



# **ARAUCOPLY**

**MORE THAN JUST A PRETTY FACE™** 





# Contents

| ARAUCO                           | 03 |
|----------------------------------|----|
| ARAUCO a Global Leader           | 04 |
| ARAUCO Around the World          | 05 |
| Sustainability                   | 06 |
| ARAUCOPLY                        |    |
| ARAUCO Panels Mills              | 08 |
| Product Range                    | 12 |
| ARAUCOPLY Panels                 | 12 |
| ARAUCOPLY Grooved Panels         | 14 |
| Fixings and Adhesives            | 16 |
| Storage and Handling             | 16 |
| Technical Information            | 17 |
| Fiber Species                    | 17 |
| Moisture Content                 | 17 |
| Adhesive                         | 17 |
| Dimensional Properties           | 17 |
| Structural Properties            | 18 |
| Gaps                             | 19 |
| Thermal Conductivity             | 19 |
| Fire Tests on Building Materials | 19 |
| Certifications                   | 20 |
| Product Identification           | 21 |
| Limitations                      | 22 |
|                                  |    |

For more information visit: www.araucoply.com

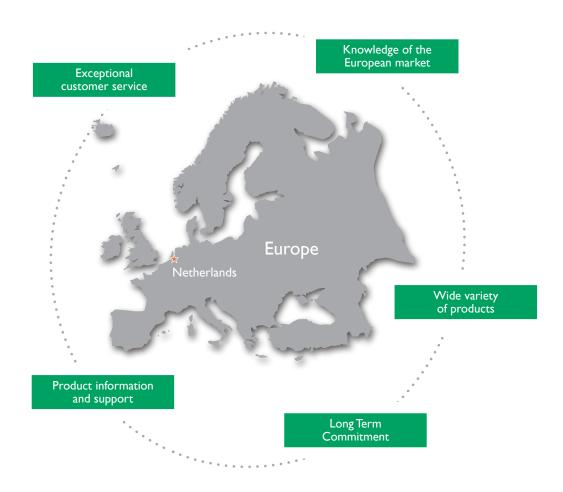


"Growing the future means being a global leader in the development of sustainable products"

ARAUCO is much more than just a forestry company.

ARAUCO is a comprehensive business that generates employment, produces quality goods and provides clean energy; while furthering the development of workers and communities; creating educational and cultural opportunity in impoverished communities; and promoting research, insight, innovation, and respect for our environment.

As it looks to the future, ARAUCO continues to demonstrate its day-by-day commitments: superior service to customers and stakeholders; workplace enhancement; positive contribution to the communities in which it operates; and environmentally responsible resource management.



# ARAUCO in Europe

In 1999 ARAUCO established a sales office based in the Netherlands to promote and sell ARAUCO's panel products throughout Europe.

This office demonstrates the company's long term commitment to our customers in Europe, allowing us to better understand their needs, enhance our service and offer the best available products in the market.



# A Global Leader

For more than 40 years, ARAUCO has been driven forward by its vision of being a global leader in sustainable forest products. During this time, we have evolved into one of the most respected forestry companies in the world, not only for the size and health of our plantation forests, the quality of our products and superior customer service, but for our technical innovation, environmental responsibility and social commitment as well.

ARAUCO's success is based on high quality production that satisfies our customers while balancing the company's needs with those of our employees, the environment, and the people who live near our facilities and plantations.

This is the starting point for the responsible and efficient management of our natural resources, the occupational health and safety of our workers and our active contribution to social development and welfare in the communities in which we operate.

# ARAUCO's Business Areas

# **Forestry**

ARAUCO sources its raw material from 1.0 million hectares (2.5 million acres) of proprietary forest lands located throughout Chile, Argentina, Brazil and Uruguay.

These forest holdings, together with our sustainable management policy implemented under strict international standards, and the application of research and innovation to make full use of our fiber resource, provide the foundation for ARAUCO's continued competitive strength in the marketplace.

Through Bioforest, ARAUCO's scientific and technological research center, we apply leading edge biotechnology to the development of new ways to increase the quality, productivity and performance of our plantations, we improve the production process of pulp and safeguard the rich biodiversity that exists within our forest holdings.

# Woodpulp

ARAUCO's wood pulp is manufactured exclusively with fiber from pine and eucalyptus forest plantations. ARAUCO's wood pulp business area annually produces 3.2 million ADt of bleached pulp, mainly used for printing and writing, and sanitary paper; unbleached pulp, used to make packaging material, fiber cement, and dielectric paper; and fluff pulp, used in the absorbent core of personal-care products

"Making full use of our fiber resource is the key to ARAUCO's continued competitive strength in the marketplace."

### Sawn Timber

ARAUCO's sawn timber business produces a wide variety of lumber and remanufactured wood products, with a total annual capacity of 2.8 million m³ of green lumber. These products have different finishes, appearances and value-added processes, meeting the needs of the furniture, packaging, paneling, construction and remodeling industries. This business area also produces wood mouldings (sold under the TRUCHOICE brand), edge glue boards and structural laminated beams, widely known for their consistent high quality.

US & Canada

# **Panels**

ARAUCO is well-known as one of the leading producers in the global panel market. Since the start-up of the first plywood mill in 1997, the company has been adding new capacity and product lines, reaching today a total annual production of 3.2 million m³. The Panel products offered by ARAUCO are: ARAUCOPLY Plywood, TRUPAN MDF, Particleboard; Melamine; CHOLGUAN high density hardboard and TRUCHOICE MDF Mouldings which are widely used in the furniture, packaging, mobile homes, boating and marine industries, and the construction and renovation markets.

