

# LNP™ COLORCOMP™ COMPOUND 143C

143

REGION AMERICAS

## DESCRIPTION

LNP\* COLORCOMP\* 143C is an unfilled Polycarbonate. Added features of this grade include: UL rated HB, UV Stabilized, Non-Halogenated.

## TYPICAL PROPERTY VALUES

Revision 20170816

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|----------------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL</b>                            |                |                   |              |
| Tensile Stress, yld, Type I, 50 mm/min       | 62             | MPa               | ASTM D 638   |
| Tensile Stress, brk, Type I, 50 mm/min       | 65             | MPa               | ASTM D 638   |
| Tensile Strain, yld, Type I, 50 mm/min       | 7              | %                 | ASTM D 638   |
| Tensile Strain, brk, Type I, 50 mm/min       | 110            | %                 | ASTM D 638   |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 93             | MPa               | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2340           | MPa               | ASTM D 790   |
| Hardness, Rockwell M                         | 70             | -                 | ASTM D 785   |
| Hardness, Rockwell R                         | 118            | -                 | ASTM D 785   |
| Taber Abrasion, CS-17, 1 kg                  | 10             | mg/1000cy         | ASTM D 1044  |
| <b>IMPACT</b>                                |                |                   |              |
| Izod Impact, unnotched, 23°C                 | 3204           | J/m               | ASTM D 4812  |
| Izod Impact, notched, 23°C                   | 801            | J/m               | ASTM D 256   |
| Tensile Impact, Type S                       | 546            | kJ/m <sup>2</sup> | ASTM D 1822  |
| Falling Dart Impact (D 3029), 23°C           | 169            | J                 | ASTM D 3029  |
| <b>THERMAL</b>                               |                |                   |              |
| Vicat Softening Temp, Rate B/50              | 154            | °C                | ASTM D 1525  |
| HDT, 0.45 MPa, 6.4 mm, unannealed            | 137            | °C                | ASTM D 648   |
| HDT, 1.82 MPa, 6.4 mm, unannealed            | 132            | °C                | ASTM D 648   |
| CTE, -40°C to 95°C, flow                     | 6.84E-05       | 1/°C              | ASTM E 831   |
| Specific Heat                                | 1.25           | J/g-°C            | ASTM C 351   |
| Thermal Conductivity                         | 0.19           | W/m-°C            | ASTM C177    |
| Relative Temp Index, Elec                    | 130            | °C                | UL 746B      |
| Relative Temp Index, Mech w/impact           | 130            | °C                | UL 746B      |

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|--------------------------------------------|----------------|--------------------|--------------|
| Relative Temp Index, Mech w/o impact       | 130            | °C                 | UL 746B      |
| <b>PHYSICAL</b>                            |                |                    |              |
| Specific Gravity                           | 1.2            | -                  | ASTM D 792   |
| Specific Volume                            | 0.83           | cm <sup>3</sup> /g | ASTM D 792   |
| Density                                    | 1.19           | g/cm <sup>3</sup>  | ASTM D 792   |
| Water Absorption, 24 hours                 | 0.15           | %                  | ASTM D 570   |
| Water Absorption, equilibrium, 23°C        | 0.35           | %                  | ASTM D 570   |
| Water Absorption, equilibrium, 100°C       | 0.58           | %                  | ASTM D 570   |
| Mold Shrinkage, flow, 3.2 mm (5)           | 0.5 – 0.7      | %                  | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf              | 10.5           | g/10 min           | ASTM D 1238  |
| <b>OPTICAL</b>                             |                |                    |              |
| Light Transmission, 2.54 mm                | 88             | %                  | ASTM D 1003  |
| Haze, 2.54 mm                              | 1              | %                  | ASTM D 1003  |
| Refractive Index                           | 1.586          | -                  | ASTM D542    |
| <b>ELECTRICAL</b>                          |                |                    |              |
| Volume Resistivity                         | > 1.E+17       | Ohm-cm             | ASTM D 257   |
| Dielectric Strength, in air, 3.2 mm        | 14.9           | kV/mm              | ASTM D 149   |
| Relative Permittivity, 50/60 Hz            | 3.17           | -                  | ASTM D 150   |
| Relative Permittivity, 1 MHz               | 2.96           | -                  | ASTM D 150   |
| Dissipation Factor, 50/60 Hz               | 0.0009         | -                  | ASTM D 150   |
| Dissipation Factor, 1 MHz                  | 0.01           | -                  | ASTM D 150   |
| Hot Wire Ignition {PLC}                    | 4              | PLC Code           | UL 746A      |
| High Voltage Arc Track Rate {PLC}          | 2              | PLC Code           | UL 746A      |
| High Ampere Arc Ign, surface {PLC}         | 1              | PLC Code           | UL 746A      |
| Comparative Tracking Index (UL) {PLC}      | 2              | PLC Code           | UL 746A      |
| <b>FLAME CHARACTERISTICS</b>               |                |                    |              |
| UL Recognized, 94HB Flame Class Rating (3) | 0.76           | mm                 | UL 94        |
| Oxygen Index (LOI)                         | 25             | %                  | ASTM D 2863  |
| UV-light, water exposure/immersion         | F1             | -                  | UL 746C      |
| <b>INJECTION MOLDING</b>                   |                |                    |              |
| Drying Temperature                         | 120            | °C                 |              |
| Drying Time                                | 3 – 4          | hrs                |              |
| Drying Time (Cumulative)                   | 48             | hrs                |              |
| Maximum Moisture Content                   | 0.02           | %                  |              |
| Melt Temperature                           | 295 – 315      | °C                 |              |
| Nozzle Temperature                         | 290 – 310      | °C                 |              |
| Front - Zone 3 Temperature                 | 295 – 315      | °C                 |              |
| Middle - Zone 2 Temperature                | 280 – 305      | °C                 |              |

| PROPERTIES                | TYPICAL VALUES | UNITS | TEST METHODS |
|---------------------------|----------------|-------|--------------|
| Rear - Zone 1 Temperature | 270 – 295      | °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    |              |

## DISCLAIMER

The information contained herein may include typical properties of our products or their typical performances when used in certain typical applications. Actual properties of our products, in particular when used in conjunction with any third party material(s) or for any non-typical applications, may differ from typical properties.

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