

# **TIPWOOD**

Natural Fiber Composites



Tipco Industries Pvt. Ltd.

# THE NEED FOR NATURAL COMPOSITES



## Current State of De-Forestation

### • MAIN REASONS FOR DEFORESTATION

- Agriculture expansion
- Fire wood
- Pasture for livestock
- Civilization/Settlements
- Timber harvesting
- **25 Million acres** of Tropical Forests cut down annually (2000-05)
- Results in **top-soil erosion**, **species extinction** and drastic **climate change**
- **Sustainable re-forestation** does not match the depleted quantity (**10-15%** of depleted forests), often replaced by lesser plantations and secondary forests
- **Laws** preventing de-forestation **are often abused**, and are not globally enforceable.





# A GLOBAL THREAT & THE SOLUTION

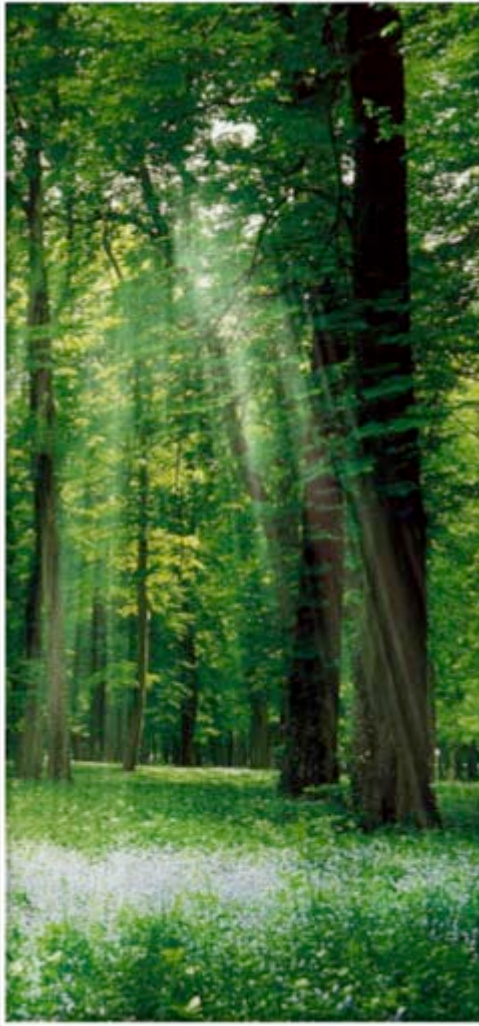


THE TOP 10 COUNTRIES WITH  
HIGHEST LEVELS OF DEFORESTATION



A new class of material made from special modified Synthetic Resins and renewable Natural Fibers, like Jute / Kanaf / Hemp fibers, designed for diversified use in building & construction, interiors / exteriors and furniture applications, etc.





## Plastics & Composites

- Are eco-friendly
- Use low energy in per kg conversion
- Replace wood and metals

TIPWOOD has **extremely low Carbon Footprint.**

- Synthetic Resins (Plastics)
- Natural Fibers (annually renewable)
- No cutting wastage (cut-to length)
- Promoting Agriculture



# NATURAL FIBER COMPOSITES & PROPERTIES



Flame  
retardant



Very low  
carbon footprint



Lower water  
absorption



Reducing  
energy costs



Termite proof



Reducing  
material costs



Superior  
mechanical  
properties



Can be painted,  
polished, varnished,  
coated, etc



Resistance to  
fatigue & corrosion



Can be cut, sawn,  
planed, drilled,  
nailed, shaped etc.