# **Energy**

ARAUCO generates its own clean, renewable electric energy from forest biomass, reducing the company's greenhouse gas (GHG) emissions and its contribution to global warming. Our seven cogeneration power plants have an installed capacity of 569 MW of electric energy, enough to meet the needs of our own industrial processes and deliver 180 MW of surplus energy to Chile's Central Interconnected System.

This initiative allows for an estimated annual reduction of 350 thousand tons of CO2, equal to what would be produced by 60 thousand cars driving 20 thousand kilometers a year. By using bio-fuels, ARAUCO has become the first Chilean forestry company to issue Carbon Credits; one of its most important achievements throughout its 40 years of history.



# ARAUCO around the World

ARAUCO prides itself in its ability to stay ahead of changing market demands. By carefully analyzing market trends, the company is able to anticipate market needs and have the right mix of products available for its customers. Through its sales offices in Argentina, Australia, Brazil, Chile, China, Colombia, Netherlands, Japan, Mexico,

Peru, the United States, and sales agents in many other countries, ARAUCO delivers a superior level of customer service. This sales network, together with the company's state-of-the-art global logistics system has earned the company a reputation for consistent availability and timely delivery.



# Chile

721,000 hectares of Plantation Forests

- 5 Pulp mills
- 8 Saw mills
- 3 Panel mills
- 5 Remanufacturing facilities

# Argentina

127,000 hectares of Plantation Forests

- I Pulp mill
- I Saw mill
- 2 Panel mills
- I Remanufacturing facility

- Operational Centers Sales Agents

# Brazil

74.000 hectares of Plantation Forests 3 Panel mills

# **Uruguay**

68.000 hectares of Plantation Forests

# Annual Capacity

Wood Pulp 3.2 million ADt

Sawn Timber 2.8 million m<sup>3</sup>

**Panels** 3.2 million m<sup>3</sup>

Moulding 654 thousand m<sup>3</sup>



# Sustainability

# Environmental Responsibility

# **Sustainable Forest Management**

The plantation forests that provide wood for AraucoPly are certified as compliant with CERTFOR, Chile's strict national standard for sustainable forest management.

Developed by a non-profit, non-governmental organization, with expert technical assistance from the Chilean Forestry Institute, the CERTFOR standard is endorsed by the International Program for the Endorsement of Forest Certification Schemes (PEFC).

CERTFOR is your assurance that AraucoPly premium panels originate in plantations that are managed in an environmentally appropriate and socially responsible manner.

In 2009, ARAUCO decided to begin the Forest Stewardship Council (FSC) forest management certification process for its forest plantations in Chile. The FSC international certification process requires strict compliance with the highest forest management standards in existence today and reflects the level of corporate responsibility required by our customers. The company maintains a firm commitment to the FSC forest management certification process, following it responsibly and transparently.

# **Native Forest Protection**

ARAUCO owns 374,000 hectares (924,000 acres) of native forest that are permanently protected under strict international regulations and management standards.

These conservation set-asides include parcels that are exceptionally rich in biodiversity and have been designated as High Value Environmental Areas. In addition, ARAUCO has designated a significant portion of its forest holdings for restoration and conservation activities, environmental education programs, and scientific studies on flora, fauna, habitat and sensitive ecosystems.

# **Carbon Footprint & Carbon Sequestration**

ARAUCO made a corporate commitment to not remain indifferent towards global climate change and to add its own contribution to the efforts being made worldwide, by conducting a Carbon Footprint Assessment (CFA) project which was completed in July 2009 under the guidance of AECOM Environment and Fundación Chile. The CFA project measured the level of greenhouse gas emissions (GHG) resulting from our operations in Chile, Argentina, Uruguay and Brazil.

"Environmental responsibility, the occupational health and safety of our workers, and the social development and welfare of communities in which we operate are essential to our sustainable business model"

A pioneer venture among South American companies, ARAUCO's Carbon Footprint Assessment not only identified the company's direct and indirect GHG emissions, but also those resulting from the harvest and transportation of raw materials and finished products. The CFA also determined the amount of carbon sequestered in our forest holdings and finished products. The valuable and reliable information resulting from this study will allow ARAUCO to evaluate its progress in greenhouse gas reduction and identify opportunities for improvement.

ARAUCO's forests contribute to the mitigation of global warming by naturally absorbing carbon dioxide from the atmosphere. Young trees capture GHG at a faster rate than do mature trees, this makes the forest a part of the solution in fighting global climate change. In addition, products made from processed wood store carbon dioxide during their entire shelf life.

# **Clean Energy & Carbon Credits**

At ARAUCO we know that our forest plantations present a viable solution to environmental issues as well as energy issues. Our sustainably managed forests provide recyclable, reusable and biodegradable raw material. In addition, we make full use of our fiber resource, which allows us to generate clean, renewable energy from forest biomass, reducing the company's GHG emissions.

The ability to use forestry biomass as carbon neutral cogeneration fuel enabled ARAUCO to become in 2007 the first Chilean forestry company to issue Carbon Credits. Since then, ARAUCO has issued a total of 1.070.851 Certified Emission Reduction bonds (CERs).

