

| Property                                         | Test Condition | Test Method ISO | Units              | Heat resistant      |
|--------------------------------------------------|----------------|-----------------|--------------------|---------------------|
|                                                  |                |                 |                    | High heat resistant |
|                                                  |                |                 |                    | 450Y-X10            |
|                                                  |                |                 |                    | >ABS<               |
| Physical property                                |                |                 |                    |                     |
| Density                                          | 23℃            | ISO1183         | kg/m <sup>3</sup>  | 1070                |
| Specific Gravity                                 |                | ASTM D792       | -                  | 1.07                |
| Mechanical property                              |                |                 |                    |                     |
| Tensile strength                                 | 23℃            | ISO527-1,2      | MPa                | 53                  |
| Tensile strength                                 |                | ASTM D638       | MPa                | 46                  |
| Tensile elongation at Break                      |                | ASTM D638       | %                  | 12                  |
| Elongation at Break                              | 23℃            | ISO527-1,2      | %                  | 10                  |
| Flexural Strength                                | 23℃            | ISO178          | MPa                | 80                  |
| Flexural Strength                                |                | ASTM D790       | MPa                | 77                  |
| Flexural Modulus                                 | 23℃/50% RH     | ISO 178         | MPa                | 2360                |
| Flexural Modulus                                 |                | ASTM D790       | MPa                | 2300                |
| Rockwell Hardness                                | 23℃            | ISO2039-2       | R Scale            | 111                 |
| Rockwell Hardness                                | 23℃/50% RH     | ASTM D785       | Rスケール              | 111                 |
| Charpy Impact Strength (V-notched)               | 23℃            | ISO179          | kJ/m <sup>2</sup>  | 16                  |
| Ball Pressure Temp./0.1mm Vicat Softening T emp. |                |                 | ℃                  | 105~105             |
| Izod Impact Strength (V-notched)                 | 23℃ 12.7mm     | ASTM D256       | J/m                | 150                 |
| Izod Impact Strength (V-notched)                 | -30℃ 12.7mm    | ASTM D256       | J/m                | 91                  |
| Izod Impact Strength (V-notched)                 | -30℃ 3.2mm     | ASTM D256       | J/m                | 98                  |
| Heat property                                    |                |                 |                    |                     |
| Heat Deflection Temp High Load                   | 1.80MPa        | ISO75-1,2       | ℃                  | 95                  |
| Heat Deflection Temp(Unannealed)High Load        | 6.4mm/1.82MPa  | ASTM D648       | ℃                  | 98                  |
| Flammability                                     |                | UL94            | rank/thickness mmt | HB                  |
| Molding property                                 |                |                 |                    |                     |
| Mold shrinkage                                   | 23℃/50% RH     | Toray Method    | %                  | 0.5-0.8             |
| Melt Flow Rate                                   | 220℃/98N       | ISO 1133        | g/10min            | 6                   |

These values are typical data for this product under specific test conditions and not intended for use as limiting specifications.

