our forestry operations in Uruguay take place on plantations, and our mills in Uruguay use wood fiber only from our own plantations or other plantations nearby. Our procurement policy precludes the purchase of wood products from forests at risk, which are defined in our procurement guidelines.

Forest Certification

Weyerhaeuser supports third-party certification of forestry practices. Our approach relies on two types of standards: one for environmental management systems, the other for specific practices associated with growing and harvesting trees. For the first, we use the internationally accepted standard for environmental management systems known as ISO 14001. For the second, we rely on national standards: the Sustainable Forestry Initiative (SFI) standard in the United States, and the developing Uruguayan Institute of Technical Standards (UNIT) forest management standard and the FSC standard in Uruguay. Like the SFI standard in North America, the UNIT standard is designed to be endorsed by the Programme for the Endorsement of Forest Certification (PEFC)*, a European-based international organization that endorses credible sustainable forestry programs. The Weyerhaeuser forestlands in Uruguay are the model for this developing national standard and are third-party-audited. We invested in this approach to certification to ensure a reliable supply of products from responsible sources and to protect the company's preferred position with key customers.

Weyerhaeuser supports mutual recognition among credible certification standards to help facilitate the expansion of certification systems worldwide. The Weyerhaeuser Productos S.A. mill and South America Sales & Marketing group both have FSC Chain of Custody and controlled wood certification.

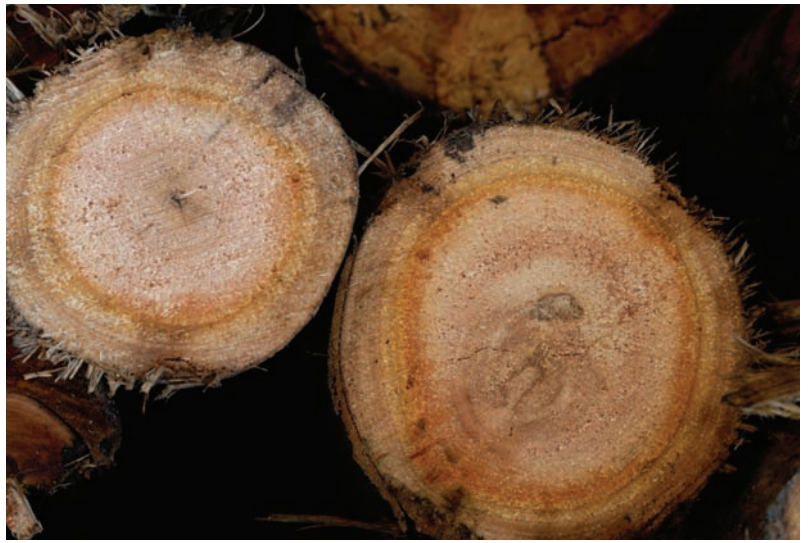
*PEFC is the largest forest certification system and has more than 200 million hectares of certified forests worldwide. www.pefc.org

FSC

The mark of responsible forestry

QMI-COC-001043

Weyerhaeuser Productos S.A.



Located outside the country town of Tacuarembó in the North Central region of the country, our plywood mill sits amid a diverse landscape of forest, agriculture and grazing lands. The mill processes 225,000 tons of wood fiber per year and utilizes virtually every portion of the log, converting it not only to plywood and byproducts but using residuals as bioenergy for heating the on-site boilers for the conditioning and drying processes. The mill also operates with ISO 14001 certification and an FSC Chain of Custody (SGS-COC-004292).

LUMIN™ PLYWOOD—A SUSTAINABLE ALTERNATIVE

Aesthetics—Available with pine or eucalyptus faces, Lumin plywood panels have proprietary grade faces developed from TECO and IHPA definitions.