High heat  
resistance



Electrical  
insulation



Ecofriendly



Termite proof



Fungus proof



Any length

possible various  
cross sections



# TIPWOOD® PROFILES



## TYPICAL PROPERTIES OF TIPWOOD

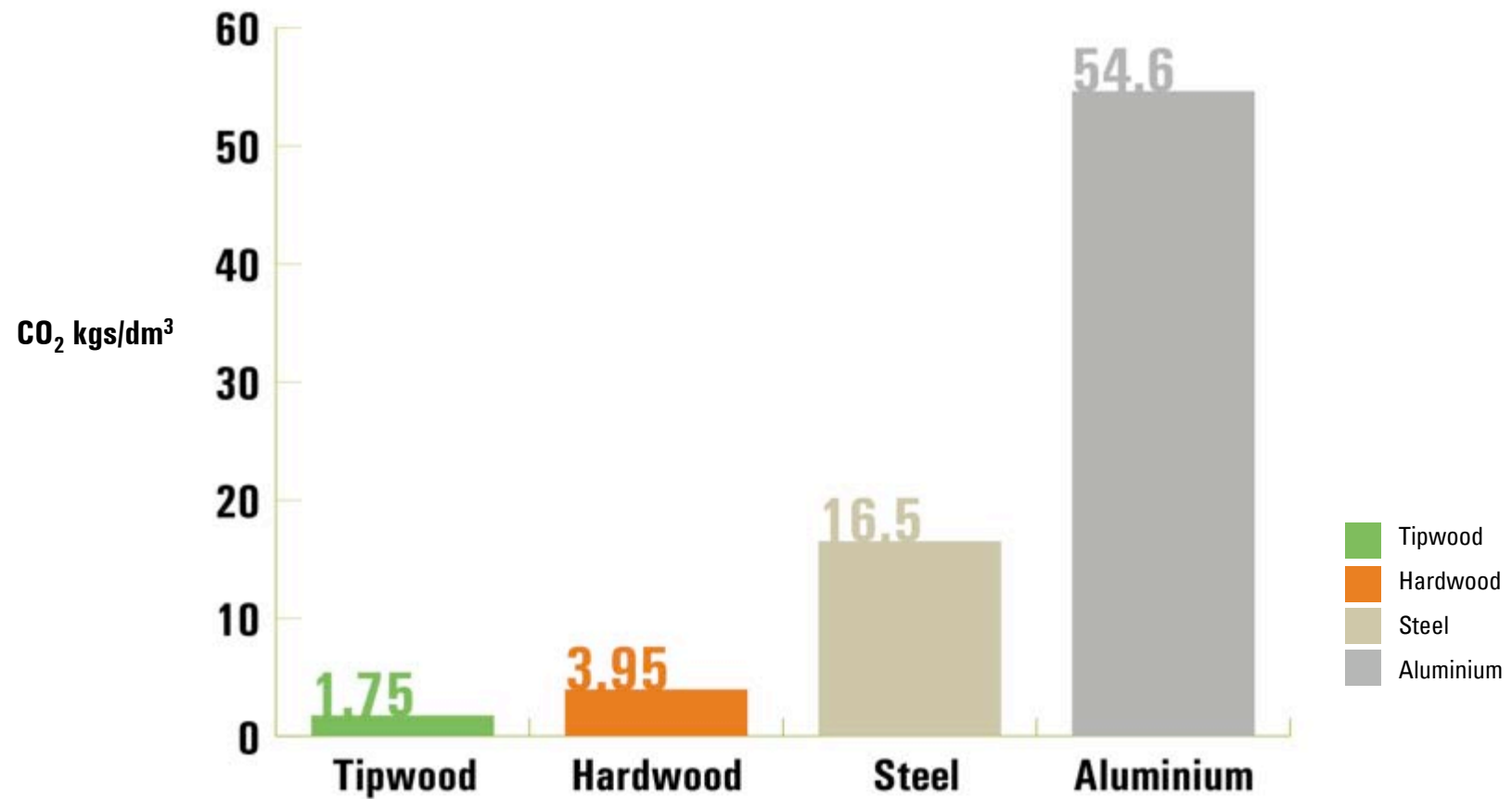
PROPERTY	VALUE	UNIT	SPECIFICATION
Ultimate Tensile Strength	80-130	N/mm2	ASTMD-3039
Tensile Modulus	12000	N/mm2	ASTMD-3039
Flexural Strength	70-105	N/mm2	ASTMD-790
Flexural Modulus	6000-8000	N/mm2	ASTMD-790
Compressive Strength	70-100	N/mm2	ASTMD-695
Water Absorption after 24 hours	0.35	%	IS-12406-88
Water Absorption after 2 hours boiling	Nil	%	IS-12406-88
Water Absorption after 2 hrs	Nil	%	IS-12406-88
Screw Withdrawal Strength	5500-7000	N/mm2	ASTMD-1761
Flammability	HB – V <sub>2</sub>	Rating	UL-94

