JYUWEI
聚为科技集团

Green Low-Carbon Transition and Innovative Technology

(Globally Unique)

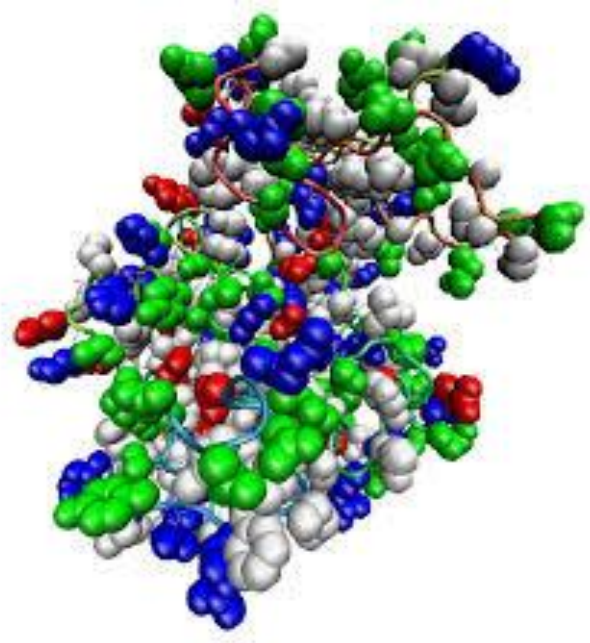
New Material Technology for the Recycling and Reuse of Polymer Polymers

New Technology to Replace Precious Wood Materials

JYUWEI TECHNOLOGY HOLDING PTE.LTD.

OneNet Wood 2024

OneNet Wood



Made from recycled polymer plastic

Plastic bags, PET bottles, Styrofoam, PA nylon, PC circuit boards, marine waste plastic

- Project description
- Expert introduction
- Technology Introduction
- Feature application
- Product advantages

Reduce marine ecological conservation issues

Reduce forest tree felling and raft use

Ecological status and trends

Question 1

Plastics make up a significant portion of marine litter, with estimates suggesting that more than eight million metric tonnes of plastic enter the oceans every year. Plastic waste, ranging from microplastics to large debris, continues to accumulate in marine environments, posing a severe threat to our ecosystems. From entanglement and ingestion by marine species to the disruption of food chains, plastic pollution wreaks havoc on marine life. The situation is further exacerbated by the persistence of plastics, which can take hundreds of years to degrade, exacerbating the long-term environmental impact. To mitigate these trends, urgent global action is required, including improved waste management, plastic reduction strategies, and enhanced international cooperation to safeguard the health and biodiversity of our planet.

Marine waste plastic pollution is serious

https://www.unep.org/topics/ocean-seas-and-coasts/ecosystem-degradation-pollution/plastic-pollution-and-marine-litter-0

DELIVERING ON GLASGOW: HALTING AND REVERSING FOREST LOSS BY 2030

Question 2

At COP26 in Glasgow, 145 world leaders representing 91% of the global forest estate committed to “halt and reverse forest loss and land degradation by 2030 while delivering sustainable development and promoting an inclusive rural transformation”. If delivered, this would represent 10% of climate mitigation action needed to deliver on the Paris Agreement. However, 45% of commitments made on nature between 2019 and 2022 show little or no signs of implementation. It is vital that governments come together, hold one another to account and build coalitions of ambition that ensure we can meet global climate, nature, and development objectives. This is why governments are working together as part of the Forest & Climate Leaders’ Partnership. This event will demonstrate the range of actions that are needed and the governments that are willing to drive this ambition. It will balance the need for long term systemic reforms with proof points of national and international action that demonstrate the way forward.

Stop deforestation by 2023

https://www.cop28.com/en/schedule/delivering-on-glasgow-halting-and-reversing-forest-loss-by-2030

Solve the two major problems of "marine garbage" and "deforestation" at the same time