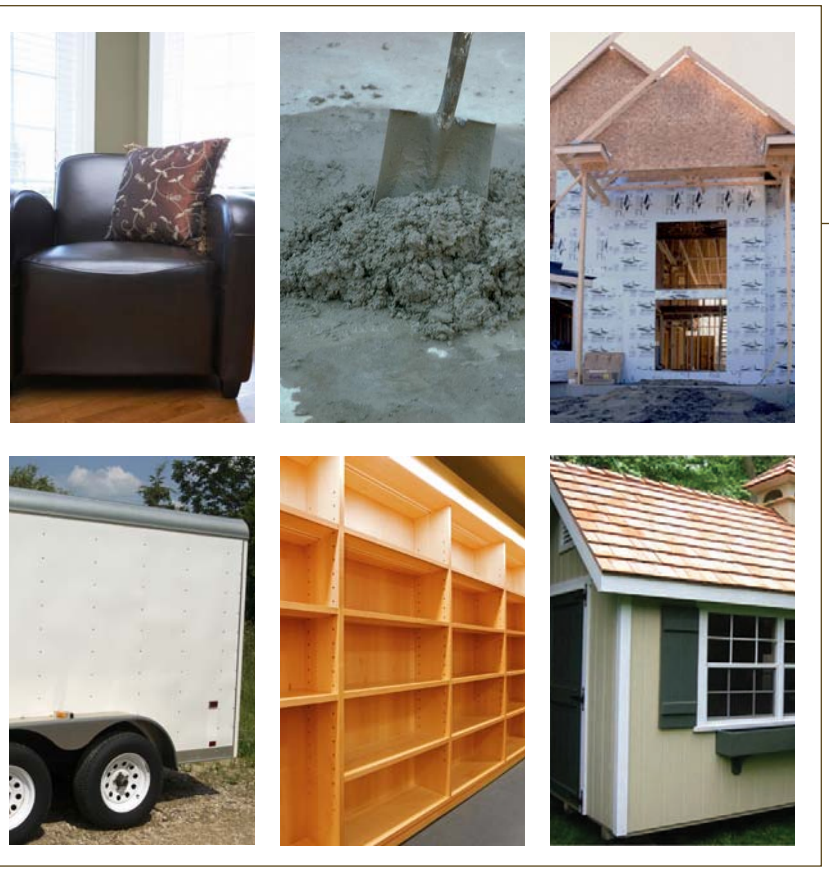
Environmental Features—Highly productive forestlands meet supply demands while utilizing less land and retaining more carbon than previous uses.

Available and Sustainable—At Weyerhaeuser, we define sustainability as being able to supply our customers indefinitely. In 2008, Weyerhaeuser planted more than 6 million seedlings in Uruguay and continues to plant more than we use.

Value—Lumin plywood is not only designed and certified to meet the demands of modern wood industries but is competitively priced in the market.

Performance—Lightweight, flat and strong define the characteristics of Lumin plywood. A modern mill and high-quality materials add up to high-performance panels.

LUMIN Plywood Applications



Lumin plywood is offered in 14 grades and two species, making it the perfect choice for a near limitless number of applications.

- Transportation
- Packaging
- Special containers
- Sheathing
- Billboards
- Industrial
- Construction
- Riser/stair treads
- Displays/exhibits
- Cabinetry/shelving
- Truck and trailer floors
- Box van and trailer bodies
- Factory and warehouse floors
- Underlayment
- Doors and door surfaces
- Furniture/millwork
- Toys

LUMIN PLYWOOD PRODUCT LINE

Lumin plywood meets international local quality and environmental requirements. Lumin plywood is available with PS 1-07 and CE 2+ certification for construction use in the United States and Europe and meets Europe's E1 emissions and is CARB (California Air Resources Board) exempt with a PS 1-07 or CE2+ structural stamp. Units of plywood are packaged using a bandless cross-wrap system of recyclable plastic wrap for safety, convenience and protection. The wrap is also photodegradable and will disappear if left in the sun for a month—it does not offer UV protection.