*Property of material subject to fiber orientation, sample preparation and type of reinforcement used*





# LOWEST CARBON FOOTPRINT



*Courtesy: KIEM Innovations BV, The Netherlands*

# APPLICATIONS OF TIPWOOD

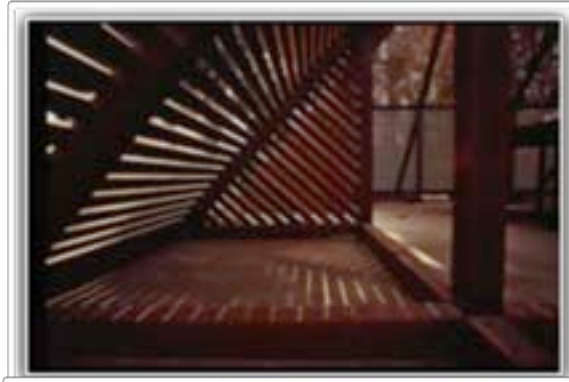


## OUTDOOR STRUCTURES

**34' x 34' Pyramid structure  
made For Plastindia Exhibition in 2003**



**Same 34' x 34' Pyramid structure re-used in Plastindia  
in 2009, after being out in the open for 6 years**





# APPLICATIONS OF TIPWOOD



## TIPWOOD AT ACETECH 2014



## 1000 sq. ft. house made from Tipwood for Exhibition





# APPLICATIONS OF TIPWOOD



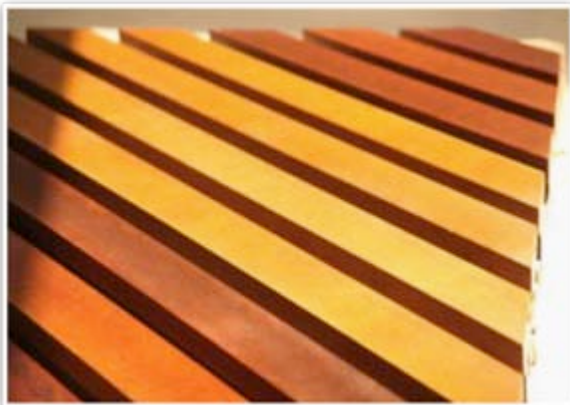
DECKING/ PATHWAYS / WALKWAYS / SKIRTINGS FOR POOLS



# APPLICATIONS OF TIPWOOD



## DECKING/ PATHWAYS / WALKWAYS / SKIRTINGS FOR POOLS



## FENCING & GATING SYSTEMS

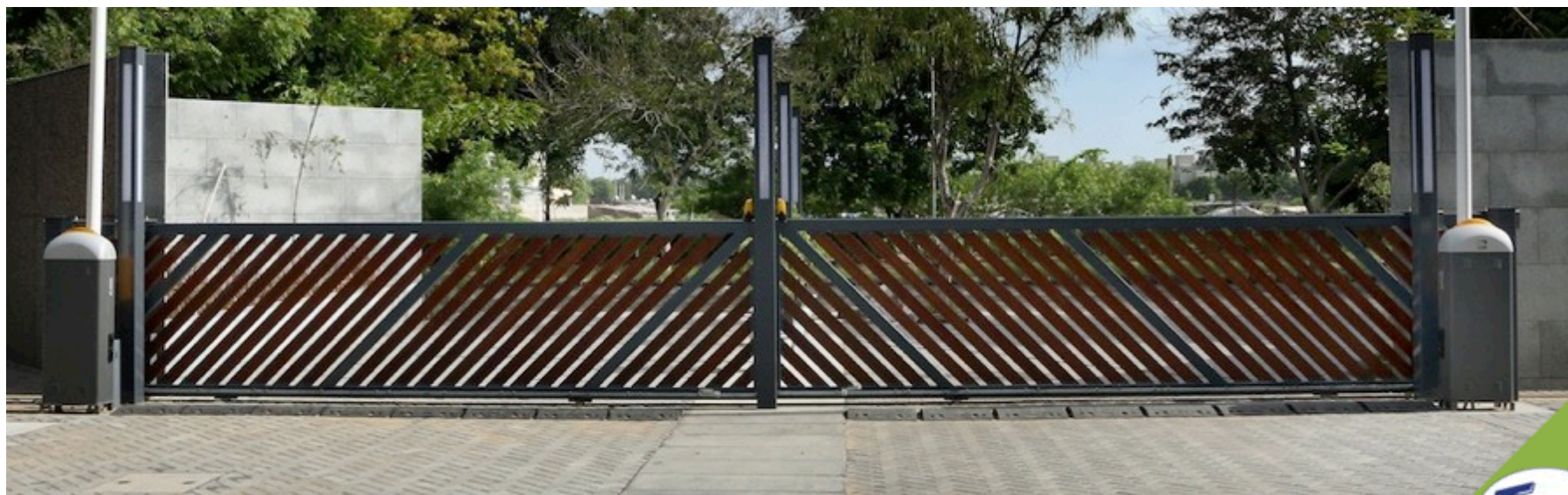
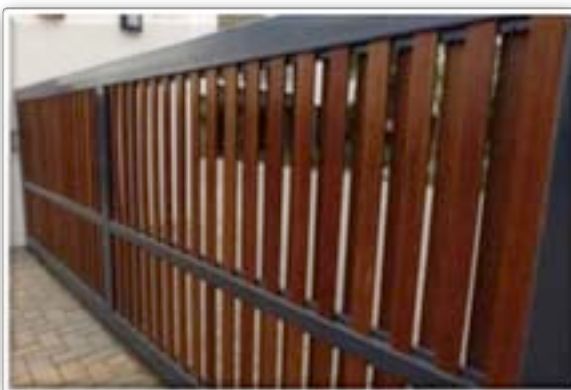




