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# INTRODUCTION

**Misarma Enterprise** is a multinational forest resource and wood products company with a comprehensive supply chain:

- Downstream manufacturing facilities
- Global product distribution network

As a fully integrated timber company, Misarma has the edge of being able to systematically track the chain of custody of its **timber** and **wood-based** products, from the forest floor to the consumer's door.

Sustainable forest management remains at the heart of the business. As a long-term player, Misarma is committed to safeguarding its precious forest resources. The Group also continuously explores opportunities to expand its forest land bank to meet future demand for downstream operations and export markets.

# Forest Resources Log Collection Planning and Management Logging Infrastructure

### Integrated Timber Exportation

Our products are developed to meet varying customer demands, which currently calls for converting logs into sawn timber, plywood and veneer. The Group has timber production facilities for our downstream products are located in Malaysia. We convert the wood residue from our plywood and sawn timber operations into panel products such as fiberboard and door facings. In addition, we also use some of the wood residue as fuel for the generation of electricity in our power plants. The natural resource we manage is precious, and we make every effort to maximize the use and optimize the value of our resources.

**DOWNSTREAM** 

SALE AND

EXPORT

**UPSTREAM** 

# **WOOD PRODUCTS**

# **ROUND LOGS**

Our logs are durable, strong, refined and high in quality. The sawn timber is quality tested and cost effective. We offer Borneo Sarawak, Malaysia and Papua New Guinea (PNG) round logs.

# Borneo Sarawak, Malaysia

# Specification for Borneo Sarawak, Malaysia Round Log

Category	Popular Species
Hardwood	Selangan Batu
Medium Hardwood	Keruing, Kapur
Light Hardwood	Acacia Mangium, Red Meranti, Meranti, Rubberwood,

# Borneo Sarawak, Malaysia Logs





# I. Acacia Mangium



This species is originated from Sarawak Malaysia. It usually occurs in lowland areas below 100m above sea level. This species can grow up to 30m in height. Among its common usage are for furniture manufacturing and cabinet, door framework, moulding wood, light construction and pulp & paper.

# Acacia Mangium Log Grades







Grade A Grade B Grade C

# II. Selangan Batu



Selangan Batu Tree

Selangan batu is a yellowish-brown timber can grow up to 60m in height and 1.8m in diameter. According to species, durable to very durable. It is classified in Malaysia as being very durable. Heavy structural use, Marine or freshwater construction and decking.

### III. Red Meranti



Red Meranti Tree

Typically, easy to work, though any interlocked grain can present problems during planing, and Dark Red Meranti is reported to have very poor steambending properties. Some species may have a slight blunting effect on tools due to small levels of silica present in the wood. Glues, stains, and finishes well. Plywood, interior furniture, general construction, concrete forms, veneer, and boatbuilding.

### IV. Meranti



Meranti Tree

Meranti is a soft to firm hardwood timber commonly used for decorative purposes such mouldings, as furniture, panelling, joinery window frames. It is a very versatile durable timber for indoor and applications, and can be painted and stained to match the colour and designs in your home. Meranti is popular for use in a wide variety of internal applications such as joinery applications for mouldings, cabinetry, architraves and skirting, newel posts, handrails, furniture and panelling.

### V. Rubberwood



Rubberwood Tree

Rubberwood is strong, flexible, and resistant to fungus, bacteria and mold. It's compatible with most industrial adhesives, easy to work with and has a beautiful grain suitable for quality furniture. The wood is a pale cream to yellowish brown color and is easy to stain to gain deeper colors. The finish adaptability is rated at 94% of that of teak under standard conditions and comparable to beech for workability.

# VI. Keruing



Keruing Tree

Generally easy to work with hand or machine tools, though silica present in the wood tends to dull cutters. Also, resin can exude from the wood and build up on tools and also make wood finishing difficult. Movement in service is fairly large. Common use for furniture, flooring, trailer decks, and utility lumber.

### VII. Kapur



Kapur Tree

Kapur is a Southeast Asian timber tree species. Their distribution is limited to Sumatra, Peninsular Malaysia and Borneo and often grows in clusters on well-drained soil on hillsides. Kapur is famous for forming the "jigsaw puzzle" pattern in the sky, otherwise known as the "crown shyness".

# Papua New Guinea (PNG)



Dysox Tree (Group 3 of PNG)

Tropical forests usually include a large number of timber species. Papua New Guinea is no exception, where a multitude of species make up the lowland rain forest complex. The lowland rain forest system is the major forest type in Papua New Guinea and contributes the major percentage of the commercial timber species both for the domestic and export market.

# Specification of Papua New Guinea (PNG) Logs

Category	Description
	<b>Group 1:</b> Burkella, Calophyllum, Canarium Red, Cedar Pencil, Dillenia, Malas, Mersawa, Taun, Terminalia, Walnut PNG, Kwila
Species	Group 2: Aglaia, Amoora, Beech Wau, Hopea Heavy
	<b>Group 3:</b> Cryptocarya, Dysox, Garo Garo/Gum Water Heriteria
	Group 4: Kandis, Plum Busu

# Papua New Guinea (PNG) Logs





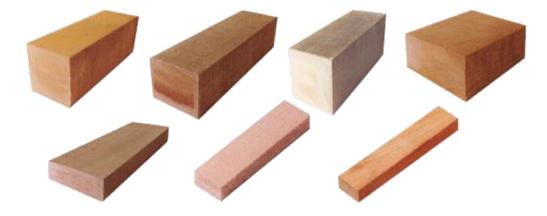
# **SAWN TIMBER**

Sawn timber is widely used in residential and commercial properties. We are well-equipped to manufacture and supply high grade sawn timber of various specifications and sizes, such as thickness can up from 5mm to 100mm; width can be 50mm to 600mm; and range of length is from 1.2m to 2.6m.