Eucalyptus Face Panels

BEST FACE APPEARANCE | MINIMUM FACE APPEARANCE | BACK

TRp

12 mm (15/32"), 15 mm (19/32"), 18 mm (23/32")

Face—120 grit sanded, fully repaired with no patches, allowing for up to two repaired splits not more than 15 mm wide by 600 mm long*

Back—100 grit sanded, allowing unlimited wood and synthetic patching



TR

12 mm (15/32"), 15 mm (19/32"), 18 mm (23/32")

Face—120 grit sanded, fully repaired with no patches, allowing for up to two repaired splits not more than 15 mm wide by 600 mm long*

Back—50 grit sanded, allowing limited open defects and knotholes up to 38 mm (1.5")



*Splits are defects that occur at the end of the panel running parallel to the grain and vary in acceptable width and length by grade.

Eucalyptus Face Panels

BEST FACE APPEARANCE | MINIMUM FACE APPEARANCE | BACK

OVERLAYp

12 mm (15/32"), 15 mm (19/32"), 18 mm (23/32")

Face—120 grit sanded with up to 12 wood patches, minimal synthetic patching, and up to four repaired splits not more than 15 mm wide by 600 mm long*

Back—100 grit sanded, allowing unlimited wood and synthetic patching



OVERLAY

12mm (15/32"), 15mm (19/32"), 18mm (23/32")

Face—120 grit sanded with up to 12 wood patches, minimal synthetic patching, and up to four repaired splits not more than 15 mm wide by 600 mm long*

Back—50 grit sanded, allowing limited open defects and knotholes up to 38 mm (1.5")



*Splits are defects that occur at the end of the panel running parallel to the grain and vary in acceptable width and length by grade.

Eucalyptus Face Panels

BEST FACE APPEARANCE | MINIMUM FACE APPEARANCE | BACK

CCX PTS

12 mm (15/32"), 15 mm (19/32"), 18 mm (23/32")

Face—100 grit sanded, allowing unlimited wood and synthetic patching and an unlimited number of repaired splits*

Back—50 grit sanded, allowing unlimited open defects and knotholes up to 38 mm (1.5") and open splits up to 25 mm wide of unlimited length*



CDX

12 mm (15/32"), 15 mm (19/32"), 18 mm (23/32")

Face—Unsanded with open defects and knotholes up to 38 mm (1.5") and open splits

Back—Unsanded with open defects and knotholes up to 75 mm (3") and open splits



* Splits are defects that occur at the end of the panel running parallel to the grain and vary in acceptable width and length by grade.

Eucalyptus Face Panels

FURN-I-FRAME®

12 mm (15/32"), 15 mm (19/32"), 18 mm (23/32"), 22 mm (7/8")

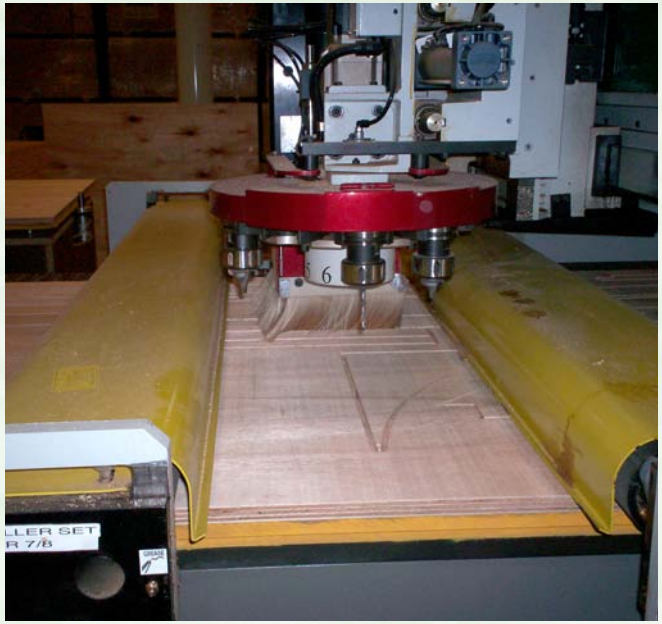
Face—Uncomposed faces are unsanded with open defects and knotholes up to 38 mm (1.5") and open splits up to 9 mm wide and 300 mm long. The face grade also requires scattered knots defined such that within a critical (weakest) section, there can be no more than 200 mm of solid knots and 150 mm of open knots.

