

## Properties

| Properties                       | Item                                   | Method<br>ASTM                           | Unit                         | PEEK-CNT-R6                       |         |
|----------------------------------|--|--|------------------------------|-----------------------------------|---------|
|                                  | Color                                  | -  | -                            | black                             |         |
|                                  | Density                                | D792                                     | lbs/in <sup>3</sup>          | 0.047                             |         |
|                                  | Water absorption                       | after 24/96h immersion in water of 73°F  | D570                         | mg                                | -/-     |
|                                  |  |  | D570                         | %                                 | -/-     |
|                                  |  | at saturation in air of 73°F, 50%RH      | D570                         | %                                 | -       |
|                                  |  | at saturation in water of 73°F           | D570                         | %                                 | -       |
| Thermal Properties               | Melting Temperature                    | D2133                                    | °F                           | -                                 |         |
|                                  | Thermal conductivity at 73°F           | C177                                     | Btu-in/ft <sup>2</sup> -h-°F | -                                 |         |
|                                  | Coefficient of inear thermal expansion | average value btw 73~140°F               | D696                         | in/in/°F                          | -       |
|                                  |  | average value btw 73~212°F               | D696                         | in/in/°F                          | -       |
|                                  | Temperature of Deflection under load   | method A : 264psi                        | D648                         | °F                                | 320     |
|                                  | Max. allowable service temp. in air :  | for short periods                        | -                            | °F                                | -       |
|                                  |  | continously : 5,000/20,000h              | -                            | °F                                | 480     |
|                                  |  | Min. service temperature                 | -                            | °F                                | -       |
| Flammability                     | UL94 (3/6mm thickness)                 | -  | -                            | V-0/V-0                           |         |
| Mechanical Properties<br>at 73°F | Tension test                           | tensile stress                           | D638                         | psi                               | 14,500  |
|                                  |  | tensile strain at break                  | D638                         | %                                 | 15      |
|                                  |  | tensile modulus of elasticity            | D638                         | psi                               | 580,000 |
|                                  | Compression test                       | compressive stress at 10% nominal strain | D695                         | psi                               | -       |
|                                  | Izod impact strength-Notched           |  | D256                         | ft-lbs/in                         | 0.8     |
|                                  | Rockwell hardness                      |  | D785                         | -                                 | R120    |
|                                  | Electrical Properties<br>at 73°F       | Electric strength                        | D149                         | V/mil                             | -       |
| Volume resistivity               |  | D257                                     | Ω-cm                         | -                                 |         |
| Surface resistivity              |  | D257                                     | Ω                            | 10 <sup>5</sup> ~ 10 <sup>7</sup> |         |

This table is a valuable help in the choice of a material. The data listed here fall within the normal range of product properties. However, they are not guaranteed and they should not be used to establish material specification limits nor used alone as the basis of design.