Marine waste plastic

Transform/ Replace

We Can Do it

OneNet Wood

Fireproof wood building materials

Innovative Technology

Plastic waste

0.8tons

Of plastic waste

Polymeric Materials

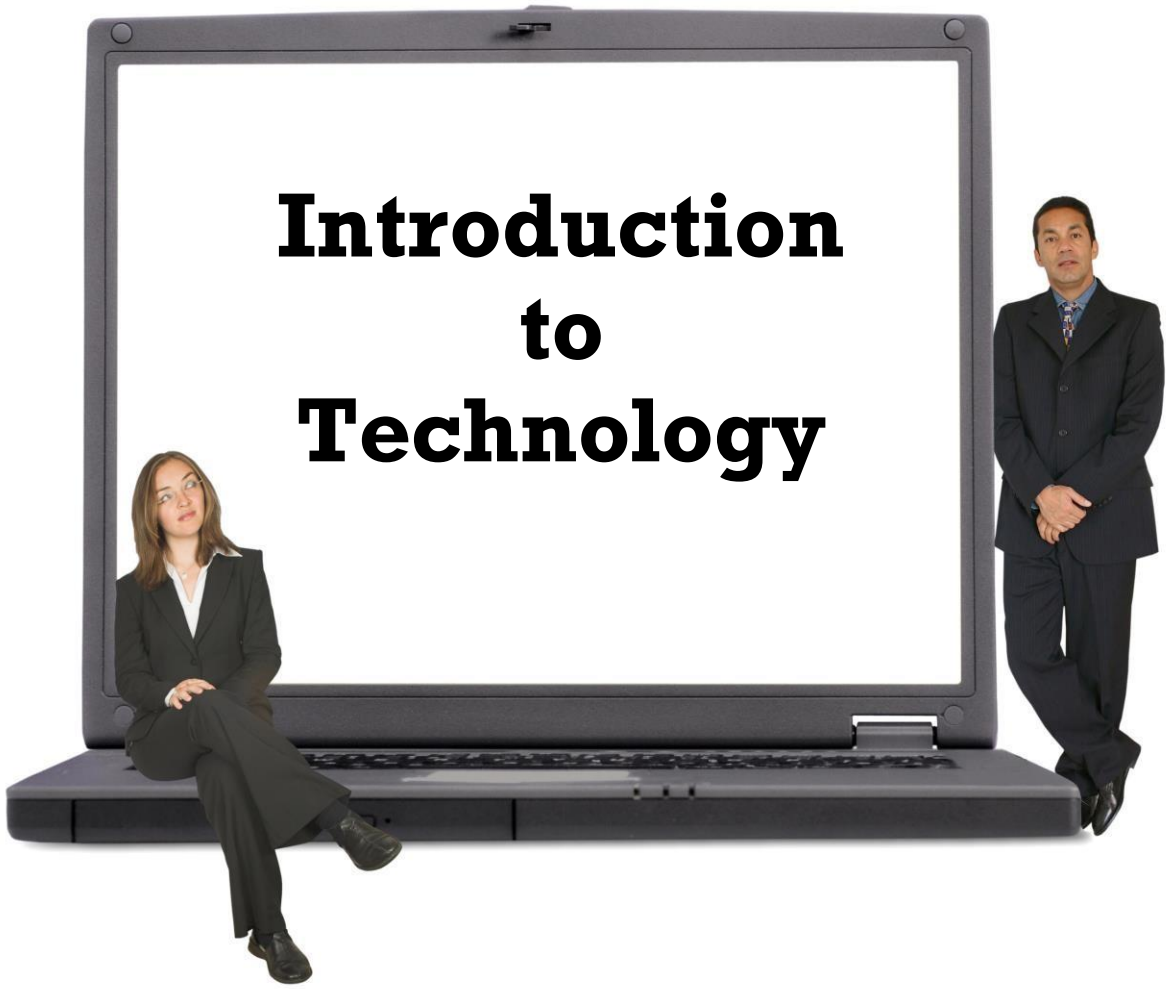
0.2 tons of raw materials

1 ton

OneNet Wood

A tree weighing 1 ton takes approximately 20 years to grow.

Approximately 400 trees aged 20 years per hectare have the capacity to absorb 20.2 tons of carbon dioxide.



- Marine waste plastic is made into wood, the only one in the world
- Recycle plastic for use more than 100 times
- OneNet Wood carbon reduction market, exclusive 2 carbon points
- Using OneNet Wood processed products, tax reduction is 90%
- OneNet Wood uses recycled materials, up to 80%
- OneNet Wood production factory, 0 air pollution and 0 water pollution
- Waste plastic recycling types, more than 90%
- Plastic wood processing properties, 100% the same as wood
- OneNet Wood is made of wood and is fireproof grade A.
- After OneNet Wood is used, waste plastic materials are recycled for 0 yuan
- Plastic recycling only melts and does not require granulation, easy to use

Innovative materials for the circular economy

Reduction in Carbon Emissions Throughout the Entire Life Cycle

infinite occurrences

Circular economy for a sustainable future

High molecular polymer waste plastic for human consumption

Recycling of PC board waste plastics.

Plastic bag recycling waste.

Plastic bottle waste recycling

Nylon waste plastic recycling

Foam plastic waste recycling.

High molecular polymer medical waste plastic

Elasticity of Polyethylene Composite

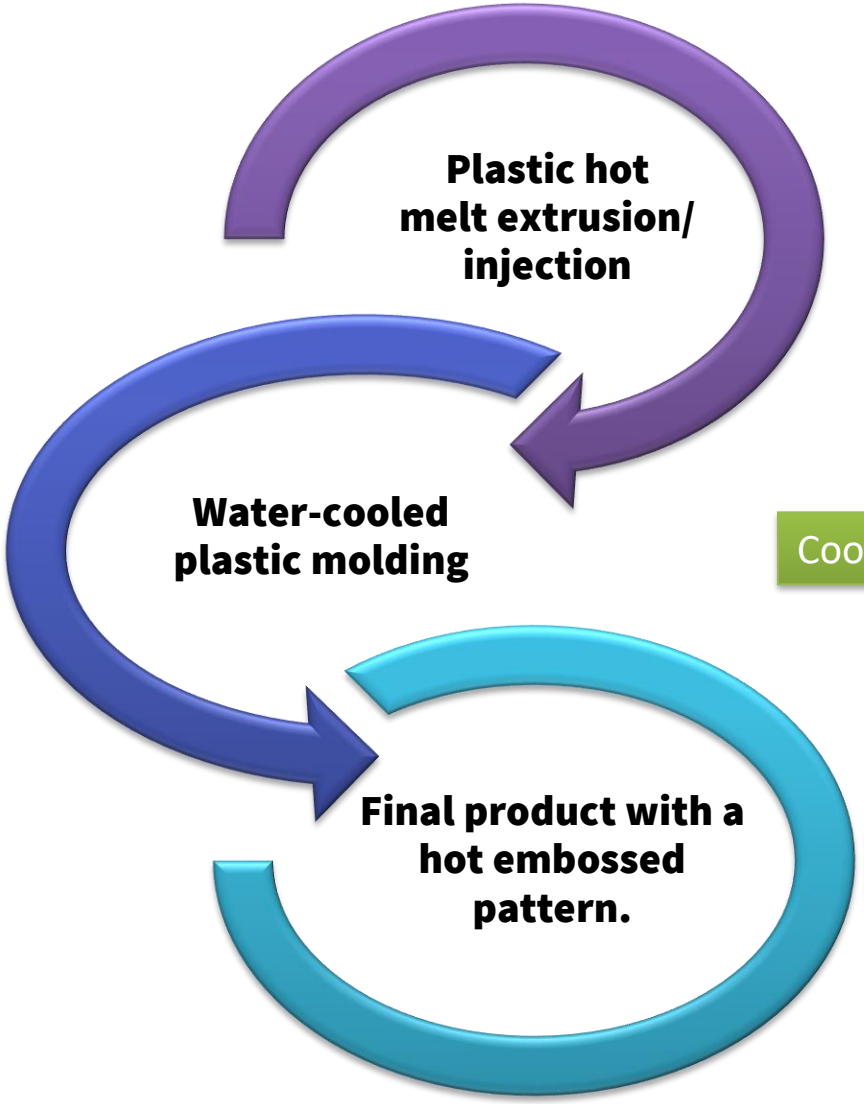
- Polystyrene (PS) is a component utilized in various formulas developed by our company.

*Polystyrene (PS) composite elastic material particles are the outcome of extensive research and development conducted by our company. Produced through internal mixing, polymerization, and granulation. It is purported to be the sole pellet material presently available on the market. Our company formally refers to it as "polyethylene composite elastic."

*A grade with high stiffness and high toughness: It possesses a specific structural stress strength and a specific gravity of 0.65-0.7kg/cm^2.

*Fire Protection Class: Class A

OneNet Wood Process



Nonflammable → **NO air pollution**

Cooling water circulation → **NO water pollution**

No adhesive applied → **NO formaldehyde and toxicity**

Comparison of OneNet Wood, Solid Wood, and Plastic Wood

Material		Solid Wood	Plastic Wood	Note
High rigidity	Excellent	Good	Normal	
high toughness	Excellent	Good	Normal	
fire resistance	A Class	Non-fireproof	B Class	
low water absorption	Nonabsorbent	No water-resistant	No water-resistant	
anti-slip properties	Excellent	Good	Normal	
recyclability	80%	none	20%	
UV resistance	Excellent	Good	Good	
surface coating	unnecessary	Required(Formaldehyde)	unnecessary	
insect/mildew resistance	Nonabsorbent	No water-resistant	No water-resistant	
insect/mildew resistance	Good	requires processing	Good	
plastic type	90%	none	30%	
recyclability	Over 100 times	restriction	Solely once	
utilization of marine waste plastic	the sole instance globally	none	none	

Numerous companies in China produce plastic wood.