ARAUCO has seven biomass - based cogeneration power plants and four of them are registered under the Clean Developmet Mechanism of the Kyoto Protocol.



# Occupational Health and Safety of Our Workers

ARAUCO's commitment to responsible operations includes the Occupational Health and Safety (OHS) of our employees and contract workers. OHS procedures for all of the company's business units are certified as compliant with the OHSAS 18001 standard. The company provides intensive training to strengthen risk-prevention management. In addition to its commitment to the safety of all of our workers, ARAUCO fosters conditions that support the career advancement of every employee by providing a workplace based on respect, honesty, professionalism, training and teamwork.

ARAUCO runs a highly successful Operational Excellence Management Program (OEMP) since 1993, to improve the personal growth, confidence and performance of our workers. The Operational Excellence program directly engages workers and provides a mechanism for continuous improvement in job performance. Based on a seven year track record of trial and success, the OEMP became the company's standard for human resources development.

# Social Development and Welfare of Communities

ARAUCO's operations directly benefit 35,000 workers and their families, as well as the workers of about 1,000 contracting companies in more than 100 communities throughout Chile, Argentina, Brazil and Uruguay. In addition to the indirect economic benefits delivered by its presence in these locations, ARAUCO also stimulates economic and social development through a variety of initiatives, embracing the responsibility of improving the quality of life in the communities in which it operates. ARAUCO invested US\$12 million during 2010 in Corporate Social Responsibility programs in all the countries where it has operations.

Most of the investments were made in Chile, where ARAUCO's priority in 2010 was to help people affected by the earthquake and tsunami of February 27. Investments in this country totaled US\$11 million.

# "ARAUCO creates the workplace conditions necessary to foster career advancement and human development"

Maintaining a firm belief that education is a key factor for national development and career advancement, ARAUCO has made its most sizable commitment to train teachers and give access to quality public education for children most at risk. In Chile, the company provides management and financial support for schools in Arauco, Constitución and Cholguán, three educational institutions known at national level for their excellent academic results. Also in Chile, the company established the Arauco Educational Foundation, which has been enhancing the teaching skills of 4,700 teachers and improving the quality of education for some 83,000 students since 1989.

The company also supports the Belén Educa Foundation in Chile; the Alto Paraná Foundation in Argentina; and Arauco Brazil Environmental Education Foundation in Brazil.

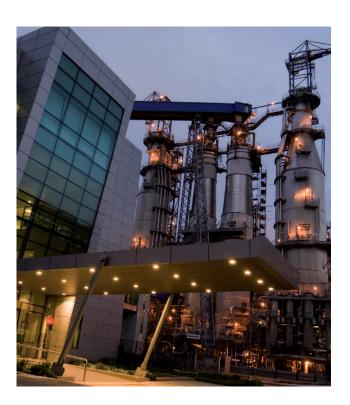




# **ARAUCO Panels Mills**

ARAUCO is a world leader in the manufacture and sale of wood-based panels, with an installed capacity of more than 3.6 million cubic meters at its eight facilities located in Chile, Argentina and Brazil.

ARAUCO is the leading producer of softwood plywood panels in Latin America, with a combined annual production capacity of 800,000 m<sup>3</sup>.



# Nueva Aldea Plywood Facility Nueva Aldea Industrial Forestry Complex / Chile Ránquil, Bío Bío Region.

Due to the fire that hit this facility in early January, it is currently in rebuilding process.

PSI-09; EN 13986:2004; AS-NZS 2269; DIN-68705 ISO 14001; OHSAS 18001; BFU100; P30; BBA

### Trupan Cholguan Facility / Chile Yungay, Bío Bío Region

60,000 m³ of CHOLGUAN (Hard Board) panels; about 40,000 m³ of DUROLAC panels and 210,000 m³ of MDF TRUCHOICE mouldings. TRUPAN MDF mill has an annual production capacity of 510,000 m³, divided into two production lines producing TRUPAN Ultralight, Light and Standar panels.

CARB certification ISO 14001; OHSAS 18001

# Arauco Plywood Facility Horcones Industrial Forestry Complex / Chile Arauco Province, Bío Bío Region

About 360,000  $\,\mathrm{m}^3$  of Radiata Pine marketed under the ARAUCOPLY brand. 80% of production is decorative grades.

PSI-09; EN 13986:2004; JAS; AS-NZS 2269; DIN-68705 ISO 14001; OHSAS 18001; BFU100; P30; BBA









# MDF Jaguaraiva Facility / Brazil Jaguaraiva, Paraná

About 310,000 m³, of which 100% is TRUPAN MDF Standard Density.

ISO 9001; ISO 14001; OHSAS 18001

# Curitiba Particleboard Facility / Brazil

Curitiba, Paraná

About 280,000 m³, of which 20% is melamine panels and the remaining 80% is sold as raw

particleboard.

ISO 9001

### Pîen Particleboard and MDF Facility / Brazil Piên, Paraná

About 250,000 m³ of particleboard panels, of which about 90% is raw particleboard and the remaining 10% are melamine panels.

Annual production capacity of 414,000 m³ of TRUPAN Standard, Light and Flooring panels, in two production large and home production. in two production lines, each one producing about 50% of the annual production capacity.

ISO 9001; ISO 14001; OHSAS 18001

# MDF Piray Facility / Argentina

# Misiones Province

300,000 m<sup>3</sup> of MDF panels, of which 85% is TRUPAN Standard and 15% is TRUPAN Light.

