

## Physical Properties Table for General Engineering Plastics

| Item                                          | Test Method | Unit                              | PA6                 | POM-C                | PC                  | PTFE                 | ABS                  | PP                   | PE                   | PMMA                |
|-----------------------------------------------|-------------|-----------------------------------|---------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| Colour                                        |             |                                   | White               | White                | Transparent         | White                | Yellow               | White/Gray           | White                | Transparent         |
| Specific gravity                              | 1183        | g/cm <sup>3</sup>                 | 1.14                | 1.41                 | 1.2                 | 2.2                  | 1.1                  | 0.92                 | 0.96                 | 1.2                 |
| Max service temperature (long term)           |             | ℃                                 | 85                  | 115                  | 125                 | 260                  | 70                   | 95                   | 90                   | 70                  |
| Max service temperature (short term)          |             | ℃                                 | 160                 | 140                  | 135                 | 285                  | 85                   | 120                  | 110                  | 90                  |
| Melting point                                 |             | ℃                                 | 220                 | 165                  | 230                 | 330                  | 170                  | 170                  | 120                  | 240                 |
| Glass transition temperature                  |             | ℃                                 | 48                  | 65                   | 140                 |                      | 115                  | 60                   | 70                   | 100                 |
| Linear expansion coefficient                  |             | K <sup>-1</sup> ×10 <sup>-4</sup> | 90×10 <sup>-6</sup> | 110×10 <sup>-6</sup> | 65×10 <sup>-6</sup> | 120×10 <sup>-6</sup> | 100×10 <sup>-6</sup> | 150×10 <sup>-6</sup> | 155×10 <sup>-6</sup> | 70×10 <sup>-6</sup> |
| Combustion performance (UL94)                 | 4589        |                                   | HB                  | HB                   | HB                  | HB                   | HB                   | HB                   | HB                   | HB                  |
| Water absorption (24-hour in water 23℃)       | 62          | Mg                                | 86                  | 20                   | 13                  |                      |                      |                      |                      |                     |
| — (in water 23℃)                              | 62          | %                                 | 9                   | 0.85                 | 0.35                |                      | 0.4                  | 0.01                 | 0.01                 | 0.3                 |
| Bending strength                              | 527         | MPa                               | 76/-                | 68/-                 | 70/-                | 70/-                 | 70/-                 |                      | 30                   | 125                 |
| Breaking tensile strain                       | 527         | %                                 | >50                 | 35                   | >50                 | >50                  |                      | >50                  |                      |                     |
| Elastic modulus                               | 527         | MPa                               | 3250                | 3100                 | 2400                | 700                  | 2100                 | 1450                 | 900                  | 3300                |
| —The compression stress of 1%2% normal strain | 604         | MPa                               | 24/46               | 19/35                | 18/35               |                      | 17/-                 | 4/-                  | 3/-                  |                     |
| Charpy notched impact test                    | 179/1eU     | kJ/m <sup>2</sup>                 | 5.5                 | 7                    | 9                   |                      |                      |                      |                      |                     |
| Friction coefficient                          |             |                                   |                     | 0.32                 | 0.55                | 0.1                  | 0.5                  | 0.3                  | 0.3                  | 0.55                |
| Rockwell Hardness                             | 2039—1      | -                                 | M85                 | M84                  | M75                 | 40                   | 70                   | 70                   | 62                   | 90                  |
| Dielectric strength                           | 60243       | kV/mm                             | 25                  | 20                   | 28                  | 48                   | >20                  | >40                  | >50                  | >40                 |
| Volume resistivity                            | (60093)     | Ω×cm                              | 10 <sup>14</sup>    | 10 <sup>+14</sup>    | 10 <sup>+15</sup>   | 10 <sup>+16</sup>    | 10 <sup>+14</sup>    | 10 <sup>+14</sup>    | 10 <sup>+15</sup>    | 10 <sup>+15</sup>   |
| Surface resistivity                           | (60093)     | Ω                                 | 10 <sup>+13</sup>   | 10 <sup>+13</sup>    | 10 <sup>+15</sup>   | 10 <sup>+16</sup>    | 10 <sup>+13</sup>    | 10 <sup>+13</sup>    | 10 <sup>+16</sup>    | 10 <sup>+15</sup>   |
| Relative permittivity-100Hz-1MHz              | (60250)     | -                                 | 3.9/3.3             | 3.8/3.8              | 3.0/3.0             | 2.1/-                | 3.3/-                | 2.3/-                | 2.4/-                | 3.4/-               |
| Arc resistance                                | (60112)     | -                                 | 600                 | 600                  | 600                 |                      |                      |                      |                      |                     |
| Adhesiveness                                  |             |                                   | +                   | +                    | +                   | -                    | +                    | 0                    | 0                    | +                   |
| Food contact                                  |             |                                   | +                   | +                    | +                   | +                    | -                    | +                    | +                    | +                   |
| Acid resistance                               |             |                                   | —                   | +                    | +                   | +                    | +                    | +                    | +                    | +                   |
| Alkaline resistance                           |             |                                   | +                   | +                    | -                   | +                    | 0                    | +                    | +                    | +                   |
| Carbonated water resistance                   |             |                                   | +/0                 | +                    | 0                   | +                    | +                    | +                    | +                    | +                   |
| Aromatic compounds resistance                 |             |                                   | +/0                 | +                    | -                   |                      | -                    | -                    | 0                    | -                   |
| Ketone resistance                             |             |                                   | +                   | +                    | -                   |                      | -                    | +                    | +                    | -                   |

Remarks: +=Yes 0=It Depends -=No