



30% GR, excellent strength, stiffness and dimensional stability. High heat resistance. Appliance handles, spotlights, electric motors, connectors.

| TYPICAL PROPERTIES <sup>1</sup>              | TYPICAL VALUE | Unit                | Standard    |
|--|---------------|---------------------|-------------|
| MECHANICAL                                   |               |                     |             |
| Tensile Stress, yld, Type I, 5 mm/min        | 1220          | kgf/cm <sup>2</sup> | ASTM D 638  |
| Tensile Stress, brk, Type I, 5 mm/min        | 1220          | kgf/cm <sup>2</sup> | ASTM D 638  |
| Tensile Strain, yld, Type I, 5 mm/min        | 2.7           | %                   | ASTM D 638  |
| Tensile Strain, brk, Type I, 5 mm/min        | 2.7           | %                   | ASTM D 638  |
| Tensile Modulus, 5 mm/min                    | 94800         | kgf/cm <sup>2</sup> | ASTM D 638  |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 1980          | kgf/cm <sup>2</sup> | ASTM D 790  |
| Flexural Stress, brk, 1.3 mm/min, 50 mm span | 1930          | kgf/cm <sup>2</sup> | ASTM D 790  |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 77300         | kgf/cm <sup>2</sup> | ASTM D 790  |
| Hardness, Rockwell R                         | 118           | -                   | ASTM D 785  |
| Taber Abrasion, CS-17, 1 kg                  | 19            | mg/1000cy           | ASTM D 1044 |
| Tensile Stress, yield, 5 mm/min              | 125           | MPa                 | ISO 527     |
| Tensile Stress, break, 5 mm/min              | 125           | MPa                 | ISO 527     |
| Tensile Strain, yield, 5 mm/min              | 2             | %                   | ISO 527     |
| Tensile Strain, break, 5 mm/min              | 2             | %                   | ISO 527     |
| Tensile Modulus, 1 mm/min                    | 9300          | MPa                 | ISO 527     |
| Flexural Stress, yield, 2 mm/min             | 195           | MPa                 | ISO 178     |
| Flexural Modulus, 2 mm/min                   | 8500          | MPa                 | ISO 178     |
| Hardness, H358/30                            | 122           | MPa                 | ISO 2039-1  |
| Hardness, Rockwell R                         | 118           | -                   | ISO 2039-2  |
| IMPACT                                       |               |                     |             |
| Izod Impact, unnotched, 23°C                 | 81            | cm-kgf/cm           | ASTM D 4812 |
| Izod Impact, notched, 23°C                   | 8             | cm-kgf/cm           | ASTM D 256  |

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| YPICAL PROPERTIES <sup>1</sup>              | TYPICAL VALUE | Unit      | Standard       |
|---|---------------|-----------|----------------|
| ІМРАСТ                                      |               |           |                |
| Izod Impact, notched, -30°C                 | 8             | cm-kgf/cm | ASTM D 256     |
| Instrumented Impact Total Energy, 23°C      | 81            | cm-kgf    | ASTM D 3763    |
| Izod Impact, unnotched 80*10*4 +23°C        | 45            | kJ/m²     | ISO 180/1U     |
| Izod Impact, unnotched 80*10*4 -30°C        | 45            | kJ/m²     | ISO 180/1U     |
| Izod Impact, notched 80*10*4 +23°C          | 8             | kJ/m²     | ISO 180/1A     |
| Izod Impact, notched 80*10*4 -30°C          | 7             | kJ/m²     | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm  | 5             | kJ/m²     | ISO 179/1eA    |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 5             | kJ/m²     | ISO 179/1eA    |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm  | 45            | kJ/m²     | ISO 179/1eU    |
| Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm | 45            | kJ/m²     | ISO 179/1eU    |
| THERMAL                                     |               |           |                |
| Vicat Softening Temp, Rate B/50             | 215           | °C        | ASTM D 1525    |
| HDT, 0.45 MPa, 3.2 mm, unannealed           | 220           | °C        | ASTM D 648     |
| HDT, 1.82 MPa, 3.2mm, unannealed            | 203           | °C        | ASTM D 648     |
| HDT, 0.45 MPa, 6.4 mm, unannealed           | 215           | °C        | ASTM D 648     |
| HDT, 1.82 MPa, 6.4 mm, unannealed           | 207           | °C        | ASTM D 648     |
| CTE, -40°C to 40°C, flow                    | 2.52E-05      | 1/°C      | ASTM E 831     |
| CTE, -40°C to 40°C, xflow                   | 1.2E-04       | 1/°C      | ASTM E 831     |
| CTE, 60°C to 138°C, flow                    | 2.52E-05      | 1/°C      | ASTM E 831     |
| Thermal Conductivity                        | 0.19          | W/m-°C    | ISO 8302       |
| CTE, -40°C to 40°C, flow                    | 2.52E-05      | 1/°C      | ISO 11359-2    |
| CTE, -40°C to 40°C, xflow                   | 1.2E-04       | 1/°C      | ISO 11359-2    |
| Ball Pressure Test, 125°C +/- 2°C           | PASSES        | -         | IEC 60695-10-2 |
| Vicat Softening Temp, Rate A/50             | 223           | °C        | ISO 306        |