Back—Uncomposed faces are unsanded with open defects and knotholes up to 38 mm (1.5") and open splits up to 9 mm wide and 300 mm long. The face grade also requires scattered knots defined such that within a critical (weakest) section, there can be no more than 200 mm of solid knots and 150 mm of open knots.

BEST FACE APPEARANCE

MINIMUM FACE APPEARANCE

BACK



Pine Face Panels

BC

12 mm (15/32"), 18 mm (23/32"), 15 mm (19/32")

Face—B grade 120 grit sanded with up to 12 wood patches and minimal synthetic patching

Back—C grade 50 grit sanded allowing open defects and knotholes, up to 38 mm (1.5")

CCX PTS

12 mm (15/32"), 18 mm (23/32"), 15 mm (19/32")

Face—C grade 100 grit sanded, allowing unlimited wood and synthetic patching

Back—C grade 50 grit sanded, allowing unlimited open defects and knotholes up to 38 mm (1.5")

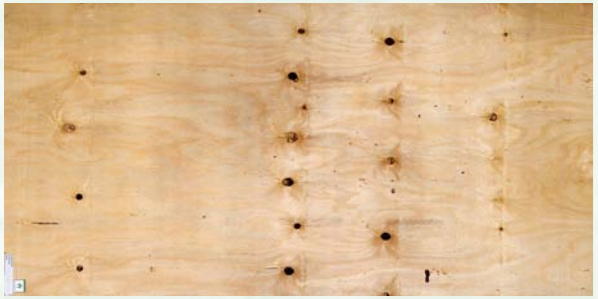
CDX

12 mm (15/32"), 18 mm (23/32"), 15 mm (19/32")

Face—C grade unsanded with open defects and knotholes up to 38mm (1.5")

Back—D grade unsanded with open defects and knotholes up to 75mm (3")

FRONT



BACK

Mean Test Values—Imperial Units

	Unit	TRp/TR/OverlayP/Overlay/CCX-PTS		CDX				Furn-I-Frame			
Composition		All—Eucalyptus		All—Eucalyptus		Pine/Eucalyptus		All—Eucalyptus		Pine/Eucalyptus	
Thickness		15 mm	18 mm	15 mm	18 mm	15 mm	18 mm	18 mm	22 mm	18 mm	22 mm
References		TECO 09-P-0025	TECO 08-P-0126 Weyco WSE09-004	TECO 09-P-0026	TECO 08-P-0127 Weyco WSE09-004	TECO 09-C-0027	TECO 06-P-0180 Weyco 09-004	Weyco WSE07-060	TECO 08-C-0162 Weyco wse07-060	Weyco WSE07-060	Weyco WSE07-060
Span Rating	in/in			40/20[3]	48/24[3]	40/20[3]	48/24[3]				
Group Rating		Group 1[3]	Preliminary Group 1[3]			Group 1[3]			Group 1[3]		
Average Weight	lbs	51.8[3]	59.4[3]	51.3[3]	61.0[3]	54.3[3]	64.4[3]		75.0[3]		
Density (6% MC)	lbs/cuft	32.8[3]	31.5[3]	31.4[3]	31.4[3]	33.5[3]	33.3[3]	32.8	32.4[3]	33.9	32.5
MOE_p—Parallel	psi	1,170,000[3]	1,240,000[3]	1,180,000[3]	1,270,000[3]	1,180,000[3]	1,200,000[3]	1,170,000	1,005,100[3]	972,000	762,000
MOE_p—Perpendicular	psi	454,000[3]	423,000[3]	376,000[3]	357,000[3]	391,000[3]	458,000[3]	360,100	436,000[3]	361,000	659,000
MOR_p—Parallel	psi	5,390[3]	4,630[3]	4,530[3]	4,640[3]	4,230[3]	4,520[3]	6,850	3,780[3]	6,250	4,320
MOR_p—Perpendicular	psi	3,700[3]	2,890[3]	2,440[3]	2,190[3]	3,710[3]	3,270[3]	3,980	2,580[3]	3,850	6,100
Maximum Shrinkage—Parallel	Percent		0.21		0.21		0.33	0.21	0.25	0.26	0.26
Maximum Shrinkage—Perpendicular	Percent		0.20		0.28		0.30	0.25	0.24	0.29	0.27
Screw Withdrawal[1]—Face	lbs		348		299		375	325	348	397	367
Screw Withdrawal[1]—End	lbs		289		247		291	256	283	350	300
Screw Withdrawal[1]—Edge	lbs		296		226		281	280	307	360	295
Staple Withdrawal[2]—Face	lbs		244		216		245	205	264	211	258
Staple Withdrawal[2]—End	lbs		253		223		279	253	289	252	243
Staple Withdrawal[2]—Edge	lbs		267		291		258	232	288	251	237