# APPLICATIONS OF TIPWOOD



## FENCING & GATING SYSTEMS





# APPLICATIONS OF TIPWOOD

**TIPWOOD**

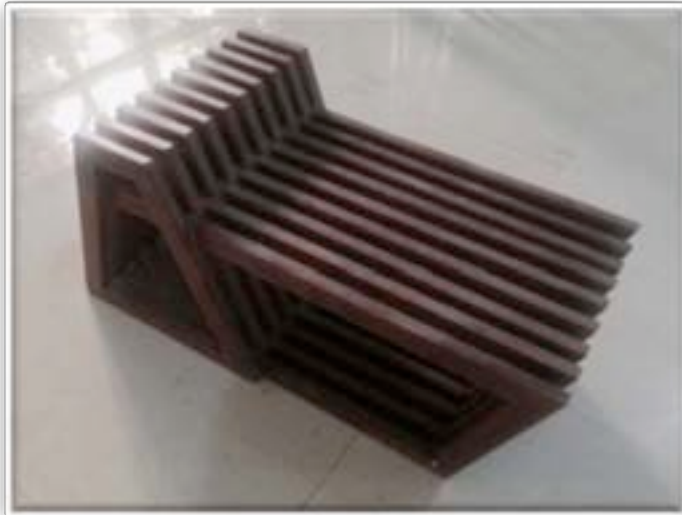
## FURNITURE



# APPLICATIONS OF TIPWOOD



## FURNITURE

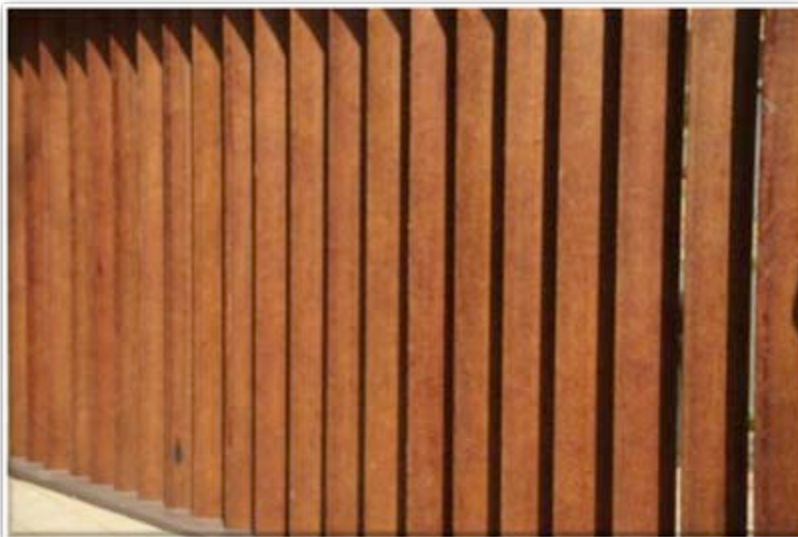
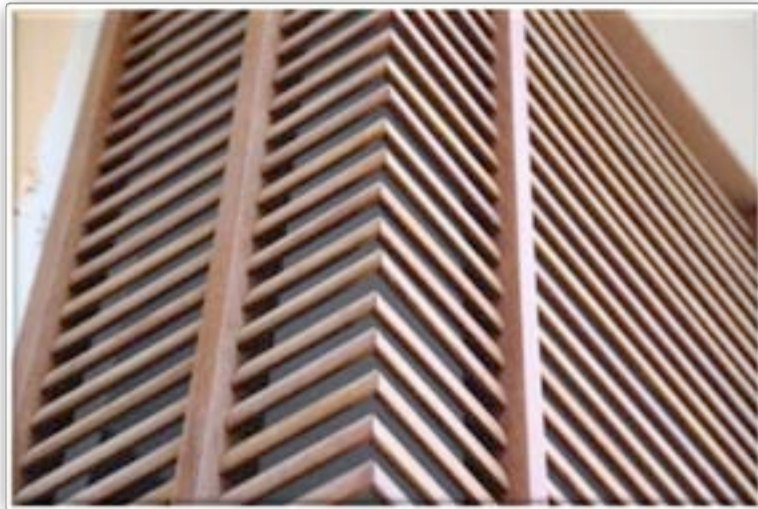