CARB certification ISO 14001; OHSAS 18001

# Zárate Particleboard Facility / Argentina

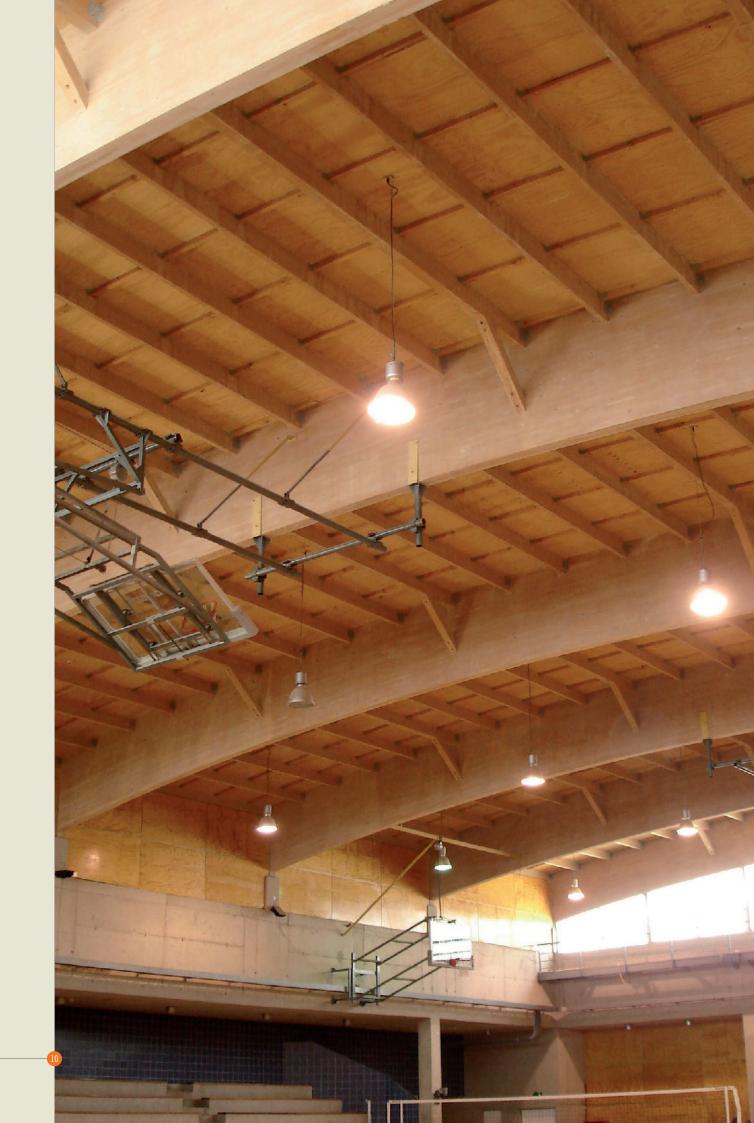
# Misiones Province

 $250,\!000\,\text{m}^3$  of Faplac particleboard panels. About 70% is sold as melamine panels and the remaining 30% is sold as raw particleboard.

CARB certification ISO 9001; ISO 14001; OHSAS 18001









ARAUCOPLY panels are manufactured using Radiata pine pruned logs sourced from ARAUCO's PEFC-certified, sustainably managed forest plantations. The use of pruned logs results in the production of high quality, smooth, knot-free wood veneers, which are alternately placed perpendicular to the direction of the fiber and bonded together with phenolic resin. This results in a versatile, highly resistant panel with excellent inner core construction, ideal for a wide variety of uses.

ARAUCOPLY panels are the best sustainable choice for furniture, packaging, structural,

concrete forming and decorative applications.



# Product Range

# **ARAUCOPLY Panels**

ARAUCOPLY® Panels have minimal face defects, making them ideal for decorative uses and high-end applications and are engineered for high performance applications where structural and dimensional consistency is required. ARAUCOPLY Panels are laid up on a composed core using exterior WBP PF resin and 100% plantation grown Radiata pine for consistent quality and performance.

Our face veneers are peeled from pruned logs sanded using a three-step process, resulting in a highly consistent product with a very narrow +/-0,4 mm thickness tolerance. The combination of these attributes makes ARAUCOPLY ideal for painting, staining and overlaying, among other applications.

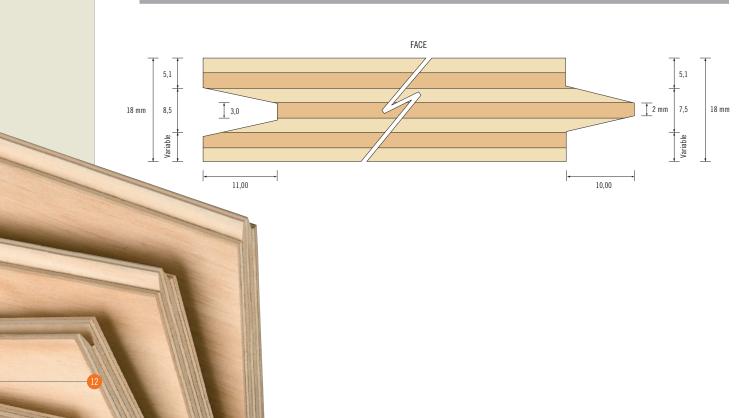
# **Applications:**

- General Construction.
- Structural for flooring, roofing and general industrial applications.
- · Non-structural for furniture and interior fittings.
- · Packaging.