# Specification of Sawn Timber

ITEM	DESCRIPTION
Popular Species	Acacia Mangium, Meranti, Kapur, Keruing
Fopulai Species	and Selangan Batu
Available Sizes	Tailor to end users' requirements
Standards	Malaysian Grading Rules with Rough Sawn
Cut	Flatsawn and Quarter sawn
Location of Plants	Sarawak, Malaysia

Our sawn timber is graded visually on high performance grading machines by well trained personnel. The dimension of our sawn timber is always packaged as per individual thickness, width, length and quality – perfect for various joinery purposes.



Sawn Timber

# **WOODEN PALLET**

Our exclusive array is in high demand in the Malaysia market and is fabricated from the best grades of raw materials. Our wooden pallets are useful in holding products of varied sizes and quantity and conform to the international standards. Further these pallets are offered in market leading prices.

Pallets are generally described as two-way entry or four-way entry pallets. Pallets accessed from two sides are two-way entry pallets whilst pallets accessed from all four sides are four-way entry pallets.



Two-ways entry



Four-ways entry

### Specifications of Wooden Pallets

ITEM	DESCRIPTION
Material	Acacia Mangium Wood, MLH
Entry Type	Two-ways, Four-ways
Size	Tailor to end users' requirements
Weigh Capacity	1 – 5 tons
Place of origin	Sarawak, Malaysia

### Pallet Design

Pallet designs vary but they generally comprise some or all of the following components;

- The Bearers provide the space between the top and bottom decks for entry of the forks.
- The Deck is the top or bottom flat surface and can be either close or open boarded.
- The Stringer is a horizontal member containing the bearers and supporting the deck.
- Fork Entry is the space created to facilitate the entry of forks to pick up and move the pallet.
- Wings are extensions of the deck to provide larger products to be stored on pallets. They are called wings because they protrude beyond the bearers.
- A Chamfer is applied to the edges of the bottom deck to assist the passage of the wheels of a hand pallet truck.

### Wooden Pallets Designs

Entry Type	Available Design
Two-ways	Two-Ways Non-Reversible, Two-Ways
	Non-Reversible with Wing, Two-Ways
	Reversible, Two-Ways Reversible with
	Wing, Two-Ways Single Deck
Four-ways	Four-Ways Economy, Four-Ways Non-
	Reversible, Bale Board, Four-Ways
	Perimeter Base, Four-Ways Fully
	Reversible, Four-Ways Sturdy

# **PARTICLE BOARD**

Particle Board also known as low-density fiberboard, it is a wood that is pressed and extruded. Particle board is cheaper, denser and more uniform than conventional wood and plywood and is substituted for them when cost is more important than strength and appearance. It is mainly used in the furniture, construction industry and car manufacture. We offer plain particle board to our customer.

# Specification of Plain Particle Board

ITEM	DESCRIPTION
Grade	Non-Moisture Resistant (UF Grade) and Moisture Resustant (MUF)
Standard Dimension	a) 1220mm x 2440mm (4' x 8') b) 1830mm x 2440mm (6' x 8')
Standard Thickness	9mm, 12mm, 15mm, 16mm, 18mm, 25mm
Available Class	E2, E1, CARB P2, E0/F***, SEO/F***



Plain Particle Board

# **OTHER PRODUCTS**

# i. Wood Chips



Wood chips

Our company also produces *Acacia Mangium* wood chips. The main usage of wood chips is to make **paper pulp**, but is not limited to that.

### Specifications of Wood Chips

Category	Description
Wood Chips Length	20-40mm
Wood Chips Thickness	3-8mm
Wood Chip Width	5mm
Moisture Content	20-40%

### ii. Bark



Acacia Mangium Bark



Tannins

Our company also export Acacia Mangium bark. In addition, the bark content tannins. Tannins (tannic naturally occurring acids) are complex chemicals found in plants. The taste is quite sharp or caustic, providing the distinctive astringency that humans associate with red wines, teas, and unripe fruits. In addition, tannins are used in the dyeing of textiles and in the tanning leather products. In their condensed. secondary-metabolite form, tannins are highly toxic and insoluble compounds, and they bind to proteins and enzymes.

# **OUR CLIENTS**







**Shell Sarawak** 



Dayang Enterprise Holdings Berhad



**Curtin University** 



Miclyn Express
Offshore PTE LTD



PETRA Resource SDN BHD



Sapura Kencana Allied Marine Sdn Bhd



Flex Fleet SDN BHD



Pertama Ferroalloys Sdn Bhd



**Sakura Ferroalloys** 



OM Materials (Sarawak) Sdn Bhd