# APPLICATIONS OF TIPWOOD



## LOUVERS



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# APPLICATIONS OF TIPWOOD



## BUILDING – CLADDING & EXTERIORS





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# APPLICATIONS OF TIPWOOD



## PERGHOLAS / CABANAS / TRELLISES





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# APPLICATIONS OF TIPWOOD



## SCREENS & GRILLS





# APPLICATIONS OF TIPWOOD



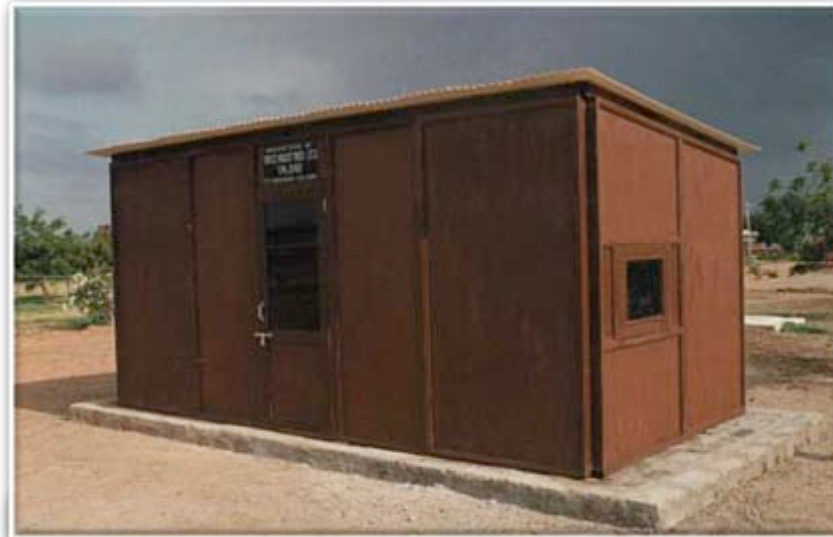