OneNet Wood is an eco-friendly material used in recycling technology. It retains wood-like qualities while offering enhancements that overcome wood's limitations, elevating the uniqueness, distinctiveness, and value of wooden products.

Advantages of Dual Carbon OneNet Wood

Recycling plastic for reuse

Reduction in oil production

Carbon reduction efforts 1

Wood properties completely substituted

Deforestation

Carbon reduction efforts 2

Carbon credits

Tesla's revenue from carbon credit sales in 2023 amounts to $1.79 billion.

According to a recent report by the U.S. Securities and Exchange Commission, Tesla achieved a record high in 2023 with carbon credit sales totaling US$1.79 billion. The trading of carbon credits has emerged as a significant revenue stream for the company. Over the years, Tesla has amassed close to $9 billion in revenue through the sale of regulatory credits since 2009. Tesla is set to deliver around 1.82 million vehicles worldwide in 2023, marking a 37% increase from the previous year. Among these, about 473,000 vehicles are expected to be delivered in the fourth quarter. Consequently, the carbon credit revenue for 2023, totaling $1.79 billion, surpasses that of 2022. The amount of $1.776 billion also experienced a slight increase.

Expert Introduction

Profile

Juwei Group is Dr. Chiang Tunglin's technical development team for advancing.
-The primary new material initiatives involve polymer materials development and polystyrene (PS) composite elastomer granules research and development.
-Material Research and Development: Responsible for developing polymer elastomers to meet governmental requirements.
-Employee training and limited batch manufacturing.

Biomedical Engineering and Materials Institute, Yangming Jiaotong University, Taiwan

Dr. Chiang Tung Lin (Arno)

- Intelligent Drip Control Management System Design
- Development of a distal screw hole locator for intramedullary nails
- Development of an intravenous laser visible light module
- Development of a compound Chinese herbal small molecule extract AI embryo quality assessment auxiliary system

Patent documents

-Research and development of a comprehensive fire-resistant wood plastic material utilizing recycled polystyrene (application pending).
-Research and development of a fire-resistant insulation material composed of recyclable polyurethane to substitute Styrofoam insulation materials (application pending).
-Process methodology centered on repurposing waste tires into outdoor building materials (application pending).
-A method and device for predicting artificial reproductive insemination based on a machine learning model. An intelligent drip monitoring device (new model/invention has been sent to Taiwan/Mainland).
-Integrated disposable laser positioning guide pin data conversion DICOM processing system for intramedullary nail hole positioning - Taiwan's newly patented
-LED light with positioning and passenger flow counting functions – Taiwan's newly patented
-graphene thermotherapy bra - Mainland China's new patent A graphene physiotherapy bedding - new patent from the mainland

证书号第6385225号

发明专利证书

发 明 名 称：一种以机器学习模型建置人工生殖受孕预测方法和装置

发 明 人：高瑞鸿;江東霖

专 利 号：ZL 2020 1 0818422.5

专利申请日：2020年08月14日

专 利 权 人：北京赫雅智能科技有限公司

地 址：100085 北京市海淀区信息路26号1层0106-697室

授权公告日：2023年10月10日 授权公告号：CN 111933290 B

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局长
申长雨

2023年10月10日

第1页(共2页)

其他事项参见续页

SGS Report

SGS
材料及工程實驗室-高雄

試 驗 報 告

報告編號：
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產品型號: TjG-W-A100306
產品顏色: 鐵灰
製造廠商:
供應廠商:
送驗廠商:
收件日期: 105 年 03 月 31 日
試驗日期: 105 年 03 月 31 日~105 年 06 月 04 日
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試 驗 結 果：

試驗項目		試驗方法	試驗結果
密度(g/cm³)(23℃)		CNS 12451(1988)	0.662
吸水率(%)		CNS 9907(2012)	0.18
長度變化率(%)		CNS 9907(2012)	0.08
抗彎強度(MPa)		CNS 4392(2013)	35.0
衝擊強度(kJ/m²)(1 號試片、無刻槽)		參照 CNS 5846(1992)(跨距：60mm；擊緣方向)	3.91
衛氏軟化溫度(℃)		CNS 4393(2013)A50 法	77.6
耐候性	抗拉強度變化率(%)	CNS 15730(2014)	+3.58
	伸長率變化率(%)		-9.14
有害物質溶出量(mg/L)	鎘(Cd)		N.D.＜0.002
	鉛(Pb)		0.00049
	汞(Hg)		N.D.＜0.0004
	硒(Se)		N.D.＜0.0005
	砷(As)		N.D.＜0.0003
	六價鉻〔Cr(VI)〕		N.D.＜0.01

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本報告若有提供規範值，該規範值僅供參考，合格之判定以委託單位實際要求為準

報告簽署人

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Member of SGS Group

niwei_lee

試驗項目		試驗方法	試驗結果
密度(g/cm³)(23℃)		CNS 12451(1998)	0.662
吸水率(%)		CNS 9907(2012)	0.18
長度變化率(%)		CNS 9907(2012)	0.08
抗彎強度(MPa) 1MPa=10.2kg/cm²		CNS 4392(2013)	35.0
衝擊強度(kJ/m²) (1號試片，無刻槽)		參照CNS 5846(1992) (跨距：60mm；擊緣方向)	3.91
衛氏軟化溫度		CNS 4393(2013)A50法	77.6
耐候性	抗拉強度變化率(%)	CNS 15730(2014)	+3.58
	伸長率變化率(%)		-9.4
有害物質溶出量	鎘(Cd)		N.D.<0.002
	鉛(Pb)		0.00049
	汞(Hg)		N.D.<0.0004
	硒(Se)		N.D.<0.0005
	砷(As)		N.D.<0.0003
	六價鉻[Cr(VI)]		N.D.<0.001

試驗項目	試驗方法	儀器偵測極限值	試驗結果
甲醛釋出量/Formaldehyde(mg/L)			
平均值(mg/L)	參照CNS 2215(2012)	0.1	<0.1
最大值(mg/L)		0.1	<0.1

Taiwan Design Exhibition showcasing Marine Waste Plastic Application and OneNet Wood.

All is made by OneNet Wood

Characteristics & Application

OneNet Wood Characteristics 1

Through the application of micro-foaming technology, the physical characteristics of PS plastic wood items can be significantly enhanced and reinforced. This process facilitates the creation of a dense, elongated, wood-like fiber structure within the plastic wood, thereby enhancing its elasticity. No fiber material is incorporated in the pellets and plastic wood processes, which purely reflects the elastic pellets' characteristics.

The ultimate fiber arrangement of the extruded substance

Product appearance reflects fiber characteristics.