| THICKNESSES AND FORMATS |                    |                                |  |  |
|-------------------------|--------------------|--------------------------------|--|--|
| Thickness<br>(mm)       | Length<br>(mm)     | Width<br>(mm)                  |  |  |
| 6.5                     |                    |                                |  |  |
| 9                       |                    |                                |  |  |
| 12                      |                    |                                |  |  |
| 15                      | 0400 0440 0500     | 610 - 898 - 1200 - 1220 - 1250 |  |  |
| 18                      | 2400 - 2440 - 2500 | 010 - 090 - 1200 - 1220 - 1230 |  |  |
| 21                      |                    |                                |  |  |
| 25                      |                    |                                |  |  |
| 30                      |                    |                                |  |  |

Note: T&G, square and ship lap edges are available.

# 18 mm T&G-M EDGE PROFILE DIAGRAM





# **Grades:**

| GRADES          |  |  |  |  |
|-----------------|--|--|--|--|
| <b>A</b> Grade  | High quality, solid product, finished with a 150-grit sand face. Synthetic repairs are accepted up to 6 with a maximum size of 10x100mm. Boat-type wood patches are accepted up to 6. Small, wood-based putty repairs are allowed.   |  |  |  |
| <b>B</b> Grade  | High quality solid veneer finished with a 150—grit sand. Cracks and splits filled with polyurethane are permitted up to 8, routed synthetic repairs are permitted with a maximum size of 10x100mm each.  Boat type wood patches and small, wood-based putty repairs are allowed. Occasional tight knots up to 25 mm wide are accepted. |  |  |  |
| <b>Cp</b> Grade | Solid veneer with a 150—grit face and a 120-grit back sand. Loose knots and knotholes up to 25 mm wide are accepted if filled with polyurethane. Synthetic repairs and boat —type wood patches are accepted. Tight knots up to 40 mm wide are permitted.   |  |  |  |
| <b>C</b> Grade  | Veneer finished with a 100–grit sand. Boat-type wood patches are accepted. Open defects are accepted up to 25 mm wide. Tight and loose knots up to 40 mm wide and holes up to 25 mm are permitted.   |  |  |  |
| <b>D</b> Grade  | Used as a back face, finished with a 100-grit sand. Cracks and splits are accepted up to 35mm wide, with a maximum of 3 when used as a back face. Wood-patches are accepted. Holes are permitted if they do not exceed 65mm in width.  |  |  |  |





# **ARAUCOPLY Grooved Panels**

ARAUCOPLY® Grooved Panels are the best choice for decorative applications. Our faces are peeled from pruned logs which yield a much higher percentage of high quality veneer, which are suitable for both interior and exterior applications such as soffits, porch ceilings and other DIY projects finished with paint or stain. Grooved Panels feature high quality solid faces and are available in a wide variety of thicknesses and profiles.

# **Product Features**

Ideal for staining or painting due to:

- Phenol WBP resin with E0 emission, what means emissions of less than 0,5 mg/L
- Less resinous face over 2mm thick,
- No synthetic repairs. Uniform light color.
- Phenolic Resin, ideal for interior or exterior applications (For better performance in exterior applications, apply a coating product to protect the board against the direct effect of moisture and climate conditions).
- Stable composed core with no defects on grooves

# **Grade:**

- A Natural Grade: High quality solid face finished with a 150–grit sand. Clear faces, no synthetic repairs or boat type patches. Small, wood-based putty repairs are allowed.
- **B Deco Grade:** High quality solid face with a 150–grit sand, synthetic repairs are not permitted. Boat-type wood patches are permitted up to 6. Small, wood-based putty repairs are allowed.
- **C Grade:** Used as a back face. Regular veneer finished with a 100–grit sand. Synthetic repairs and boat-type wood patches are permitted. Tight and unsound knots up to 40 mm wide are permitted. Open defects are accepted up to 25 mm.

# **Profiles:**

|        | ARAUCOPLY GROOVED PANELS         |            |         |              |                   |  |
|--------|----------------------------------|------------|---------|--------------|-------------------|--|
| Model  | Model Grooving Options           |            | Profile | Finishing    | Thickness<br>(mm) |  |
| Siding | Deep Groove<br>4", 8", 12"<br>OC | TMP<br>RBB |         | Sanded/Rough | 12 - 15           |  |
|        | Shallow<br>Groove<br>4", 8" OC   | TPP        |         | Sanded/Rough | 9                 |  |
| Beaded | W - Groove<br>2" OC              |            |         | Sanded       | 9                 |  |
| peaded | V - Groove<br>4" OC              |            | 4       | Sanded       | 7 - 9             |  |







# Installation Instructions

# **Stud Spacing & Fasteners**

The recommended span rating for direct application to studs or over non structural sheathing is contained in the grade stamp on the back of the panel.

# **Weather Resistant Barriers**

ARAUCOPLY grooved panels are designed to be installed without the use of weather resistant barriers like building paper, either direct to framing or over approved sheathing provided that all joints occur over framing and are protected with a continuous batten, approved caulking, flashing, vertical or horizontal shiplaps or otherwise made waterproof. A weather resistant barrier like building paper, should be applied when mandated by applicable model building codes. Also, horizontally installed grooved panels must have all vertical butt joints backed with weather resistant building paper. Panels installed over foam sheathing including minimum fastening requirements must be in accordance with the relevant provisions of the applicable model building code.