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# Valox\* Resin 420

# Americas: COMMERCIAL

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|--|---------------|-------------------------|--------------|
| THERMAL                                  |               |                         |              |
| Vicat Softening Temp, Rate B/50          | 215           | °C                      | ISO 306      |
| Vicat Softening Temp, Rate B/120         | 215           | °C                      | ISO 306      |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm   | 217           | °C                      | ISO 75/Bf    |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm    | 204           | °C                      | ISO 75/Af    |
| Relative Temp Index, Elec                | 140           | °C                      | UL 746B      |
| Relative Temp Index, Mech w/impact       | 140           | °C                      | UL 746B      |
| Relative Temp Index, Mech w/o impact     | 140           | °C                      | UL 746B      |
| PHYSICAL                                 |               |                         |              |
| Specific Gravity                         | 1.53          | -                       | ASTM D 792   |
| Specific Volume                          | 0.66          | cm³/g                   | ASTM D 792   |
| Density                                  | 1.53          | g/cm <sup>3</sup>       | ASTM D 792   |
| Filler Content                           | 30            | %                       | ASTM D 229   |
| Water Absorption, 24 hours               | 0.09          | %                       | ASTM D 570   |
| Mold Shrinkage on Tensile Bar, flow (2)  | 0.3 - 0.7     | %                       | SABIC Method |
| Mold Shrinkage, flow, 3.2 mm             | 0.3 - 0.8     | %                       | SABIC Method |
| Mold Shrinkage, flow, 1.5-3.2 mm         | 0.3 - 0.5     | %                       | SABIC Method |
| Mold Shrinkage, flow, 3.2-4.6 mm         | 0.5 - 0.8     | %                       | SABIC Method |
| Mold Shrinkage on Tensile Bar, xflow (2) | 0.5 - 1       | %                       | SABIC Method |
| Mold Shrinkage, xflow, 3.2 mm            | 0.5 - 1       | %                       | SABIC Method |
| Mold Shrinkage, xflow, 1.5-3.2 mm        | 0.4 - 0.6     | %                       | SABIC Method |
| Mold Shrinkage, xflow, 3.2-4.6 mm        | 0.6 - 0.9     | %                       | SABIC Method |
| Moisture Absorption (23°C / 50% RH)      | 0.08          | %                       | ISO 62       |
| Melt Flow Rate, 250°C/2.16 kg            | 17            | g/10 min                | ISO 1133     |
| Melt Volume Rate, MVR at 250°C/2.16 kg   | 13            | cm <sup>3</sup> /10 min | ISO 1133     |
| ELECTRICAL                               |               |                         |              |
| Volume Resistivity                       | >3.2E+16      | Ohm-cm                  | ASTM D 257   |
| Dielectric Strength, in air, 3.2 mm      | 18.7          | kV/mm                   | ASTM D 149   |
| Dielectric Strength, in oil, 1.6 mm      | 24.8          | kV/mm                   | ASTM D 149   |

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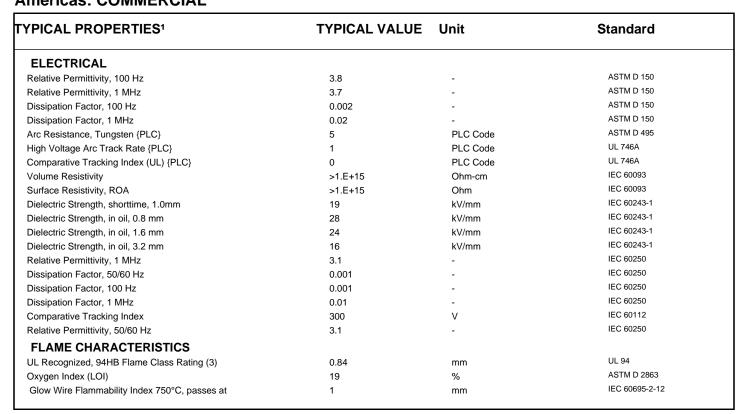
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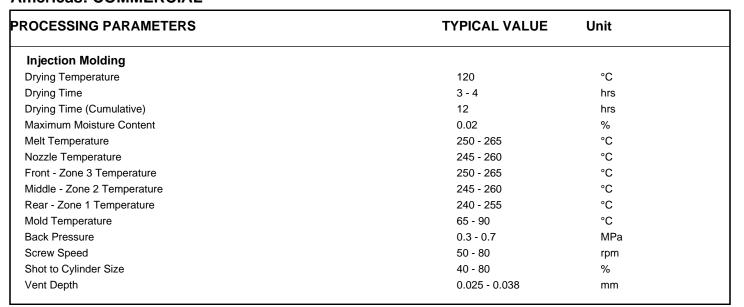
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