Fiber composition

OneNet Wood Features 2

Given lightweight requirements, the durability, structural strength, and nail extraction capability of the plastic wood material are simultaneously enhanced, effectively addressing the limitations of conventional plastic wood.

Bench length is 1.6 meters.

Screws and steel nails

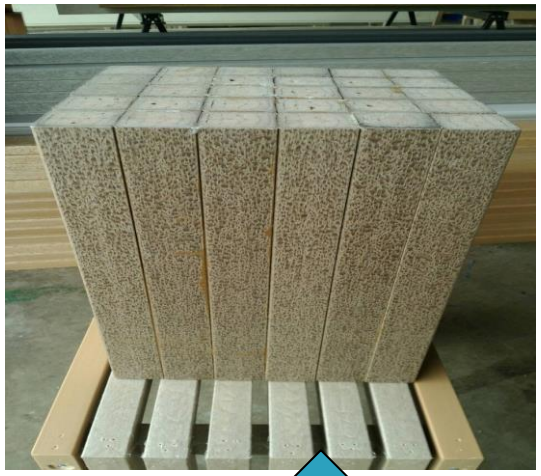
OneNet Wood Features 3

>The utilization of elastomer properties can provide plastic wood products with three distinct features. Adhesives enable plastic wood to adhere to each other.

>Items can be engraved using laser or CNC.

>Additional paint can be applied to it.

Laser Engraving



Adhesives

CNC Tongue and Groove Milling

Paint application

OneNet Wood Features 4

No pollutants, 100% environmentally friendly reuse. Acid and alkali resistant, free of eight major categories of heavy metals, environmentally non-polluting. Outstanding insulation, water resistance, and drug resistance. High UV resistance, providing heat insulation and energy-saving benefits.

Outdoor temperature


Indoor temperature distribution.

OneNet Wood Features 5- Traditional Building Technique

Nail gun

Hammer and nails

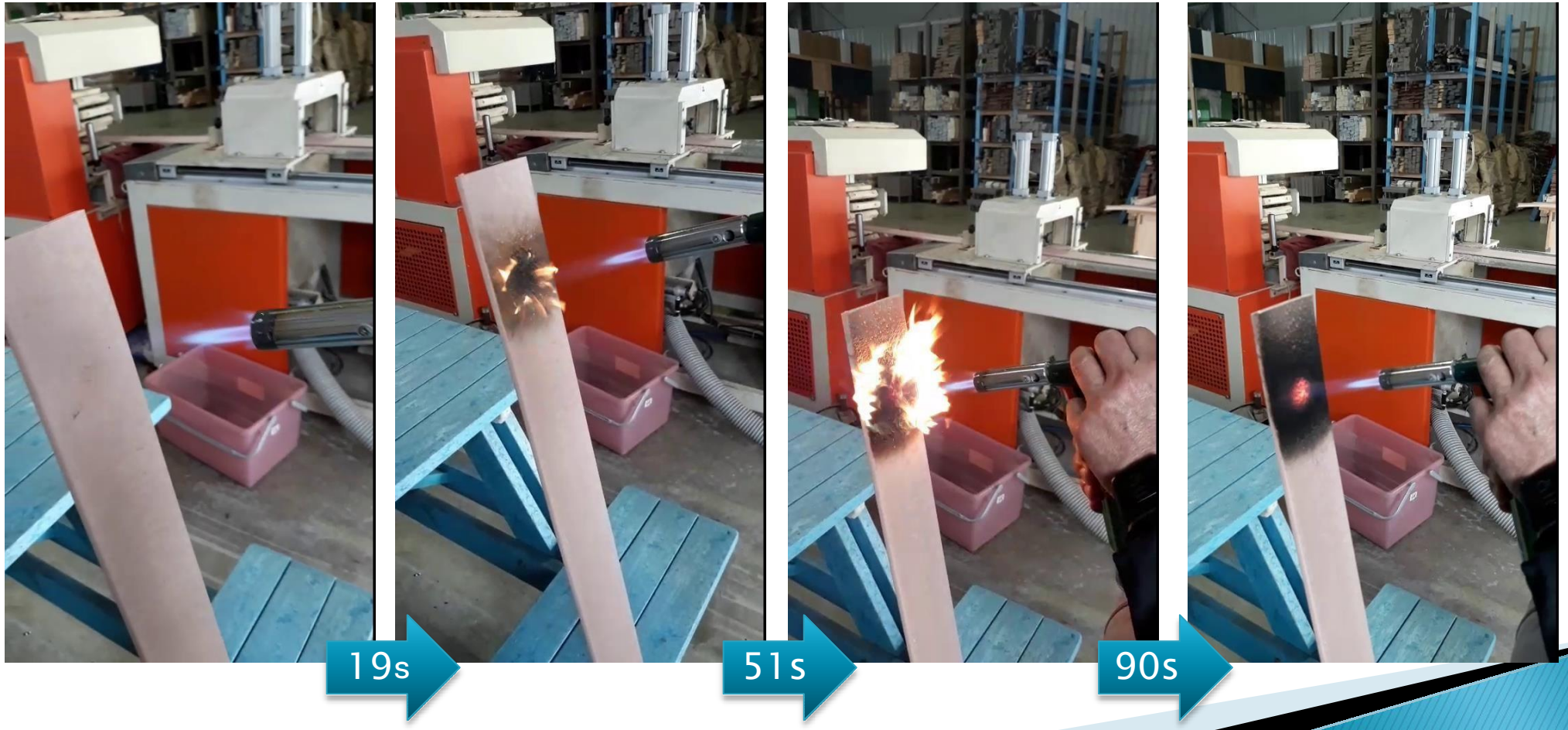
Cut

Planer knife

OneNet Wood Feature 6-Plastic Fire Protection and Flame Retardant Grade

*Development of a fire-resistant wood plastic material derived from recycled polystyrene (patent pending).

UL94 flame resistance test standard >V0: Cease burning within 10 seconds on a vertically positioned sample, with the allowance of non-burning particles dripping.



New fireproof and thermal insulation material - replacing foam.

Invention patent (in progress)

70% polyurethane : 30% fire retardant formulation

*Development of a polyurethane recycling material that replaces Styrofoam insulation and enhances it into a fireproof insulation material.

