

# SABIC® PPCOMPOUND ML7682

REGION ASIA

## DESCRIPTION

LEXAN ML7682 resin is a flame retardant polycarbonate blend featuring high flow, good processability, good impact, good heat resistance, and UV stability. It is of non-chlorine and non-bromine flame retardant systems with UL-94 listing of V0 and 5V. LEXAN ML7682 resin offers limited opaque colors for aesthetics needs.

## TYPICAL PROPERTY VALUES

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|----------------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL</b>                            |                |                   |              |
| Tensile Stress, yld, Type I, 50 mm/min       | 60             | MPa               | ASTM D 638   |
| Tensile Stress, brk, Type I, 50 mm/min       | 59             | MPa               | ASTM D 638   |
| Tensile Strain, yld, Type I, 50 mm/min       | 5.6            | %                 | ASTM D 638   |
| Tensile Strain, brk, Type I, 50 mm/min       | 93             | %                 | ASTM D 638   |
| Tensile Modulus, 50 mm/min                   | 2500           | MPa               | ASTM D 638   |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 89             | MPa               | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2400           | MPa               | ASTM D 790   |
| Tensile Stress, yield, 50 mm/min             | 60             | MPa               | ISO 527      |
| Tensile Stress, break, 50 mm/min             | 57             | MPa               | ISO 527      |
| Tensile Strain, yield, 50 mm/min             | 5.3            | %                 | ISO 527      |
| Tensile Strain, break, 50 mm/min             | 91             | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 2460           | MPa               | ISO 527      |
| Flexural Stress, yield, 2 mm/min             | 90             | MPa               | ISO 178      |
| Flexural Modulus, 2 mm/min                   | 2430           | MPa               | ISO 178      |
| <b>IMPACT</b>                                |                |                   |              |
| Izod Impact, unnotched, 23°C                 | 2150           | J/m               | ASTM D 4812  |
| Izod Impact, unnotched, -30°C                | 2100           | J/m               | ASTM D 4812  |
| Izod Impact, notched, 23°C                   | 760            | J/m               | ASTM D 256   |
| Izod Impact, notched, -30°C                  | 130            | J/m               | ASTM D 256   |
| Instrumented Impact Total Energy, 23°C       | 62             | J                 | ASTM D 3763  |
| Izod Impact, unnotched 80*10*3 +23°C         | 181            | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, unnotched 80*10*3 -30°C         | 180            | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, notched 80*10*3 +23°C           | 63             | kJ/m <sup>2</sup> | ISO 180/1A   |



