

Development of New Heat-Resistant Polyamide Resin, “PA9T”, for Electronic and Automobile Parts

Kuraray Co. Ltd. has developed a new heat-resistant polyamide, “PA9T” (trademark pending) by using innovative synthetic technology and begun commercial production at a semi-commercial facilities. The main features of this product are as follows.

1. What is “PA9T”?

“PA9T” is a heat-resistant polyamide derived from terephthalic acid and nonanediamine, which Kuraray has developed a new and innovative technology to produce. “PA9T” has a superior balance of properties, including low water absorption, high chemical resistance, and excellent resistance to abrasion, in addition to heat-resistance, and is praised as “a new material with high functions”, compared with other existing high-temperature engineering plastics like PA6T (heat-resistant polyamide), PPS (polyphenylene sulfide), and LCP (liquid crystal polyesters).

2. Technological Features

Nonanediamine, the raw material monomer for “PA9T”, is a new diamine, first commercially produced by Kuraray, with a chemical structure of linear 9 carbon atoms. Its chemical structure makes “PA9T” a distinguished high-temperature high-performance polyamide with well-balanced superior properties.

3. Applications

(1) Electronic parts which require heat-resistance and dimensional stability

Mainly SMT (surface-mounting technology) connectors, switches, relays, parts for three-dimensional circuits, bobbins, etc., for personal computers and portable communication devices such as cellular phones.

(2) Automobile parts which require heat- and chemical-resistance (in particular engine-related parts)

We are investigating possible applications for main engine parts, engine ventilation parts, and engine cooling parts.

4. Main Product Features

(1) Electronic parts

(a) Heat-resistance (soft solder heat-resistance under actual-application conditions)

Capable of withstanding temperatures up to 290 °C, as compared with existing materials

Capable of withstanding temperatures of 250 ~ 260 °C.

(b) Dimensional stability thanks to its low water absorption

