

# CYCOLAC™ EX58F resin

Acrylonitrile Butadiene Styrene

SABIC Innovative Plastics

Message:

High impact ABS for sheet extrusion and blow molding applications. FDA food contact compliant.

| General Information |                              |                |
|---------------------|------------------------------|----------------|
| UL YellowCard       | E121562-220683               | E121562-220684 |
| Features            | Impact resistance, high      |                |
|                     | Compliance of Food Exposure  |                |
| Uses                | Blow molding applications    |                |
|                     | Sheet                        |                |
| Agency Ratings      | FDA Food Exposure, Not Rated |                |
| Processing Method   | Extrusion blow molding       |                |
|                     | Sheet extrusion molding      |                |

| Physical                                  | Nominal Value | Unit              | Test Method         |
|-------------------------------------------|---------------|-------------------|---------------------|
| Specific Gravity                          | 1.03          | g/cm <sup>3</sup> | ASTM D792, ISO 1183 |
| Melt Mass-Flow Rate (MFR) (220°C/10.0 kg) | 4.0           | g/10 min          | ISO 1133            |
| Molding Shrinkage - Flow (3.20 mm)        | 0.60 - 0.80   | %                 | Internal method     |
| Hardness                                  | Nominal Value | Unit              | Test Method         |
| Rockwell Hardness (R-Scale)               | 102           |                   | ASTM D785           |
| Mechanical                                | Nominal Value | Unit              | Test Method         |
| Tensile Modulus                           |               |                   |                     |
| -- <sup>1</sup>                           | 2080          | MPa               | ASTM D638           |
| --                                        | 1970          | MPa               | ISO 527-2/1         |
| Tensile Strength                          |               |                   |                     |
| Yield <sup>2</sup>                        | 39.0          | MPa               | ASTM D638           |
| Yield                                     | 41.0          | MPa               | ISO 527-2/50        |
| Fracture <sup>3</sup>                     | 30.0          | MPa               | ASTM D638           |
| Fracture                                  | 30.0          | MPa               | ISO 527-2/50        |
| Tensile Elongation                        |               |                   |                     |
| Yield <sup>4</sup>                        | 3.1           | %                 | ASTM D638           |
| Yield                                     | 2.6           | %                 | ISO 527-2/50        |
| Fracture <sup>5</sup>                     | 32            | %                 | ASTM D638           |
| Fracture                                  | 21            | %                 | ISO 527-2/50        |
| Flexural Modulus                          |               |                   |                     |