# **Panel Joints**

All panel edges must be backed with reinforcing solid lumber framing or blocking. Panel edges should be spaced 1/8" to allow for expansion and contraction due to climatic changes. Vertical panel joints require no caulking if they are ship lapped, backed by building paper or covered by battens. Horizontal panel joints should be ship lapped, overlapped or flashed. Butt joints should be caulked at intersections with inside and outside corner trim, window and door trim and vertical butt joints when installed without building paper.

Additional installation information is available from TECO at www.tecotested.com and from Pittsburgh Testing at www.psiusa.com

# Finishing Recommendations

# **Edge Sealing**

All plywood panels experience faster moisture penetration through panel ends and edges. As a result, edges and ends should be sealed. Edge sealers help to minimize sudden changes in panel moisture content due to normal climatic changes after installation.

# **Surface Preparation**

Panel surfaces should be free from dirt and loose wood fibers. All finishes should be applied as soon as possible after panel installation. Apply finishes during favorable weather conditions and always follow the finish manufacturer's specific application recommendations for plywood products.

Use only first quality finishes and apply according to the application rates recommended by the finish manufacturer. Rough sawn surfaces may require up to twice as much finish as smooth or scratch sawn surfaces. The initial coat should be applied by brush. Sprayed on finishes should be either back brushed or back rolled while wet. Additional coats maybe applied conventionally.

# **Recommended Finishes**

# Solid Color Stains

Two coats of a high quality oil base or latex opaque stain help mask color variations between wood repairs and the surrounding wood. Face grain is also masked with opaque stains but allows rough sawn textures to remain visible. It is also recommended that the desired finish be applied to a representative panel sample which contains typical color variations and repairs to ensure that the panel's finished appearance is acceptable.

# **Acrylic Latex Paint**

If a painted finish is desired, an acrylic latex paint system composed of at least one stain resistant primer coat and topcoat is recommended for textured siding. Acrylic latex produces a durable finish that masks textured surfaces more than an opaque stain and can obscure grain and color differences. Again it is imperative to follow the paint manufacturer's recommendations for plywood siding application.



# **Fixings and Adhesives**

All fasteners used must be corrosion resistant to the appropriate specification level depending on the end use; a life expectancy of 15 to 50 years should be considered.

When fixing ARAUCOPLY in flooring applications it's important that you use glue and screws are used squeaking. Mechanical fixings must be either annular grooved stainless steel nails 50mm long or stainless steel screws at least 50mm in length. Fixings should be at 150mm centers at all points of contact with the framing.

Always allow an expansion gap when installing ARAUCOPLY Flooring. This gap will depend on the size of the floor but at least a 3mm gap is suitable for most applications.

**Ideal applications include:** Residential or commercial flooring; flooring in wet areas, such as bathrooms, toilets or kitchens; for use under rubber membranes to provide the best substrate; decks, roofing, wall linings, general industrial applications, and flooring for mezzanine floors.

Product must be sealed to avoid any damage caused by humidity when used in wet areas.

# Storage and Handling

ARAUCOPLY should be handled and stored with care. To achieve the finish and end result of your choice, consider the following:

- The product should be stored in a dry area protected from the sun, rain, wind or snow, until used.
- In case of high humidity conditions, do not expose the panels directly to the environment immediately after opening
  the bundles. Remove plastic wrap without cutting metal straps in order to allow the panel balance humidity conditions
  for a minimum of 48 hours in order to minimize warping in normal humidity conditions let the panel balance humidity
  for at least 24 hours inside if used in interior applications.
- The product should not be placed directly on the ground unless inside and should be supported on at least three supporting points, preferably four once the package has been opened.
- ARAUCOPLY products should always be stored flat, not standing on edge. This is dangerous and could result in injury if the panels were to fall.
- Careful handling and proper storage will prolong the panel's usability. Dropping panels is one of the most common ways to considerably damage an otherwise good panel.



# **Technical Information**

# **Fiber Species**

All ARAUCOPLY products are produced with 100% Radiata Pine veneers sourced from our own sustainably managed forest plantations in Chile, with an average density of 540kg/m<sup>3</sup>

# **Moisture Content**

ARAUCOPLY has an average moisture content ranging between 8 and 9%, when manufactured. It should be protected from moisture throughout delivery, storage on site, and in construction applications such as roofs, walls and floors. For more information refer to Storage and Handling on page 16.

# **Adhesive**

ARAUCOPLY products are certified to Type A bond. They use an Exterior Phenol-Formaldehyde resin that meets the European EN 314 Standard, emission class E0 in accordance with Standard AS/NZS 2098.11- "Determination of Formaldehyde Emissions" and also complies with other international Low Formaldehyde Emission (LFE) requirements such as the Japanese Standard JAS Super-E0 or F\*\*\* below 0,02mg/L.

