JAMPOO
TRADING SOLUTIONS

Eco-Friendly Composite Material Starch Based

Stone-Plastic Boxes

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Introduction

Traditional packaging materials rely on tree-based pulp, causing deforestation, biodiversity loss, and ecosystem disruption. The paper production process involves chemical treatments that pollute water and release harmful air pollutants, contributing to acid rain and respiratory issues. Additionally, it has a high carbon footprint, emitting 2.6 kg of CO_2 per kg of paper. This invention offers a sustainable alternative to reduce these environmental impacts.

Main Material Composition

The main material is a bio-based polymer blend of **polylactic acid (PLA)** and **calcium carbonate (*CaCO3*)**.

- Mix calcium carbonate with coupling agents, white oil, silicone oil, and PLA in a high-speed mixer to form a viscous substance.
- Convert the mixture into granules using a twin-screw extruder at ***230°C***.

Stone-Plastic Boxes Material

30%
PP Content

Low Carbon Emissions –
Aligns with national carbon reduction policies

Durable And Recyclable –
Supports the circular economy with long-term reuse

70%
Inorganic Calcium Carbonate

Stone-Plastic Boxes Material

Stone-Plastic Boxes Material	Pellet	25Kg Bag, 1MT/Pellet, 18MT/20'GP or Jumbo Bag, 20MT/20'GP

Stone-Plastic Boxes Advantage

Lightweight

Can replace traditional paper packaging currently used in the market.

Highly Water Resistant

Suitable for refrigerated goods and wet environments, ensuring content remains intact.

Impact-Resistant

Resistant and strong, providing better protection for products during transportation.

Customizable And Reusable

Reducing waste and promoting circular economy practices.

Recyclable

The material can be recycled and reused, further supporting environmental sustainability.

Stone-Plastic Boxes vs. Traditional Packaging

Food Industry (Fresh Delivery)

Indicator	Traditional	Stone-Plastic
Moisture Permeability	20%-30%	Below 5%
Freshness Duration	1-2 days	3-4 days
Load Capacity	3-4 layers	8-10 layers

Electronics (Component Packaging)

Indicator	Ordinary Box	Stone-Plastic
ESD Time	5-10 sec	Within 1 sec
Humidity Fluctuation	±10%	Within ±3%

Stone-Plastic Boxes vs. Cardboard Boxes

Material & Environmental Impact

Feature	Stone-Plastic	Cardboard Box
Material	PP + 70% calcium carbonate (inorganic)	100% paper-based material
Plastic Reduction	Uses 30% PP, reducing plastic usage	No plastic, but uses trees
Carbon Emissions	Lower emissions, eco-friendly	Higher emissions, energy-intensive
Recyclability	Long-term reusable, circular economy	Recyclable, but limited reuse

Performance

Feature	Stone-Plastic	Cardboard Box
Durability	Strong, highly water resistant oil-resistant	Weak against moisture, oil
Weight	Heavier than cardboard	Lightweight
Stacking Strength	High, space-efficient	Lower, takes up more space
Cost	Comparable costs to rigid and special grade carton boxes, with longer-term savings	Lower cost, but short lifespan
Best Use Cases	Frozen food, logistics, long-term use	Dry goods, short-term packaging

Properties of Stone-Plastic Boxes

Water And Oil Resistance

Stone-Plastic Composite material is highly resistant to water and oil, making it reliable across a wide range of storage, handling, and transportation environments.

Superior Hardness

More durable and rigid than traditional paper cartons, Stone-Plastic Composite Boxes deliver superior structural integrity and dependable protection throughout the supply chain.

Printability

The smooth composite surface accepts high-quality printing with ease, giving brands full flexibility for custom graphics, product information, and labeling.

Properties of Stone-Plastic Boxes

Ease of Processing

Stone-Plastic Composite material is straightforward to process and fabricate, supporting efficient production workflows and flexible manufacturing applications.

Reusability

Engineered for extended reuse cycles, Stone-Plastic Composite Boxes support circular economy practices, reducing waste and delivering long-term value across repeated use.

Higher Load Capacity

Stone-Plastic Composite Boxes support significantly greater stacking loads than traditional packaging, up to 8–10 layers, making them a space-efficient, high-performance solution for logistics and storage.

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Thank You