| PROPERTIES                                  | TYPICAL VALUES                       | UNITS                   | TEST METHODS   |
|---------------------------------------------|--------------------------------------|-------------------------|----------------|
| Izod Impact, notched 80*10*3 -30°C          | 15                                   | kJ/m <sup>2</sup>       | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm  | 62                                   | kJ/m <sup>2</sup>       | ISO 179/1eA    |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm | 16                                   | kJ/m <sup>2</sup>       | ISO 179/1eA    |
| Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm  | 133                                  | kJ/m <sup>2</sup>       | ISO 179/1eU    |
| Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm | 132                                  | kJ/m <sup>2</sup>       | ISO 179/1eU    |
| THERMAL                                     |                                      |                         |                |
| Vicat Softening Temp, Rate B/50             | 138                                  | °C                      | ASTM D 1525    |
| HDT, 0.45 MPa, 3.2 mm, unannealed           | 131                                  | °C                      | ASTM D 648     |
| HDT, 1.82 MPa, 3.2mm, unannealed            | 119                                  | °C                      | ASTM D 648     |
| CTE, -40°C to 40°C, flow                    | 6.4E-05                              | 1/°C                    | ASTM E 831     |
| CTE, -40°C to 40°C, xflow                   | 6.8E-05                              | 1/°C                    | ASTM E 831     |
| CTE, 23°C to 80°C, flow                     | 6.7E-05                              | 1/°C                    | ISO 11359-2    |
| CTE, 23°C to 80°C, xflow                    | 7.4E-05                              | 1/°C                    | ISO 11359-2    |
| Ball Pressure Test, 125°C +/- 2°C           | Pass                                 | -                       | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50             | 138                                  | °C                      | ISO 306        |
| Vicat Softening Temp, Rate B/120            | 141                                  | °C                      | ISO 306        |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm     | 132                                  | °C                      | ISO 75/Be      |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm     | 120                                  | °C                      | ISO 75/Ae      |
| Relative Temp Index, Elec                   | 125                                  | °C                      | UL 746B        |
| Relative Temp Index, Mech w/impact          | 110                                  | °C                      | UL 746B        |
| Relative Temp Index, Mech w/o impact        | 120                                  | °C                      | UL 746B        |
| PHYSICAL                                    |                                      |                         |                |
| Specific Gravity                            | 1.22                                 | -                       | ASTM D 792     |
| Mold Shrinkage, flow, 3.2 mm (5)            | 0.6 – 0.8                            | %                       | SABIC method   |
| Mold Shrinkage, xflow, 3.2 mm (5)           | 0.6 – 0.8                            | %                       | SABIC method   |
| Melt Flow Rate, 300°C/1.2 kgf               | 22                                   | g/10 min                | ASTM D 1238    |
| Density                                     | 1.21                                 | g/cm <sup>3</sup>       | ISO 1183       |
| Water Absorption, (23°C/sat)                | 0.36                                 | %                       | ISO 62         |
| Moisture Absorption (23°C / 50% RH)         | 0.17                                 | %                       | ISO 62         |
| Melt Volume Rate, MVR at 300°C/1.2 kg       | 21                                   | cm <sup>3</sup> /10 min | ISO 1133       |
| ELECTRICAL                                  |                                      |                         |                |
| Volume Resistivity                          | 1000000000000000 – 10000000000000000 | Ohm-cm                  | ASTM D 257     |
| Surface Resistivity                         | 1.E+15 – 1.E+16                      | Ohm                     | ASTM D 257     |
| FLAME CHARACTERISTICS                       |                                      |                         |                |
| UL Recognized, 94V-0 Flame Class Rating (3) | 1.8                                  | mm                      | UL 94          |
| UL Recognized, 94-5VA Rating (3)            | 2.5                                  | mm                      | UL 94          |



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|-----------------------------------------------|----------------|-------|----------------|
| UL Recognized, 94-5VB Rating (3)              | 1.8            | mm    | UL 94          |
| Glow Wire Flammability Index 960°C, passes at | 3              | mm    | IEC 60695-2-12 |
| Glow Wire Ignitability Temperature, 1.0 mm    | 850            | °C    | IEC 60695-2-13 |
| UV-light, water exposure/immersion            | F1             | -     | UL 746C        |
| INJECTION MOLDING                             |                |       |                |
| Drying Temperature                            | 120            | °C    |                |
| Drying Time                                   | 3 – 4          | hrs   |                |
| Drying Time (Cumulative)                      | 48             | hrs   |                |
| Maximum Moisture Content                      | 0.02           | %     |                |
| Melt Temperature                              | 290 – 310      | °C    |                |
| Nozzle Temperature                            | 280 – 305      | °C    |                |
| Front - Zone 3 Temperature                    | 290 – 310      | °C    |                |
| Middle - Zone 2 Temperature                   | 275 – 300      | °C    |                |
| Rear - Zone 1 Temperature                     | 265 – 290      | °C    |                |
| Mold Temperature                              | 70 – 95        | °C    |                |
| Back Pressure                                 | 0.3 – 0.7      | MPa   |                |
| Screw Speed                                   | 40 – 70        | rpm   |                |
| Shot to Cylinder Size                         | 40 – 60        | %     |                |
| Vent Depth                                    | 0.025 – 0.076  | mm    |                |