# **Dimensional Properties**

|              | TOLERANCES   |
|--------------|--|
| Length       | +0mm/-2mm on the specified nominal value.                |
| Width        | +0mm/-2mm on the specified nominal value.                |
| Thickness    | ±0,4mm on the specified nominal value for sanded grades. |
| Squareness   | Within 1mm per meter.                                    |
| Straightness | Within 1mm per meter.                                    |
| Diagonals    | +0mm / -2mm on the specified nominal value.              |

|                   | LAY-UP PROPERTIES AND WEIGHT |               |            |                 |             |            |
|-------------------|------------------------------|---------------|------------|-----------------|-------------|------------|
| Nominal Thickness | Number                       | Ply thickness |            | ge weight (Kg/b | r           | Pieces     |
| (mm)              | of plies                     | (mm)          | 2440 x 610 | 2440 x 1220     | 2500 x 1250 | per Bundle |
| 6,5               | 3                            | 2,54          | 5          | 11              | 11          | 140        |
| 9                 | 3                            | 3,15          | 7          | 14              | 15          | 108        |
| 12                | 5                            | 2,54          | 10         | 19              | 20          | 80         |
| 15                | 5                            | 3,15          | 12         | 24              | 25          | 65         |
| 18                | 7                            | 2,54          | 14         | 29              | 30          | 54         |
| 21                | 7                            | 3,15          | 17         | 33              | 35          | 46         |
| 25                | 9                            | 3,15          | 20         | 40              | 42          | 39         |
| 30                | 11                           | 2,54          | 24         | 48              | 59          | 32         |

<sup>\*</sup> Mass has been calculated considering 9% moisture content and sheet size of 2440x1220 and a density of 540 kg/m³.



# **Structural Properties**

|                           | STRUCTURAL PROPERTIES |    |           |            |
|---------------------------|-----------------------|----|-----------|------------|
| Nominal Thickness<br>(mm) | MOR<br>(N/mm²)        |    | M<br>(N/n | OE<br>nm²) |
|                           | //                    | 1  | //        | 1          |
| 6,5                       | 84                    | 17 | 7846      | 717        |
| 9                         | 81                    | 15 | 7913      | 745        |
| 12                        | 70                    | 30 | 7297      | 2381       |
| 15                        | 68                    | 29 | 6921      | 2353       |
| 18                        | 62                    | 34 | 6461      | 3102       |
| 21                        | 69                    | 34 | 7695      | 3626       |
| 25                        | 54                    | 33 | 6318      | 3396       |
| 30                        | 48                    | 30 | 5904      | 4316       |

| Thickness<br>(mm) | Planar Shear Strength<br>F (Ib/Q) (kN/m) | Bending Strength<br>(kNm/m)<br>Parallel | Bending Strength<br>(kNm/m)<br>Perpendicular | Bending Stiffness<br>(kNm/m²)<br>Parallel | Bending Stiffness<br>(kNm/m²)<br>Perpendicular |
|-------------------|--|---|--|---|--|
| 6,5               | 10,20                                    | 0,48                                    | 0,59   | 0,25                                      | 0,27   |
| 9                 | 11,24                                    | 0,91                                    | 0,18   | 0,45                                      | 0,04   |
| 12                | 16,81                                    | 1,49                                    | 0,61   | 0,96                                      | 0,29   |
| 15                | 20,24                                    | 2,16                                    | 0,90   | 1,93                                      | 0,55   |
| 18                | 24,42                                    | 2,74                                    | 1,69   | 3,01                                      | 1,59   |

Obtained based on average values. Only for reference use



# **Gaps and Knotholes Allowed**

# **G**aps

A Gap is an open veneer joint extending through, or partially through a Plywood panel.

| GAPS                   |                                       |              |              |  |
|------------------------|---------------------------------------|--------------|--------------|--|
| Location               | Grades:<br>AC / BCDeco / CD/ BC / CpC | Form         | MU           |  |
| Adjacent to food       | Depth: 210mm                          | Depth: 100mm | Depth: 210mm |  |
| Adjacent to face       | Length: 25mm                          | Length: 10mm | Length: 60mm |  |
| Adiacont to book force | Depth: 210mm                          | Depth: 100mm | Depth: 210mm |  |
| Adjacent to back face  | Length: 25mm                          | Length: 10mm | Length: 60mm |  |
|                        | Depth: 210mm                          | Depth: 100mm | Depth: 210mm |  |
| Interior (non central) | Length: 25mm                          | Length: 10mm | Length: 60mm |  |
| Interior (control)     | Depth: 210mm                          | Depth: 100mm | Depth: 210mm |  |
| Interior (central)     | Length: 25mm                          | Length: 10mm | Length: 60mm |  |
| 0. 1                   | Depth: 210mm                          | Depth: 100mm | N/A          |  |
| On the long edge       | Length: 25mm                          | Length: 10mm | N/A          |  |
| On the short odge      | Depth: 210mm                          | Depth: 100mm | N/A          |  |
| On the short edge      | Length: 25mm                          | Length: 10mm | N/A          |  |

# **Knotholes**

Void produced when a knot drops out of veneer.

| KNOTHOLES                                 |              |  |
|---|--------------|--|
| Location Grades (AC / BC Deco / BC / CpC) |              |  |
| Knotholes in interior knots               | Lentgh: 40mm |  |

# **Thermal Conductivity**

ARAUCOPLY has an average thermal conductivity of 0.13 W/mK. The following table shows the specific conductivity for each thickness.

| THICKNESS vs THERMAL CONDUCTIVITY |              |  |
|-----------------------------------|--------------|--|
| Thickness                         | Conductivity |  |
| mm                                | W/mK         |  |
| 9                                 | 0.112        |  |
| 12                                | 0.138        |  |
| 15                                | 0.134        |  |
| 18                                | 0.158        |  |