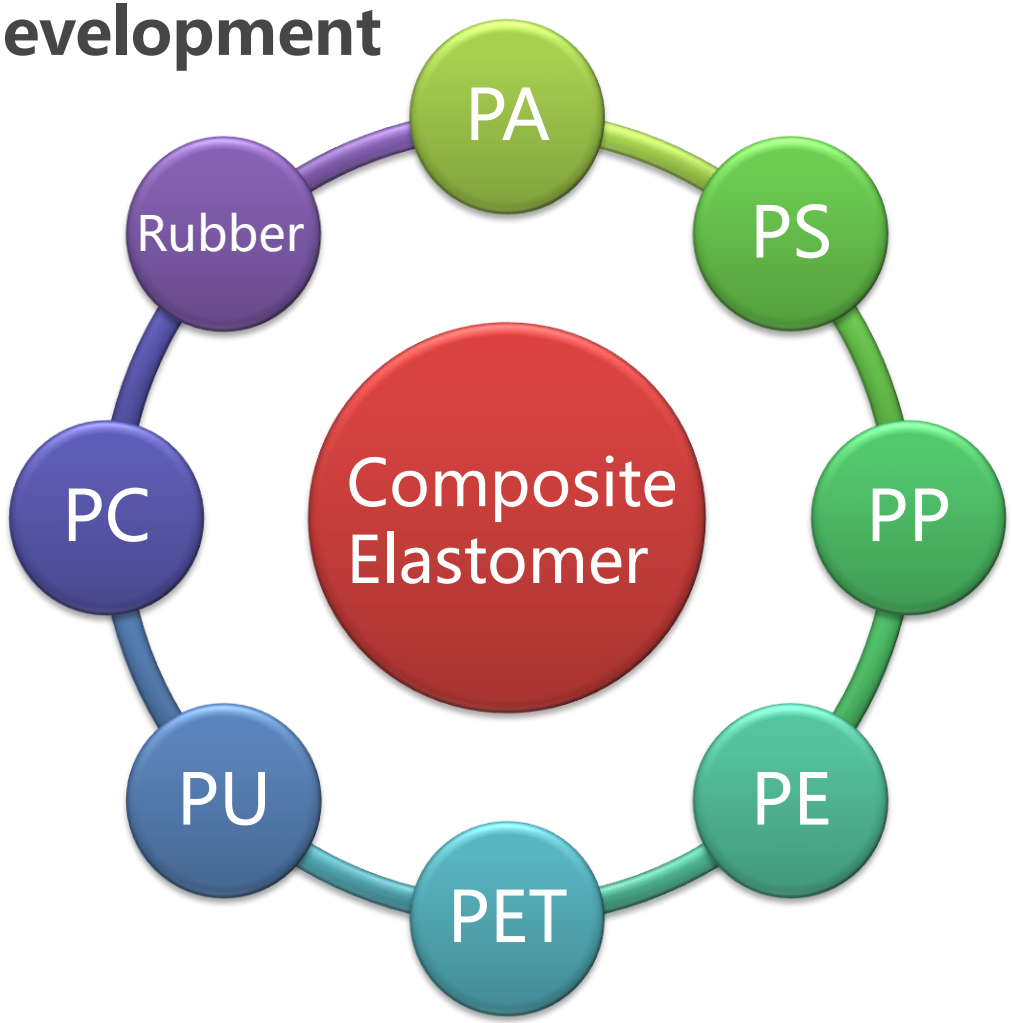
Materials for recycling waste tires are currently under development.

Transform

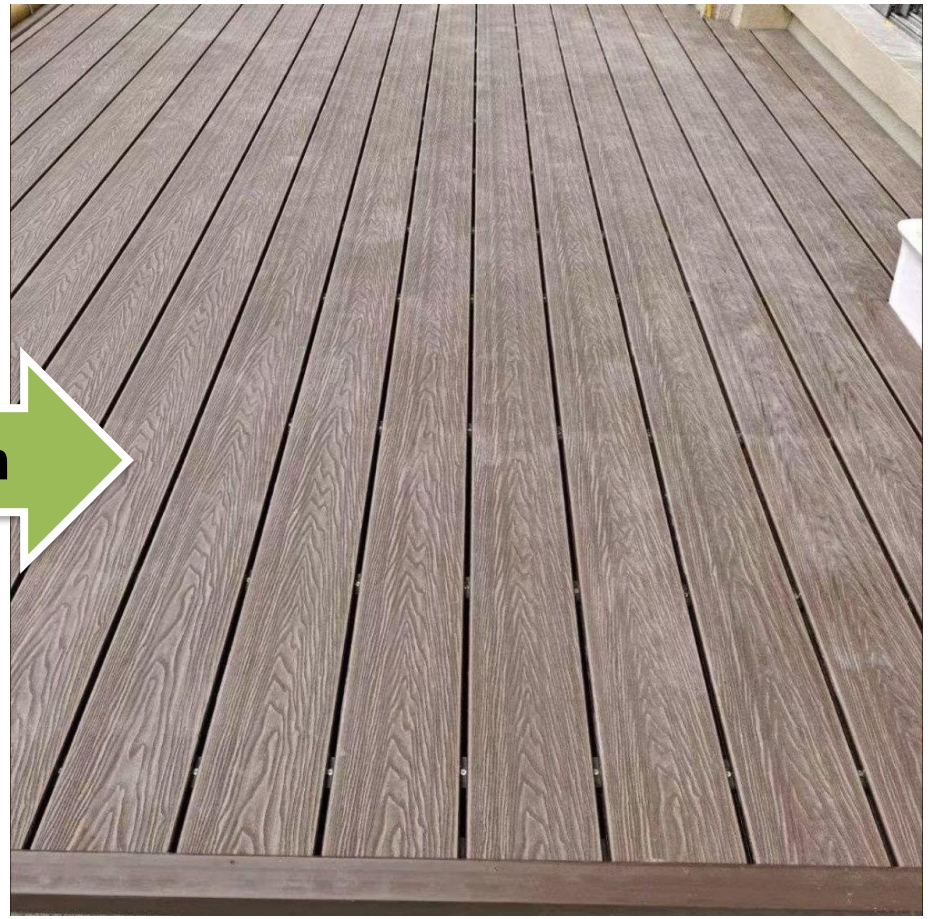
50% rubber: 50% proprietary polymer formulation

* A manufacturing process involving the recycling of waste tires into outdoor construction materials.

