

REGION ASIA

## DESCRIPTION

Multi-purpose, injection molding ABS providing a favorable balance of engineering properties.

## TYPICAL PROPERTY VALUES

Revision 20180807

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|----------------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL</b>                            |                |                   |              |
| Tensile Stress, yld, Type I, 5 mm/min        | 44             | MPa               | ASTM D638    |
| Tensile Stress, brk, Type I, 5 mm/min        | 33             | MPa               | ASTM D638    |
| Tensile Strain, yld, Type I, 5 mm/min        | 2              | %                 | ASTM D638    |
| Tensile Strain, brk, Type I, 5 mm/min        | 24             | %                 | ASTM D638    |
| Tensile Modulus, 5 mm/min                    | 2310           | MPa               | ASTM D638    |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 70             | MPa               | ASTM D790    |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2100           | MPa               | ASTM D790    |
| Hardness, Rockwell R                         | 112            | -                 | ASTM D785    |
| Tensile Stress, yld, 50 mm/min               | 47             | MPa               | ISO 527      |
| Tensile Strain, break, 50 mm/min             | 35             | MPa               | ISO 527      |
| Tensile Strain, yld, 50 mm/min               | 2.6            | %                 | ISO 527      |
| Tensile Strain, break, 50 mm/min             | 25             | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 2310           | MPa               | ISO 527      |
| Flexural Stress, yld, 2 mm/min               | 70             | MPa               | ISO 178      |
| Flexural Modulus, 2 mm/min                   | 2200           | MPa               | ISO 178      |
| <b>IMPACT</b>                                |                |                   |              |
| Izod Impact, notched, 23°C                   | 320            | J/m               | ASTM D256    |
| Instrumented Dart Impact Total Energy, 23°C  | 30             | J                 | ASTM D3763   |
| Izod Impact, notched 80*10*4 +23°C           | 22             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -30°C           | 8              | kJ/m <sup>2</sup> | ISO 180/1A   |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm   | 26             | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm  | 9              | kJ/m <sup>2</sup> | ISO 179/1eA  |
| <b>THERMAL</b>                               |                |                   |              |
| Vicat Softening Temp, Rate B/50              | 99             | °C                | ASTM D1525   |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 94             | °C                | ASTM D648    |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 80             | °C                | ASTM D648    |
| CTE, -40°C to 40°C, flow                     | 8.82E-05       | 1/°C              | ASTM E831    |
| CTE, -40°C to 40°C, xflow                    | 8.82E-05       | 1/°C              | ASTM E831    |
| Vicat Softening Temp, Rate B/50              | 98             | °C                | ISO 306      |
| Vicat Softening Temp, Rate B/120             | 100            | °C                | ISO 306      |
| HDT/A, 1.8 MPa Flaw 80*10*4 sp=64mm          | 81             | °C                | ISO 75/4e    |
| Relative Temp Index, Elec                    | 60             | °C                | UL 746B      |
| Relative Temp Index, Mech w/ Impact          | 60             | °C                | UL 746B      |
| Relative Temp Index, Mech w/o Impact         | 60             | °C                | UL 746B      |
| <b>PHYSICAL</b>                              |                |                   |              |
| Specific Gravity                             | 1.04           | -                 | ASTM D792    |
| Melt Flow Rate, (220°C/10.0 kg)              | 4.5            | g/10 min          | ASTM D1238   |
| Mold Shrinkage, flow                         | 0.40 - 0.60    | %                 | ASTM D955    |
| Mold Shrinkage, xflow                        | 0.40 - 0.60    | %                 | ASTM D955    |

| PROPERTIES                             | TYPICAL VALUES | UNITS    | TEST METHODS |
|----------------------------------------|----------------|----------|--------------|
| Specific Gravity                       | 1.04           | -        | ASTM D792    |
| Melt Shrinkage, flow, 3.2 mm           | 0.5 - 0.8      | %        | SABIC method |
| Melt Flow Rate, 220°C/10.0 kg          | 5.5            | g/10 min | ASTM D1238   |
| Melt Viscosity, 240°C, 1000 sec-1      | 2250           | Pa.s     | ASTM D3835   |
| Density                                | 1.04           | g/cm³    | ISO 1183     |
| Melt Flow Rate, 220°C/10.0 kg          | 18             | g/10 min | ISO 1133     |
| ELECTRICAL                             |                |          |              |
| Arc Resistance, Tangenton (PLC)        | 6              | PLC Code | ASTM D495    |
| Hot Wire Ignition (PLC)                | 3              | PLC Code | UL 746A      |
| High Voltage Arc Track Rate (PLC)      | 3              | PLC Code | UL 746A      |
| High Ampere Arc Ign. surface (PLC)     | 0              | PLC Code | UL 746A      |
| Comparative Tracking Index (UL) (PLC)  | 0              | PLC Code | UL 746A      |
| FLAME CHARACTERISTICS                  |                |          |              |
| UL Recognized, 94HB Flame Class Rating | 1.5            | mm       | UL 94        |
| INJECTION MOLDING                      |                |          |              |
| Drying Temperature                     | 80 – 95        | °C       |              |
| Drying Time                            | 2 – 4          | Hrs      |              |
| Drying Time (Cumulative)               | 8              | Hrs      |              |
| Maximum Moisture Content               | 0.1            | %        |              |
| Melt Temperature                       | 220 – 243      | °C       |              |
| Nozzle Temperature                     | 210 – 243      | °C       |              |
| Front - Zone 3 Temperature             | 215 – 243      | °C       |              |
| Middle - Zone 2 Temperature            | 205 – 235      | °C       |              |
| Rear - Zone 1 Temperature              | 190 – 213      | °C       |              |
| Mold Temperature                       | 50 – 70        | °C       |              |
| Back Pressure                          | 0.3 – 0.7      | MPa      |              |
| Screw Speed                            | 30 – 60        | rpm      |              |
| Shot to Cylinder Size                  | 50 – 70        | %        |              |
| Vent Depth                             | 0.025 – 0.051  | mm       |              |