# Message

■ "Sustainable Development" is a common philosophy of "the United Nations, EarthSummit" aiming at moderate development by coexistence with the environment.

Also, at the end of 2015, "the Paris Agreement, Framework Convention on Climate Change" was adopted, and each country has begun to reduce greenhouse gas emissions.

■ The use of thinned wood and edge materials from the conservation of forests as industrial materials for local production and consumption leads to revitalization of the forest industry and resource conservation. And reducing consumption of petroleum-derived plastics can reduce oil dependence.

We made "innovative Wood Plastic Composite【i-WPC】" which can easily be injection molded.

i-Compology Corporation is looking for a company that will transform this A-ha material into A-ha products.


i-Compology™
i-Compology Corporation

**"i-Compology" is a coined term for "Innovative Composite Technology". We are trying to bring about innovation with a new approach to polymer composite technology which the predecessor could not do.**

## Company Profile

**■Company name**
**i-Compology Corporation**

**■Location**
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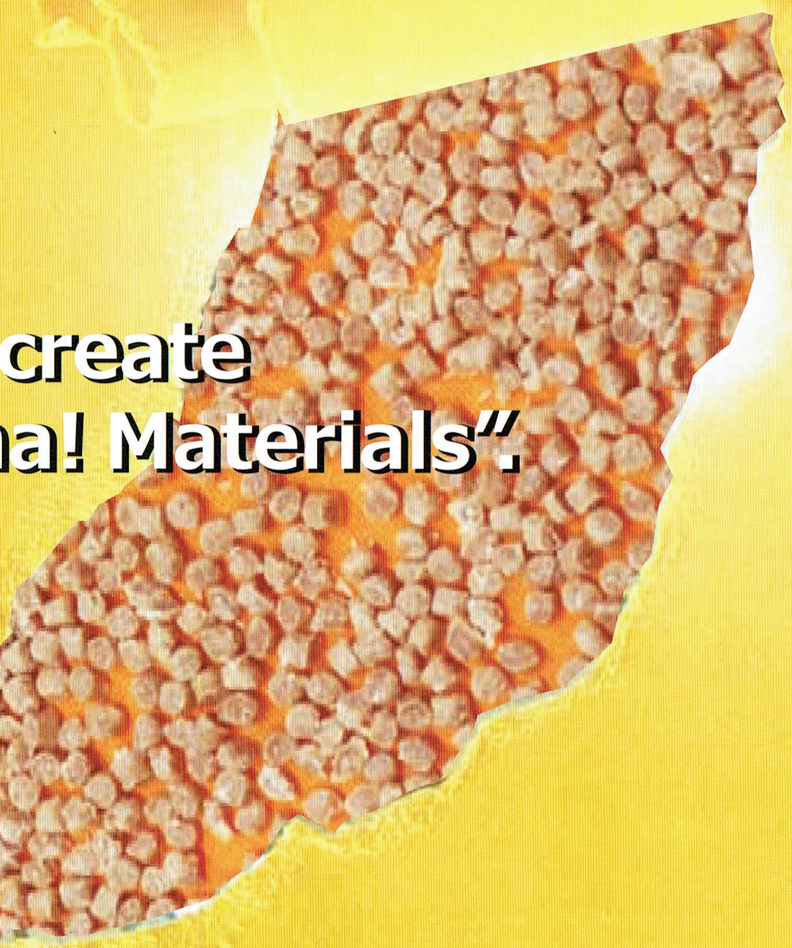
**■Business content**
Environment Bioplastic
Development, manufacture and sale of functional composite plastics materials and products

**Environmental Bio-composite**

i-Compology™
i-Compology Corporation

# Injection Moldable Innovative Wood Plastic Composite【i-WPC】



## We create "A-ha! Materials".

http://www.i-compology.com/home_en.html

# Natural Oriented Plastic... Wanted! Your Brilliant usage.

i-Compology™
i-Compology Corporation

## Effect

**■What is new?**

Until now, there were extrusion molded articles like long shape products, but there was no "Wood Plastic Composite【WPC】that can beautifully be mass-produced by injection molding". Because, wood powder is thermally decomposed at high temperature, and it becomes black and smells. Injection molding requiring especially low melt viscosity was regarded as a difficult dream technology.

Now, "innovative Wood Plastic Composite【i-WPC】" that can be injection molded easily with general-purpose injection molding machines and molds has been made!

**■Environmental bio material *!***

Wood Plastic Composite【WPC】is "Coexisting material with the environment".

①Significant reduction of $CO_2$ emissions during incineration treatment.
(Wood powder is carbon neutral, it is not regarded as a source of $CO_2$.)
②Forest preservation through use of thinned wood.
③Effective utilization of thinned wood as industrial raw material instead of fuel.
Petroleum-derived plastics can be reduced.

## Performance

**■Physical properties go up *!***

It is strange, but adding soft wood powder increases the elastic modulus and the heat resistance considerably.

| Test items | | Test method | Unit | General-purpose Polypropylene | i-WPC woodpowder31wt% | i-WPC woodpowder51wt% |
|---|---|---|---|---|---|---|
| Specific gravity | | JIS K-7112 | – | 0.91 | 1.025 | 1.101 |
| Tensile test | Breaking strength | JIS K-7162 | MPa | 35 | — | 35 |
| | Yield strength | | MPa | | 32 | — |
| | Elongation | | % | — | 5 | <5 |
| Bending test | Flexural strength | JIS K-7171 | MPa | 41 | ↗ 46 | ↗ 55 |
| | Modulus of elasticity | | MPa | 1,350 | ↗ 2,000 | ↗3,570 |
| Charpy impact test | Impact value | JIS K-7171 | KJ/m² | 3.3 | 2.9 | 3.3 |
| Heat distortion temperature | 1.80MPa | JIS K-7191 | ℃ | — | ↗ 71 | ↗ 94 |
| | 0.45MPa | | ℃ | 100 | ↗ 115 | ↗ 130 |

The deta described in this document are representative examples of measured values obtained under specified conditions and they are not guaranteed the physical properties of the application/product.

## Design

**■What is design and processing?**

As well as coloring, painting and adhesion which was difficult with polypropylene can be done.

The width of the design expands with unique material texture.