Marine litter (plastics that cannot be sorted are mixed) – under development



Transform



50% mixture: 50% Composite Elastomer

*A design for recycling various polymers based on marine garbage into building materials

OneNet Wood Model Specifications

裝潢寸角

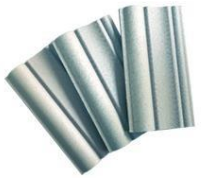
TjG-W-A100303
尺寸:30mm*30mm
重量:0.495 kg/m
密度:0.55±0.05 g/cm³

支撐角材

TjG-W-A100405
尺寸:40mm*50mm
重量:1.1 kg/m
密度:0.55±0.05 g/cm³

棧道步道板材

PDI-W-A200414
尺寸:40*140mm
重量:3.36 kg/m
密度:0.60±0.05 g/cm³



裝飾線板材

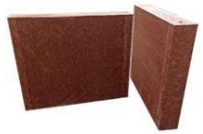
PDI-W-A2008015
尺寸:80*15mm
重量:0.33 kg/m
密度:0.60±0.05 g/cm³

固定角材

TjG-W-A100304
尺寸:30mm*40mm
重量:0.66 kg/m
密度:0.55±0.05 g/cm³

裝修、襯板材

TjG-W-A100109
尺寸:10mm*90mm
重量:0.495 kg/m
密度:0.55±0.05 g/cm³



棧道步道板材

PDI-W-A2003182
尺寸:30*182mm
重量:3.28 kg/m
密度:0.60±0.05 g/cm³

樓梯扶手

PDI-W-A2008043曲面
尺寸:80*43mm
重量:1.390 kg/m
密度:0.60±0.05 g/cm³

支撐角材

TjG-W-A100306
尺寸:30mm*60mm
重量:1.08 kg/m
密度:0.60±0.05 g/cm³

面板材

TjG-W-A1001509
尺寸:15mm*90mm
重量:0.81 kg/m
密度:0.60±0.05 g/cm³

地板格柵牆板

PDI-W-A2002515
尺寸:25*150mm
重量:2.25 kg/m
密度:0.60±0.05 g/cm³

收邊條

TjG-W-A1001505
尺寸:15*48mm
重量:0.252 kg/m
密度:0.60±0.05 g/cm³

支撐角材

TjG-W-A100309
尺寸:30mm*90mm
重量:1.62 kg/m
密度:0.60±0.05 g/cm³

外牆、屋頂扣板材

TjG-W-A1001415
尺寸:140mm*15mm
重量:1.302 kg/m
密度:0.60±0.05 g/cm³

襯板地板材

PDI-W-A20015158
尺寸:15*158mm
重量:1.42 kg/m
密度:0.60±0.05 g/cm³

柱

PDI-W-A2001414
尺寸:140*140mm
重量:8.58 kg/m
密度:0.65±0.05 g/cm³

OneNet Wood Application

> Landscaping, courtyards, wooden planks and other buildings, planks, and construction templates, cargo rack.
> Furniture, kitchenware, system cabinets, office desks and chairs, wooden floors.
> It is suitable for home and leisure wooden house construction, vehicle accessories and boards, and general building materials.

