

# CYCOLAC<sup>TM</sup> RESIN DL100

REGION AMERICAS

## DESCRIPTION

CYCOLAC DL100 is a high heat, high impact, low emissions ABS/PC blend.

## TYPICAL PROPERTY VALUES

Revision 20190925

| PROPERTIES                                  | TYPICAL VALUES | UNITS             | TEST METHODS |
|---------------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL</b>                           |                |                   |              |
| Tensile Stress, yld, Type I, 5 mm/min       | 44             | MPa               | ASTM D 638   |
| Tensile Strain, brk, Type I, 5 mm/min       | 90             | %                 | ASTM D 638   |
| Tensile Modulus, 5 mm/min                   | 2240           | MPa               | ASTM D 638   |
| Hardness, Rockwell R                        | 104            | -                 | ASTM D 785   |
| Tensile Stress, yield, 5 mm/min             | 46             | MPa               | ISO 527      |
| Tensile Stress, yield, 50 mm/min            | 45             | MPa               | ISO 527      |
| Tensile Strain, yield, 5 mm/min             | 3.5            | %                 | ISO 527      |
| Tensile Strain, break, 5 mm/min             | 60             | %                 | ISO 527      |
| Tensile Strain, yield, 50 mm/min            | 3.4            | %                 | ISO 527      |
| Tensile Strain, break, 50 mm/min            | 10             | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                   | 2200           | MPa               | ISO 527      |
| Flexural Stress, yield, 2 mm/min            | 69             | MPa               | ISO 178      |
| Flexural Modulus, 2 mm/min                  | 2250           | MPa               | ISO 178      |
| Ball Indentation Hardness, H358/30          | 91             | MPa               | ISO 2039-1   |
| <b>IMPACT</b>                               |                |                   |              |
| Izod Impact, notched, 23°C                  | 700            | J/m               | ASTM D 256   |
| Izod Impact, notched, 23°C, 6.4mm           | 550            | J/m               | ASTM D 256   |
| Izod Impact, notched 80*10*4 +23°C          | 35             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -30°C          | 15             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm  | 34             | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 14             | kJ/m <sup>2</sup> | ISO 179/1eA  |
| <b>THERMAL</b>                              |                |                   |              |
| HDT, 0.45 MPa, 3.2 mm, unannealed           | 105            | °C                | ASTM D 648   |
| HDT, 1.82 MPa, 3.2mm, unannealed            | 88             | °C                | ASTM D 648   |
| HDT, 1.82 MPa, 6.4 mm, unannealed           | 90             | °C                | ASTM D 648   |
| CTE, 23°C to 60°C, flow                     | 9.8E-05        | 1/°C              | ISO 11359-2  |
| CTE, 23°C to 60°C, xflow                    | 9.8E-05        | 1/°C              | ISO 11359-2  |
| Vicat Softening Temp, Rate B/50             | 105            | °C                | ISO 306      |
| Vicat Softening Temp, Rate B/120            | 107            | °C                | ISO 306      |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm     | 104            | °C                | ISO 75/Be    |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm     | 87             | °C                | ISO 75/Ae    |
| 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      |

| PROPERTIES                                       | TYPICAL VALUES                    | UNITS                    | TEST METHODS |
|--------------------------------------------------|-----------------------------------|--------------------------|--------------|
| <b>PHYSICAL</b>                                  |                                   |                          |              |
| Mold Shrinkage on Tensile Bar, flow              | 0.5 – 0.7                         | %                        | SABIC method |
| Density                                          | 1.08                              | g/cm <sup>3</sup>        | ISO 1183     |
| Melt Flow Rate, 220°C/ 10.0 kg                   | 7                                 | g/10 min                 | ISO 1133     |
| Melt Volume Rate, MVR at 260°C/5.0 kg            | 8                                 | cm <sup>3</sup> / 10 min | ISO 1133     |
| <b>FLAME CHARACTERISTICS</b>                     |                                   |                          |              |
| UL Yellow Card Link                              | <a href="#">E121562-102835231</a> | -                        | -            |
| UL Recognized, 94HB Flame Class Rating           | 1.5                               | mm                       | UL 94        |
| UL Recognized, 94HB Flame Class Rating 2nd value | 3                                 | mm                       | UL 94        |
| <b>INJECTION MOLDING</b>                         |                                   |                          |              |
| Drying Temperature                               | 90 – 100                          | °C                       |              |
| Drying Time                                      | 2 – 4                             | hrs                      |              |
| Maximum Moisture Content                         | 0.1                               | %                        |              |
| Melt Temperature                                 | 250 – 280                         | °C                       |              |
| Nozzle Temperature                               | 245 – 275                         | °C                       |              |
| Front - Zone 3 Temperature                       | 250 – 280                         | °C                       |              |
| Middle - Zone 2 Temperature                      | 250 – 280                         | °C                       |              |
| Rear - Zone 1 Temperature                        | 230 – 260                         | °C                       |              |
| Hopper Temperature                               | 60 – 80                           | °C                       |              |
| Mold Temperature                                 | 40 – 80                           | °C                       |              |

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