|                                                    |               |                   |                          |
|----------------------------------------------------|---------------|-------------------|--------------------------|
| 50.0mm span <sup>6</sup>                           | 2160          | MPa               | ASTM D790                |
| -- <sup>7</sup>                                    | 2000          | MPa               | ISO 178                  |
| Flexural Stress                                    |               |                   |                          |
| --                                                 | 60.0          | MPa               | ISO 178                  |
| Yield, 50.0mm span <sup>8</sup>                    | 66.0          | MPa               | ASTM D790                |
| Impact                                             | Nominal Value | Unit              | Test Method              |
| Charpy Notched Impact Strength <sup>9</sup> (23°C) | 37            | kJ/m <sup>2</sup> | ISO 179/1eA              |
| Notched Izod Impact                                |               |                   |                          |
| -30°C                                              | 300           | J/m               | ASTM D256                |
| 23°C                                               | 430           | J/m               | ASTM D256                |
| -30°C <sup>10</sup>                                | 23            | kJ/m <sup>2</sup> | ISO 180/1A               |
| 23°C <sup>11</sup>                                 | 35            | kJ/m <sup>2</sup> | ISO 180/1A               |
| Instrumented Dart Impact (23°C, Total Energy)      | 37.0          | J                 | ASTM D3763               |
| Thermal                                            | Nominal Value | Unit              | Test Method              |
| Deflection Temperature Under Load                  |               |                   |                          |
| 0.45 MPa, unannealed, 3.20mm                       | 91.0          | °C                | ASTM D648                |
| 1.8 MPa, unannealed, 3.20mm                        | 76.0          | °C                | ASTM D648                |
| 1.8 MPa, unannealed, 64.0mm span <sup>12</sup>     | 78.0          | °C                | ISO 75-2/Af              |
| Vicat Softening Temperature                        |               |                   |                          |
| --                                                 | 106           | °C                | ASTM D1525 <sup>13</sup> |
| --                                                 | 95.0          | °C                | ISO 306/B50              |
| --                                                 | 97.0          | °C                | ISO 306/B120             |
| Linear thermal expansion coefficient               |               |                   |                          |
| Flow: -40 to 40°C                                  | 1.0E-4        | cm/cm/°C          | ASTM E831                |
| Lateral: -40 to 40°C                               | 1.0E-4        | cm/cm/°C          | ASTM E831                |
| RTI Elec                                           | 60.0          | °C                | UL 746                   |
| RTI Imp                                            | 60.0          | °C                | UL 746                   |
| RTI                                                | 60.0          | °C                | UL 746                   |
| Electrical                                         | Nominal Value |                   | Test Method              |
| Arc Resistance <sup>14</sup>                       | PLC 5         |                   | ASTM D495                |
| Comparative Tracking Index (CTI)                   | PLC 0         |                   | UL 746                   |
| High Amp Arc Ignition (HAI)                        | PLC 4         |                   | UL 746                   |
| High Voltage Arc Tracking Rate (HVTR)              | PLC 1         |                   | UL 746                   |
| Hot-wire Ignition (HWI)                            | PLC 4         |                   | UL 746                   |
| Flammability                                       | Nominal Value |                   | Test Method              |
| Flame Rating (1.50 mm)                             | HB            |                   | UL 94                    |
| Fill Analysis                                      | Nominal Value | Unit              | Test Method              |
| Melt Viscosity (240°C, 100 sec <sup>-1</sup> )     | 1550          | Pa · s            | ASTM D3835               |
| Extrusion instructions                             |               |                   |                          |

Extrusion Blow Molding Parameters:

Adapter - Zone 5 Temperature: 210 - 232 C

Barrel - Zone 1 Temperature: 204 - 227 C

Barrel - Zone 2 Temperature: 204 - 227 C

Barrel - Zone 3 Temperature: 204 - 227 C

Barrel - Zone 4 Temperature: 204 - 227 C

Die Temperature: 215 - 235 C

Drying Temperature: 82 - 88 C

Drying Time: 4 - 5 hrs

Drying Time (Cumulative): 24 hrs

Extruder Feed Zone Temperature: 60 - 77 C

Head - Zone 6 - Top Temperature: 215 - 232 C

Head - Zone 7 - Bottom Temperature: 215 - 232 C

Maximum Moisture Content: .02 %

Melt Temperature (Parison): 215 - 232 C

Mold Temperature: 38 - 82 C

Screw Speed: 20 - 60 rpm

Sheet Extrusion Parameters:

Adapter Temperature: 204 - 249 C

Barrel - Zone 1 Temperature: 171 - 199 C

Barrel - Zone 2 Temperature: 182 - 221 C

Barrel - Zone 3 Temperature: 188 - 227 C

Barrel - Zone 4 Temperature: 199 - 238 C

Die Temperature: 204 - 249 C

Drying Temperature: 82 - 93 C

Drying Time: 4 hrs

Maximum Moisture Content: .02 %

Melt Temperature: 215 - 260 C

Roll Stack Temp - Bottom: 99 - 104 C

Roll Stack Temp - Middle: 93 - 104 C

Roll Stack Temp - Top: 88 - 93 C

NOTE

|     |                           |
|-----|---------------------------|
| 1.  | 5.0 mm/min                |
| 2.  | Type 1, 5.0 mm/min        |
| 3.  | Type 1, 5.0 mm/min        |
| 4.  | Type 1, 5.0 mm/min        |
| 5.  | Type 1, 5.0 mm/min        |
| 6.  | 1.3 mm/min                |
| 7.  | 2.0 mm/min                |
| 8.  | 1.3 mm/min                |
| 9.  | 80*10*4 sp=62mm           |
| 10. | 80*10*4                   |
| 11. | 80*10*4                   |
| 12. | 80*10*4 mm                |
| 13. | 标准 B (120°C/h), 载荷2 (50N) |
| 14. | Tungsten electrode        |

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

# Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

