Cellulose Nanofiber composite material

LUNAFLEX®
Strong Beautiful Flexible
Our sustainable chemicals contribute to technological innovation for social sustainability.

Kao’s chemical business provide a wide range of chemical products, oil and fat products manufactured from natural oil raw materials, functional materials such as surfactants, and specialty chemical products such as pigment inks for water-based inkjets. We are expanding them globally and contributing to rich lifestyles through a wide range of industrial fields.

In addition, we continue developing innovative products that reduce environmental impact by utilizing our interfacial science technology to create a sustainable society.

**What is CNF "Cellulose Nanofiber"?**

CNF is a highly functional biomass material obtained by wood fibers. Tempo catalyst method CNF can make the nanofiber which the fiber width is 3nm uniform. It can be expected to improve dimensional stability, mechanical properties, and specific viscosity, etc.

**Kao’s modified CNF technology can disperse CNF uniformly in resins and solvents.**
Kao’s modified CNF technology

Kao’s CNF interface control technology

<Dual graft system>
1) Expressing repulsive force
2) Improving affinity

<Structural prediction by quantum chemical calculation>

Kao’s surface modification and dispersion technology achieves uniform CNF dispersion to hydrophobic media.
Features of LUNAFLEX®
LUNAFLEX® is a custom-made development product that solves customer issues. Functions of CNF can be maximized only when CNF dispersed uniformly. We can customize the modified CNF according to the type of resins/solvents.

By uniformly dispersing modified CNF into resins/solvents...

✓ Low CTE provides high dimensional stability (control heat shrinkage)
✓ Improve resin strength as a reinforcing fiber
✓ Shear thinning: Rheology control by our own technology

※ Coefficient of Thermal Expansion

LUNAFLEX is applicable to thermosetting resins such as epoxy resin and photo-curable resins such as acrylic resin.

Performance examples of LUNAFLEX® resin molded body

- Epoxy resin
  confidential

- Photo-curable acrylic resin
  confidential

Dispersion and viscosity control technology for organic solvents
  confidential

If you need more technical information...

You can request the further technical information through the “Inquiry” page on Kao’s LUNAFLEX® WEB site.
FOR YOUR PROTECTION
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