

### **A new polyamide resin which shows high thermal conductivity**

Unitika Ltd. has developed a high thermal-conductive polyamide (nylon) resin which shows as high as 50 W/mK (flow direction), as compared with 0.2 W/mK of conventional nylon resin. This resin can be used for wide range of application, such as OA equipment, IT equipment, electrical and electronic devices, LEDs, and sensors.

As electronic devices have been downsized, the space for heat-emission is decreasing and the heat design in becomes an important technology. Needs of high thermal-conductive resin have been increasing. Up to now, compounds of thermal-conductive filler(s) with resin(s) are popular but their processability is poor in general. We often find difficulty for them to apply for small-size molding.

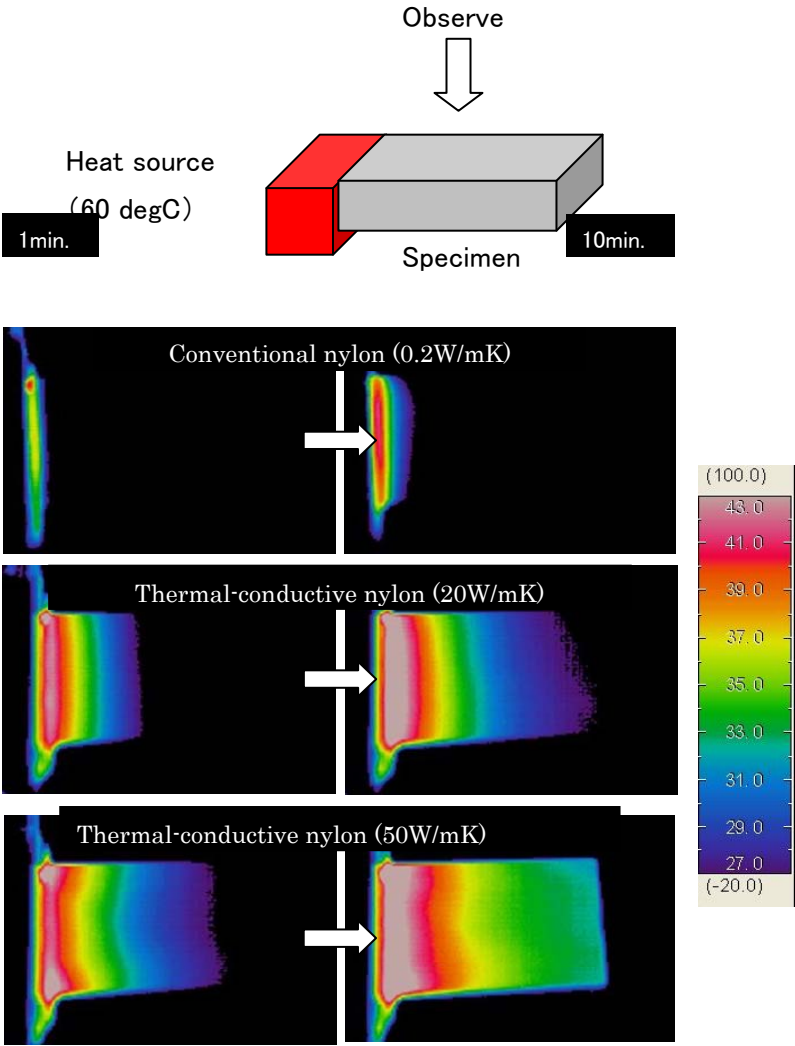
We have studied on polymer structure, the filler(s), and compounding conditions to clear the hurdle.

Our product has following features.

- Shows as high as 50W/mK thermal conductivity for electro-conductive filler system
- Shows as high as 15W/mK thermal conductivity for insulation filler system
- Shows the same processability for injection molding as 60% GF-reinforced nylon resin
- Mechanical strength of molded products can be increased by special post-treatments
- Gives volume-, weight-, and cost-cutting to your heat-treatment (cooling) system

[Fig. 1] Imaging by Thermography

Touched the specimen to a heat-source for a short time, and observed the temperature change.



[Fig. 2] Apparent melt viscosity of the Product and GF reinforced (60%) nylon