Wooden House Interior

Interior Decoration



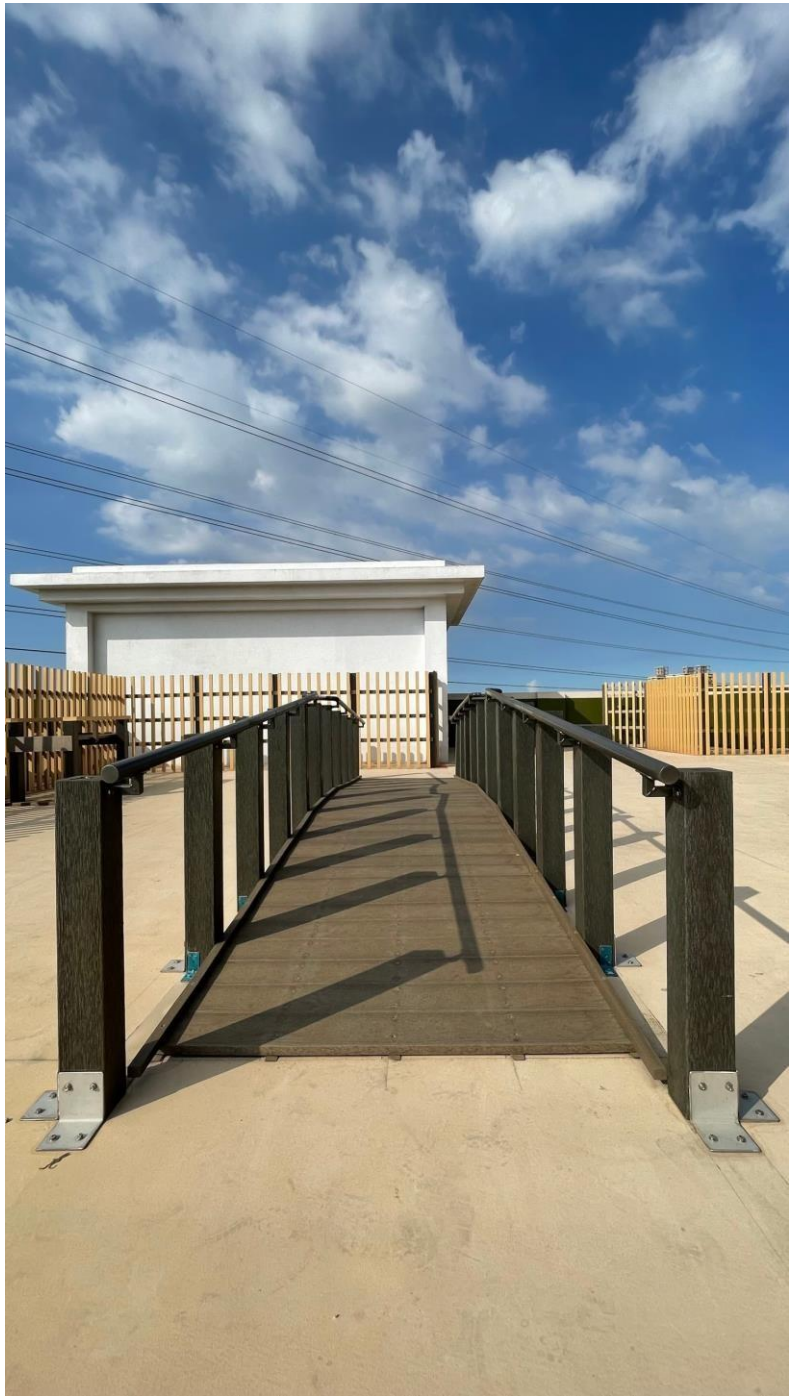









Outdoor Patio

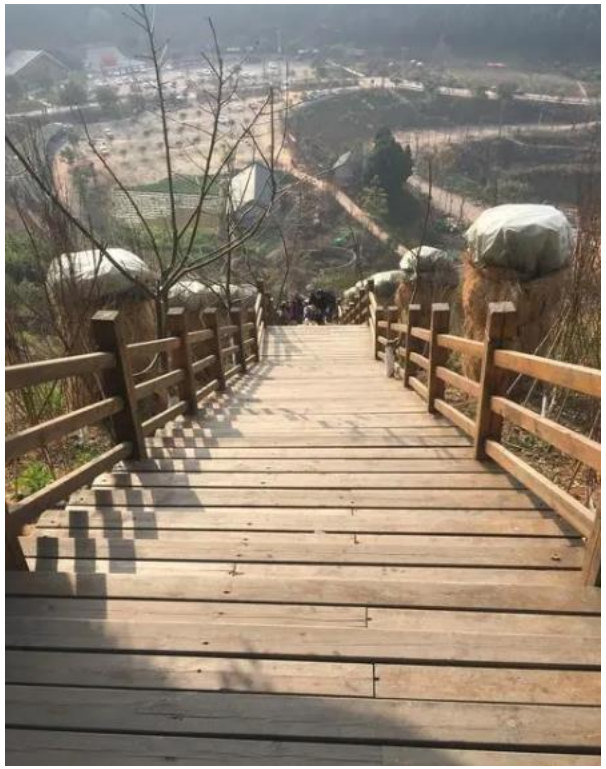


Railing/Landscaping Bridge

12 square meters cabin

Beehive

Hiking Trails/Outdoor Tables and Chairs/Pavilion



School Desks and Chairs

Paint-free, non-toxic, anti-corrosion, fire-proof

70% waste recycling system purchase price is cheap

1-year free warranty and 3-year waste recycling

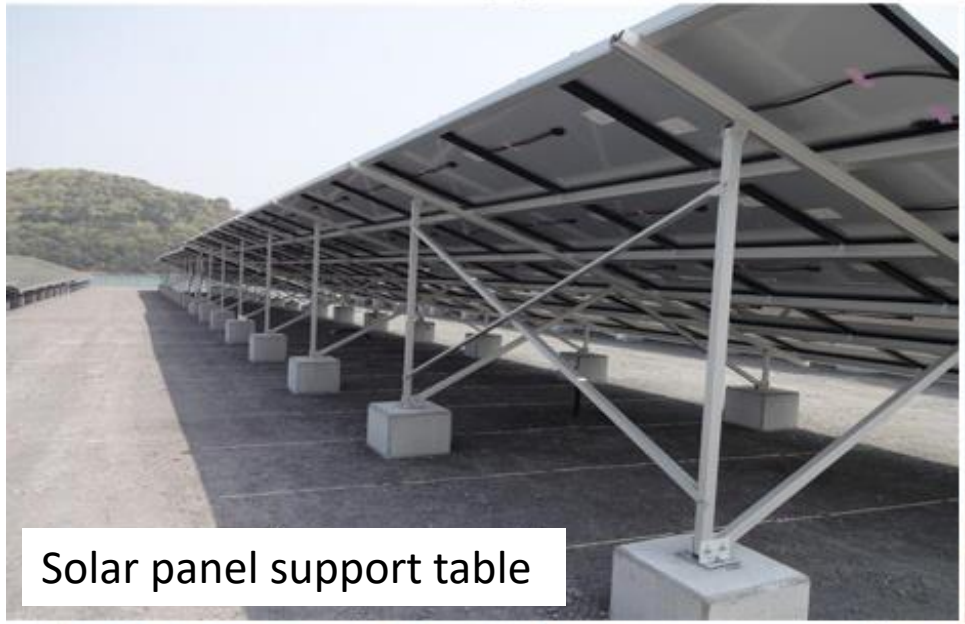
双人课桌+凳子

双人课桌+条凳

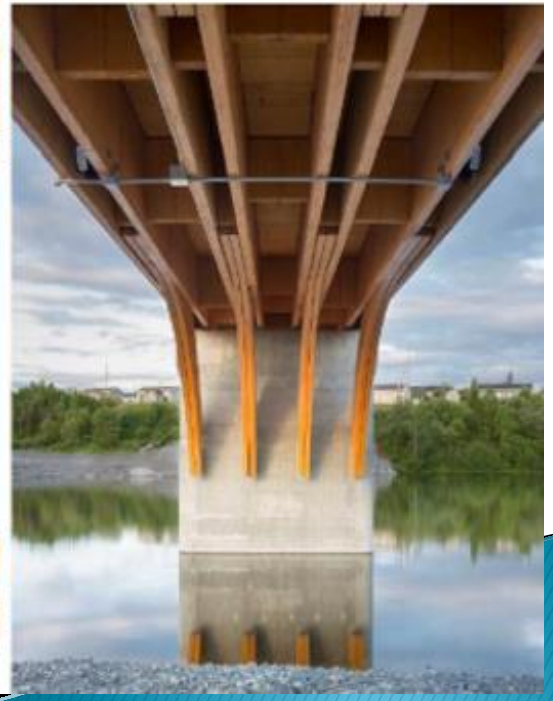
OneNet Wood's new application, a pallet made of marine waste plastic, weighs 17 kg, measures 100cm*100cm, and has passed the EU EPAL specification inspection.

Future Market Analysis

1. Building Wooden Structure



Solar panel support table




Sportscenter

2. Cargo Transportation Market Applications

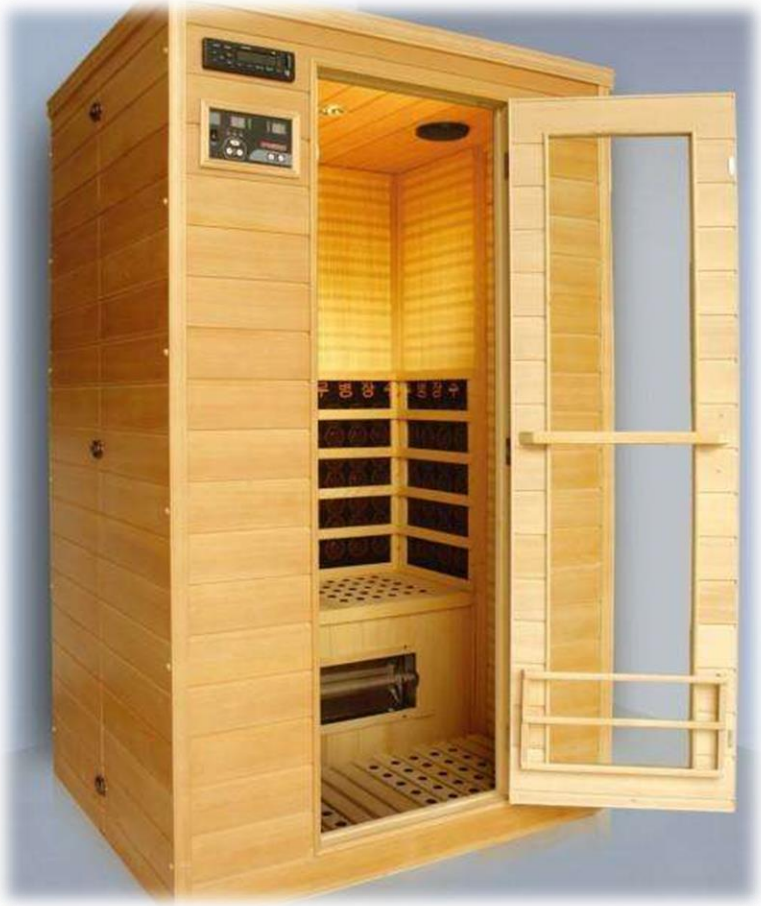
3. Replace Styrofoam in the future-cold chain application

