



# CYCOLOY™ FR RESIN C2805

## DESCRIPTION

CYCOLOY C2805 compound is based on Polycarbonate / Acrylonitrile Butadiene Styrene (PC/ABS) blend containing 5% PTFE. Added features of this grade include: Wear Resistant and Flame Retardant targeted for moving components in business equipment. Medium heat performance.

### GENERAL INFORMATION

|                       |                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------|
| Features              | Flame Retardant, Wear resistant, Non Cl/Br flame retardant, Non halogenated flame retardant |
| Fillers               | Unreinforced, PTFE                                                                          |
| Polymer Types         | Polycarbonate + ABS (PC+ABS)                                                                |
| Processing Techniques | Injection Molding                                                                           |

### INDUSTRY

Automotive  
Building and Construction  
Consumer  
Electrical and Electronics  
Industrial

### SUB INDUSTRY

Automotive Interiors  
Building Component  
Sport/Leisure  
Mobile Phone - Computer - Tablets  
Material Handling

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES                                          | TYPICAL VALUES | UNITS | TEST METHODS |
|-----------------------------------------------------|----------------|-------|--------------|
| <b>MECHANICAL <sup>(1)</sup></b>                    |                |       |              |
| Tensile Stress, yld, Type I, 50 mm/min              | 62             | MPa   | ASTM D638    |
| Tensile Stress, brk, Type I, 50 mm/min              | 51             | MPa   | ASTM D638    |
| Tensile Strain, brk, Type I, 50 mm/min              | 110            | %     | ASTM D638    |
| Flexural Stress, yld, 2.6 mm/min, 100 mm span       | 95             | MPa   | ASTM D790    |
| Flexural Modulus, 2.6 mm/min, 100 mm span           | 2720           | MPa   | ASTM D790    |
| K-factor xE-10, PV=2000 psi-fpm vs Steel            | 430            | -     | SABIC method |
| Coefficient of Friction on steel, Static            | 0.16           | -     | ASTM D1894   |
| Coefficient of Friction on steel, Kinetic           | 0.21           | -     | ASTM D1894   |
| <b>IMPACT <sup>(1)</sup></b>                        |                |       |              |
| Izod Impact, notched, 23°C                          | 133            | J/m   | ASTM D256    |
| <b>THERMAL <sup>(1)</sup></b>                       |                |       |              |
| HDT, 1.82 MPa, 6.4 mm, unannealed                   | 82             | °C    | ASTM D648    |
| Relative Temp Index, Elec <sup>(2)</sup>            | 60             | °C    | UL 746B      |
| Relative Temp Index, Mech w/impact <sup>(2)</sup>   | 60             | °C    | UL 746B      |
| Relative Temp Index, Mech w/o impact <sup>(2)</sup> | 60             | °C    | UL 746B      |
| <b>PHYSICAL <sup>(1)</sup></b>                      |                |       |              |
| Specific Gravity                                    | 1.22           | -     | ASTM D792    |
| Mold Shrinkage, flow, 3.2 mm <sup>(3)</sup>         | 0.4 – 0.5      | %     | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm <sup>(3)</sup>        | 0.3 – 0.5      | %     | SABIC method |
| <b>ELECTRICAL <sup>(2)</sup></b>                    |                |       |              |

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CHEMISTRY THAT MATTERS™

| PROPERTIES                                  | TYPICAL VALUES    | UNITS    | TEST METHODS |
|---------------------------------------------|-------------------|----------|--------------|
| Comparative Tracking Index (UL) {PLC}       | 1                 | PLC Code | UL 746A      |
| Hot-Wire Ignition (HWI), PLC 3              | ≥1.5              | mm       | UL 746A      |
| High Amp Arc Ignition (HAI), PLC 0          | ≥1.5              | mm       | UL 746A      |
| <b>FLAME CHARACTERISTICS <sup>(2)</sup></b> |                   |          |              |
| UL Yellow Card Link                         | E121562-100900880 | -        | -            |
| UL Recognized, 94-5VB Flame Class Rating    | ≥2.5              | mm       | UL 94        |
| UL Recognized, 94V-0 Flame Class Rating     | ≥1.5              | mm       | UL 94        |
| <b>INJECTION MOLDING <sup>(4)</sup></b>     |                   |          |              |
| Drying Temperature                          | 75 – 80           | °C       |              |
| Drying Time                                 | 3 – 4             | Hrs      |              |
| Drying Time (Cumulative)                    | 8                 | Hrs      |              |
| Maximum Moisture Content                    | 0.04              | %        |              |
| Melt Temperature                            | 230 – 275         | °C       |              |
| Nozzle Temperature                          | 230 – 275         | °C       |              |
| Front - Zone 3 Temperature                  | 225 – 275         | °C       |              |
| Middle - Zone 2 Temperature                 | 215 – 260         | °C       |              |
| Rear - Zone 1 Temperature                   | 210 – 255         | °C       |              |
| Mold Temperature                            | 50 – 70           | °C       |              |
| Back Pressure                               | 0.3 – 0.7         | MPa      |              |
| Screw Speed                                 | 40 – 70           | rpm      |              |
| Shot to Cylinder Size                       | 30 – 80           | %        |              |
| Vent Depth                                  | 0.038 – 0.076     | mm       |              |

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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