# **Fire Tests on Building Materials**

ARAUCOPLY has been tested for ignitability, flame propagation, heat release and smoke release with an ignition temperature of 200-260°C classified as Class C (According to US standard NFPA). Tests were conducted on a clean faced ARAUCOPLY panel by AWTA Product Testing, Australia, during February 2011.

| ARAUCOPLY 12 MM EARLY FIRE HAZARD PROPERTIES |        |        |  |  |
|--|--------|--------|--|--|
| Regulatory Indexes                           | Result | Range  |  |  |
| Ignitability Index                           | 14     | 0 - 20 |  |  |
| Spread of Flame Index                        | 7      | 0 - 10 |  |  |
| Heat Evolved Index                           | 5      | 0 - 10 |  |  |
| Smoke Developed Index                        | 2      | 0 - 10 |  |  |



# **Certifications**

ARAUCOPLY has been manufactured and tested to meet the most demanding certification standards of prestigious agencies around the world:

# CE 2+ EN 13986:2004

European Union Standard. ARAUCOPLY complies with CE 2+ EN 13986:2004 for structural use, which is the European certification for wood-based panels under the European CPD (Construction Products Directive). The certification was originally obtained in 2003. Our plywood is certified by the Danish Technological Institute, under numbers 1073-CPD-801 and 1073-CPD-809.



### **BBA**

British Board of Agreement certification, for structural uses.

### **P30**

Swedish Standard SBN 1975.5, for structural uses.

# **DIN 68705**

Certified to the German Industrial Norm for use of adhesives.

### **BFU 100**

German requirements for structural applications.

# **PSI-09**

USA. All grade stamped ARAUCOPLY panels are manufactured to meet the US PS 1-09 standard. ARAUCOPLY qualifies for TECO and PTL grade stamping under voluntary product standard PS 1-09 for grades AA through CD, including structural applications.



PS1-09 UL

# **AS-NZS2269**

ARAUCOPLY is certified to the AS/NZS2269 Structural Plywood Standard via stringent third party verification process which is accredited by the Joint Accreditation System of Australia and NZ (JAS-ANZ).





# **JAS**

Japan Plywood Inspection Corporation approved ARAUCOPLY products for use in JAS certified load-bearing construction applications.

# PFFC

Programme for the endorsement of forest certification, promotes the sustainable management of the forest seeking, a social, economic and medioambiental equilibrium.



# ISO 14001

Is a globally accepted environmental management system certification.

# **OHSAS 1800**

The occupational health and safety assessment series of standars (OHSAS) sets out the nesessary requirements for and occupational health and safety (OH & S) management system.

# CADD

ARAUCOPLY Plywood products are exempt from CARB formaldehyde regulations.

ISO I4001 : 1996

FORGISTERED

Foreity and saves I operations under certificated environmental independent.

Certificates are available for download at www.araucoply.com



# **Product Identification**

In accordance with the DIN standard, each sheet of ARAUCOPLY contains the following information on its back stamp:

- Company Name: Paneles Arauco S.A.
- Panel Mill: e.g. PLANTA TERCIADO NUEVA ALDEA
- Country: Chile
- BFU 100, DIN 68705
- Certification agency: e.g. Dancert
- Thickness: e.g. 18mm



In accordance with CE standard, each sheet of ARAUCOPLY contains the following information on its back stamp:

- Certification Standard: e.g. CE
- Certification Agency Number: e.g. 1073 means Dancert TP
- Face grade, back grade: e.g. CD.
- Mill code number: 801 for Arauco Mill and 802 for Nueva Aldea Mill
- Company Name: PANELES ARAUCO S.A.
- Present Year: e.g.04 stands for 2004
- Certification Standards: e.g. EN 13986 / EN 636 IS
- Formaldehyde emission: E1
- Fire reaction according to EN 13501-1.
- Thickness: e.g. 9 mm
- Minimum density: e.g. 400 Kg/m<sup>3</sup>
- Norm for external appearance: e.g EN 365 and its degree, e.g II/II

In accordance with Swedish Standard SBN 1975.5, P30 certification, each sheet of AraucoPly contains the following information on its back stamp:

- Company Name: Paneles Arauco S.A.
- Panel Mill: e.g. PLANTA TERCIADO NUEVA ALDEA
- P30\*, face and backface veneer grade
- Thickness: e.g. 18 mm

1073 - CPD - 801 Paneles Arauco 04 EN 13986 EN 636 - 1S EN 636 - 2S EN 314 . 2 Class 3 E1 D - s2, d0 9mm Min. 400 Kg/m³ EN 635 - 3 II / II

PANELES ARAUCO S.A. PLANTA TERCIADO ARAUCO

P30\*- CPC

Thickness m

SC0565-09



# Limitations

The information contained in this document is current as at January 2012.

ARAUCO has made every attempt to ensure the accuracy, reliability and completeness of the information provided in this document and, to the extent permitted by law, is not responsible for any inaccuracies, omissions or errors in content, decisions made or actions taken regarding this information.



# Growing the Future



For more information visit: www.araucoply.com

# ARAUCO

Schipholweg 114, 2316 XD Leiden, The Netherlands Phone: (31-71) 789-0250 Fax : (31-71) 789-0299

afp@arauco.cl www.arauco.cl