Refrigerated truck

freezer

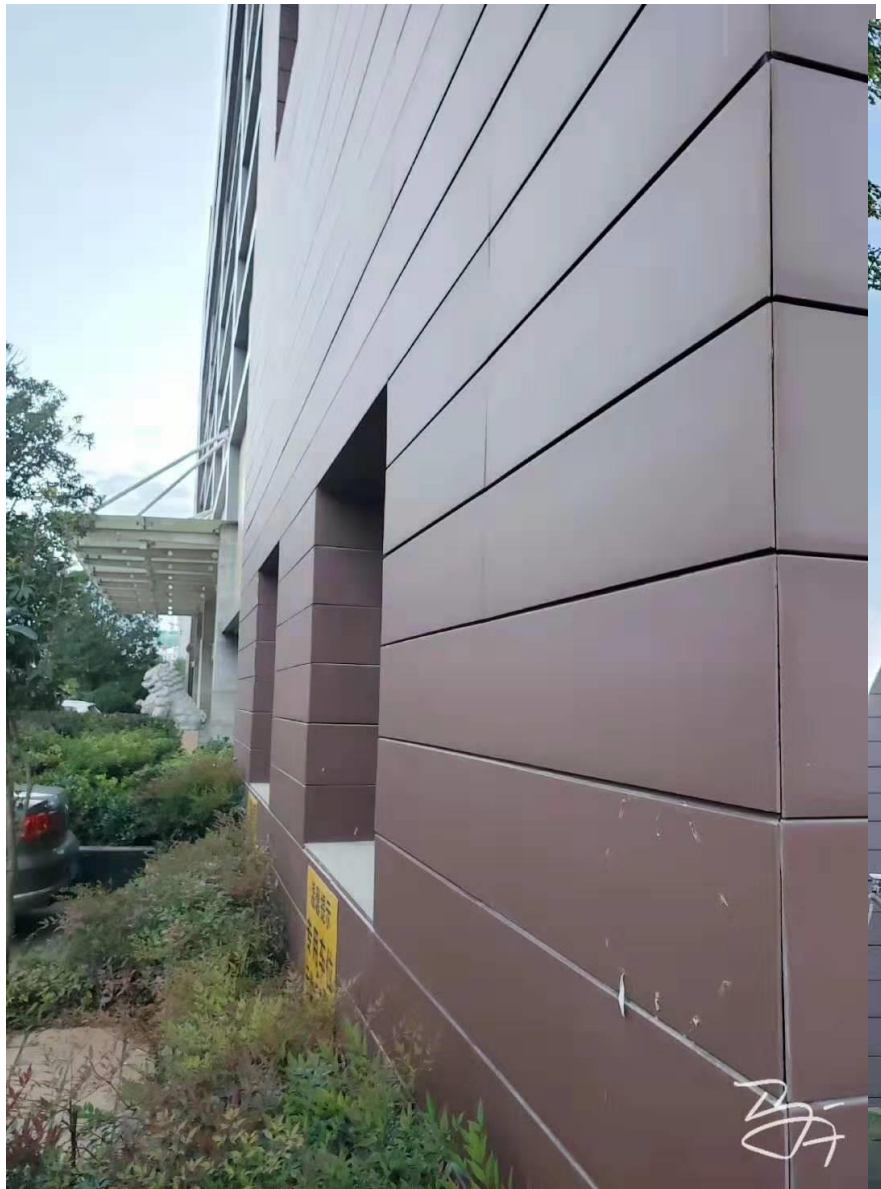
4. The future of wooden materials to replace sporting goods

5. Household products



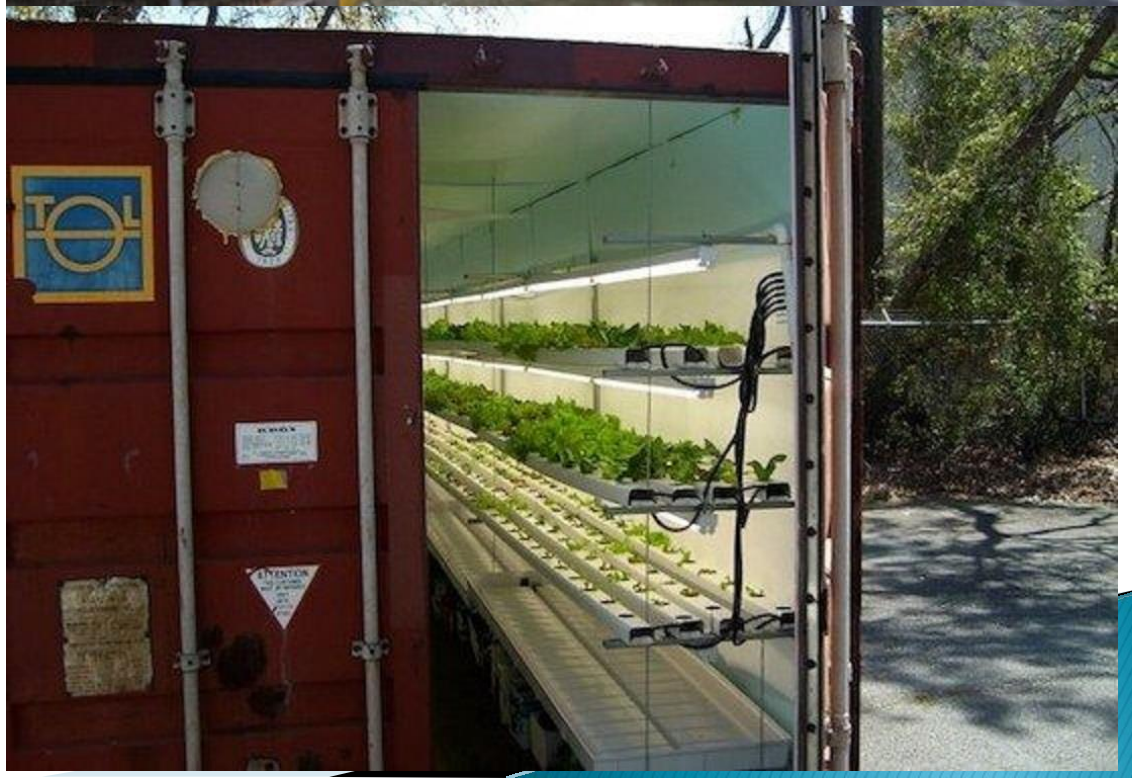
6. Wooden tools

7. Building Exterior



8. Container Room

9. Container converted into indoor hydroponic growing room



Government Policy-Circular Economy/Environmental Protection and Energy Saving/Carbon Rights Issues/Ocean Protection

OneNet Wood Solutions Can Handle