Thermal Conductive Polymer
Innovation
Eco-Awareness
Technology Advancement

ABOUT US
Nytex Composite Co., Ltd. was established in 1988 and currently has a registered capital of $800 million NTD ($27 million USD). We specialize in the compounding and coloring of Nylon 6, 66 composites and high performance polymer composites.

Nytex is continually transforming and improving itself to evolve with the evolution of the global economy. We are proud of being part of this transformation and have become one of the largest Nylon compounders to supply technologically advanced and price competitive materials to our partners in Asia Pacific as well as North America. We have been an effective supplier into industries such as, electronics, computers, automobiles, sporting goods, power tools, office furniture and many more.

LOCATIONS
Our business locations includes:
Taiwan- Taipei, Changhua
China- Shanghai, Chengdu, Dongguan, Wuhan, Xiamen
HK&Macau- Hongkong
U.S.A.- California

PRODUCT STRENGTH

superb heat dissipating ability

$\kappa = 1.0\text{--}9.0 \text{ W/m}\cdot \text{K}$
Thermal conductivity 5-45 times higher than general plastic

$\varepsilon = 0.9\text{--}0.95$
Thermal emissivity 3 times as high as aluminum alloy

NYTEX Thermal Conductive Polymer, with thermal conductivity 5-45 times higher than general plastics, thermal emissivity 3 times as high as aluminum alloy, specific gravity 50%-60% of aluminum, is applicable to injection molding process. It helps enhance heat dissipating efficiency of products, simplify design and manufacturing process, also achieve lightweighting purpose.

Certificated with RoHS, REACH, UL card, UL-RTI 140°C , NYTEX Thermal Conductive Polymer offers reliability and safety for your products.

ADVANTAGES
Lightweighting
40% less weight than metal

Productivity
Rapid production cycle

Flexibility
More flexible in design

FEATURES

Reliability
• UL94-V0
• UL94-V0A
• UL-RTI 140°C
• Salt-fog resistance
• Electric Insulative
• Compliance with Federal Aviation Regulation
• Compliance with FAR25.853: Fire Protection for compartment interior
• Compliance with Boeing & ABD Low Smoke Free Halogen standard
• NFPA 130 Standard for fixed guideway transit and passenger rail systems

Environmentally
Friendly

Nytex has been steadily supplying highly qualified materials into the market. Apart from focusing on the traditional nylon composites, we have now developed many new performance polymers with advanced technology to provide a complete solution for the new emerging markets.

Nytex Composite Co., Ltd. was established in 1988 and currently has a registered capital of $800 million NTD ($27 million USD). We specialize in the compounding and coloring of Nylon 6, 66 composites and high performance polymer composites.

Nytex is continually transforming and improving itself to evolve with the evolution of the global economy. We are proud of being part of this transformation and have become one of the largest Nylon compounders to supply technologically advanced and price competitive materials to our partners in Asia Pacific as well as North America. We have been an effective supplier into industries such as, electronics, computers, automobiles, sporting goods, power tools, office furniture and many more.
STRICT QUALITY ASSURANCE

In order to carefully control the material quality, we own a full range of testing equipment:

- UL Equivalent Heat Aging Tester
- Universal Testing Machine
- Low & High Temperature Tester
- DSC/TGA Thermal Analyzer
- Melt Index Tester
- Heat Deflection Temperature Tester
- Thermal Tester
- High Voltage Meter

A THERMAL SIMULATION EXPERIMENT

This is a thermal simulation experiment, which we executed to understand the effect of applying NYTEX thermal conductive polymer. We set a heat source on a material sheet which is the independent variable in the experiment. The sheet is changed into different kinds of materials, including PC/ABS, NYTEX thermal conductive polymer KF series, NYTEX thermal conductive polymer CM series, aluminum alloy and NYTEX thermal conductive polymer with aluminum alloy.

As the results showed below, the heat dissipating ability of NYTEX thermal conductive polymer is much higher than general plastics, while close to aluminum alloy.
FEATURES

For Injection Moulding  
Electrically Insulative  
\( k = 0.9 - 1.3 \text{ W/m-K (through plane)} \)  
UL-94 V0  
RTI 140℃  
Surface resistance(Ω) > 10^{12} \text{ ohm}  
White, Colorable

APPLICATIONS

Commercial Lighting  
Electronic Product Housing  
Li-ion Battery

EXAMPLE

This is a case which applying KF series on Li-ion battery holder. We compared the performance between ABS holder and KF series holder. As the charts listed below, TCP holder helped decrease the cells temperature up to 8℃ more than ABS holder. In addition, we can see in the thermal simulative graphic that TCP holder help distributing heat more evenly.

TCP holder  
Battery temperature 10.6 / 9.7 / 10.1 / 10.9 ℃

ABS holder  
Battery temperature 18.2 / 17.9 / 17.8 / 18.4 ℃

Cells Discharge Temperature with TCP Holder

Voltage  
Battery 1  
Battery 2  
Battery 3  
Battery 4  
Ambient Temperature

1500 2000 2500 3000 3500 4000 4500 sec

25 27 29 31 33 35 37 ℃
For Injection Moulding
Electrically Conductive
\[ k = 4.5 - 9.0 \text{ W/m-K} \] (through plane)
UL-94 V0
Surface resistance(Ω) > 10^5 – 10^6 ohm
Black

**EXAMPLE**

In this case, we made heatsink by both NYTEX thermal conductive polymer and aluminum, then comparing the performance with aluminum heatsink. The results show that NYTEX thermal conductive polymer with aluminum heatsink reduce slightly more temperature than aluminum heatsink. In the IRT image, it demonstrates that the heat distributed evenly on both kind of heatsink.

**FEATURES**

- Surface resistance(Ω) > 10^5 – 10^6 ohm
- Black

**APPLICATIONS**

- LED Auto Lighting
- Heat Sink
- Commercial Lighting
Visit our website to see more options
http://www.nytex.com.tw