Mean Test Values—SI Units

	Unit	TRp/TR/OverlayP/Overlay/CCX-PTS		CDX				Furn-I-Frame			
Composition		All—Eucalyptus		All—Eucalyptus		Pine/Eucalyptus		All—Eucalyptus		Pine/Eucalyptus	
Thickness		15 mm	18 mm	15 mm	18 mm	15 mm	18 mm	18 mm	22 mm	18 mm	22 mm
Span Rating	in/in			40/20[3]	48/24[3]	40/20[3]	48/24[3]				
Group Rating		Group 1[3]	Preliminary Group 1[3]			Group 1[3]			Group 1[3]		
Average Weight	kg	23.5[3]	26.9[3]	23.3[3]	27.7[3]	24.6[3]	29.2[3]		34.0[3]		
Density (6% MC)	kg/m^3	525[3]	505[3]	503[3]	503[3]	537[3]	533[3]	525	519[3]	543	521
MOE_p—Parallel	N/mm^2	8,100[3]	8,580[3]	8,110[3]	8,730[3]	8,130[3]	8,260[3]	8,060	6,930[3]	6,700	5,260
MOE_p—Perpendicular	N/mm^2	3,130[3]	2,920[3]	2,590[3]	2,460[3]	2,700[3]	3,160[3]	2,480	3,010[3]	2,490	4,550
MOR_p—Parallel	N/mm^2	37.1[3]	32.0[3]	31.3[3]	32.0[3]	29.2[3]	31.2[3]	47.2	26.1[3]	43.1	29.8
MOR_p—Perpendicular	N/mm^2	25.5[3]	19.9[3]	16.8[3]	15.1[3]	25.6[3]	22.6[3]	27.4	17.8[3]	26.5	42.0
Maximum Shrinkage—Parallel	Percent		0.21		0.21		0.33	0.21	0.25	0.26	0.26
Maximum Shrinkage—Perpendicular	Percent		0.20		0.28		0.30	0.25	0.24	0.29	0.27
Screw Withdrawal[1]—Face	N		1550		1330		1670	1450	1550	1770	1630
Screw Withdrawal[1]—End	N		1290		1100		1290	1140	1260	1560	1330
Screw Withdrawal[1]—Edge	N		1320		1005		1250	1250	1370	1600	1310
Staple Withdrawal[2]—Face	N		1090		961		1090	912	1170	939	1150
Staple Withdrawal[2]—End	N		1130		992		1240	1130	1290	1120	1080
Staple Withdrawal[2]—Edge	N		1190		1290		1150	1030	1280	1120	1050

[1] Screw Withdrawal – #10 – 1" screw woodscrew, embedded 3/4", 7/64" pilot hole.
[2] Staple Withdrawal – 16 gauge, 7/16" crown, 1-1/2' long, embeded 1".
[3] Teco data (all other data is from Weyerhaeuser).
NOTE: Other data available on request: concentrated static load (CSL), CSL following impact, uniform load, MOE joist, MOR joist, planar shear (shear stress), bending stress, lap shear, internal bond.