## PARTITIONS



# APPLICATIONS OF TIPWOOD



## CABINS / OUTPOSTS / BUNKERS (DEFENCE)

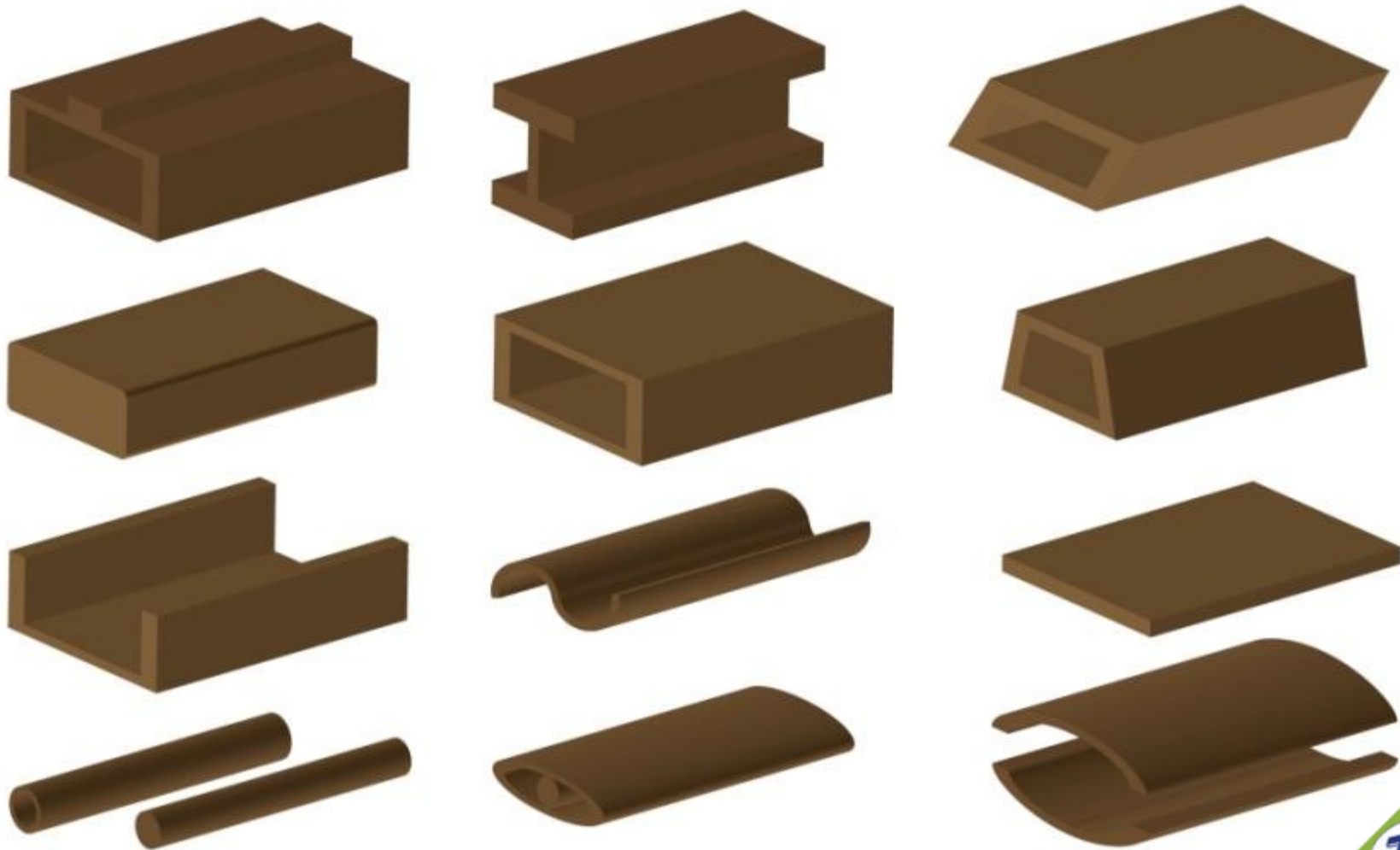





# ENDLESS POSSIBILITIES



SOLIDS, HOLLOW SHAPES, LOAD BEARING, FLATS, INTRICATE GEOMETRY







# LIMITLESS POSSIBILITIES

WITH

# TIPWOOD



# TIPWOOD



**GO GREEN**

**DEALERS / DISTRIBUTORS & AGENTS WANTED**  
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