

# CALIBRE™ 301V-6

Polycarbonate Resin

Trinseo

Message:

CALIBRE™ 301V-6 Polycarbonate resin offers exceptional impact resistance and heat distortion resistance, and meets UL94 V-2 rating. CALIBRE 301V-6 contains a mold release agent and is available in opaque colors.

Govt. and Industry Standards:  
CSA (Canadian Standards Association)

UL (Underwriters Laboratory, Inc.)

Applications:

Electronic components

Automotive

Lighting

Storage Media Housings

| General Information                      |                                    |                   |                       |
|------------------------------------------|------------------------------------|-------------------|-----------------------|
| UL YellowCard                            | E54680-469963                      | E206114-228277    |                       |
| Additive                                 | demoulding                         |                   |                       |
| Features                                 | Impact resistance, high            |                   |                       |
| Uses                                     | Lighting Applications              |                   |                       |
|                                          | Electrical/Electronic Applications |                   |                       |
|                                          | Application in Automobile Field    |                   |                       |
|                                          | Shell                              |                   |                       |
| Agency Ratings                           | CSA not rated                      |                   |                       |
| Appearance                               | Opacity                            |                   |                       |
|                                          | Available colors                   |                   |                       |
| Forms                                    | Particle                           |                   |                       |
| Processing Method                        | Sheet extrusion molding            |                   |                       |
|                                          | Injection molding                  |                   |                       |
| Physical                                 | Nominal Value                      | Unit              | Test Method           |
| Specific Gravity                         | 1.20                               | g/cm <sup>3</sup> | ASTM D792, ISO 1183/A |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg) | 6.0                                | g/10 min          | ASTM D1238, ISO 1133  |
| Molding Shrinkage                        |                                    |                   |                       |
| Flow                                     | 0.50 - 0.70                        | %                 | ASTM D955             |
| Flow direction                           | 0.50 - 0.70                        | %                 | ISO 294-4             |
| Water Absorption                         |                                    |                   | ASTM D570, ISO 62     |
| 23°C, 24 hr                              | 0.15                               | %                 | ASTM D570, ISO 62     |
| Equilibrium, 23°C, 50% RH                | 0.32                               | %                 | ASTM D570, ISO 62     |
| Hardness                                 | Nominal Value                      | Unit              | Test Method           |
| Rockwell Hardness                        |                                    |                   | ASTM D785             |

| Class m                                                    | 73            |                   | ASTM D785                            |
|------------------------------------------------------------|---------------|-------------------|--------------------------------------|
| Class r                                                    | 118           |                   | ASTM D785                            |
| Mechanical                                                 | Nominal Value | Unit              | Test Method                          |
| Tensile Modulus                                            |               |                   |                                      |
| -- <sup>1</sup>                                            | 2410          | MPa               | ASTM D638                            |
| --                                                         | 2410          | MPa               | ISO 527-2/50                         |
| Tensile Strength                                           |               |                   |                                      |
| Yield <sup>2</sup>                                         | 60.0          | MPa               | ASTM D638                            |
| Yield                                                      | 60.0          | MPa               | ISO 527-2/50                         |
| Fracture <sup>3</sup>                                      | 72.4          | MPa               | ASTM D638                            |
| Fracture                                                   | 72.0          | MPa               | ISO 527-2/50                         |
| Tensile Elongation                                         |               |                   |                                      |
| Yield <sup>4</sup>                                         | 6.0           | %                 | ASTM D638                            |
| Yield                                                      | 6.0           | %                 | ISO 527-2/50                         |
| Fracture <sup>5</sup>                                      | 150           | %                 | ASTM D638                            |
| Fracture                                                   | 150           | %                 | ISO 527-2/50                         |
| Flexural Modulus                                           |               |                   |                                      |
| -- <sup>6</sup>                                            | 2410          | MPa               | ASTM D790                            |
| --                                                         | 2410          | MPa               | ISO 178                              |
| Flexural Strength                                          |               |                   |                                      |
| -- <sup>7</sup>                                            | 96.5          | MPa               | ASTM D790                            |
| --                                                         | 96.0          | MPa               | ISO 178                              |
| Taber Abrasion Resistance                                  | 45            | %                 | ASTM D1044                           |
| Average Extent of Burning                                  | 3             | cm                | ASTM D635                            |
| Impact                                                     | Nominal Value | Unit              | Test Method                          |
| Notched Izod Impact                                        |               |                   |                                      |
| 23°C                                                       | 910           | J/m               | ASTM D256                            |
| 23°C                                                       | 88            | kJ/m <sup>2</sup> | ISO 180/A                            |
| Unnotched Izod Impact (23°C)                               | No Break      |                   | ASTM D256, ISO 180                   |
| Instrumented Dart Impact <sup>8</sup> (23°C, Total Energy) | 90.4          | J                 | ASTM D3763                           |
| Tensile Impact Strength                                    | 588           | kJ/m <sup>2</sup> | ASTM D1822                           |
| Thermal                                                    | Nominal Value | Unit              | Test Method                          |
| Deflection Temperature Under Load                          |               |                   |                                      |
| 0.45 MPa, annealed                                         | 142           | °C                | ASTM D648, ISO 75-2/B                |
| 1.8 MPa, not annealed                                      | 122           | °C                | ASTM D648, ISO 75-2/A                |
| 1.8 MPa, annealed                                          | 139           | °C                | ASTM D648, ISO 75-2/A                |
| Vicat Softening Temperature                                | 148           | °C                | ISO 306/B50, ASTM D1525 <sup>9</sup> |
| CLTE - Flow (-40 to 82°C)                                  | 6.8E-5        | cm/cm/°C          | ASTM D696                            |
| Electrical                                                 | Nominal Value | Unit              | Test Method                          |
| Volume Resistivity                                         | 2.0E+17       | ohms · cm         | ASTM D257                            |
| Dielectric Strength                                        | 17            | kV/mm             | ASTM D149, IEC 60243-1               |

|                                                |                                                                                                                      |      |             |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------|-------------|
| Dielectric Constant                            |                                                                                                                      |      | ASTM D150   |
| 60 Hz                                          | 3.00                                                                                                                 |      | ASTM D150   |
| 1 MHz                                          | 3.00                                                                                                                 |      | ASTM D150   |
| Dissipation Factor                             |                                                                                                                      |      | ASTM D150   |
| 50 Hz                                          | 1.0E-3                                                                                                               |      | ASTM D150   |
| 1 MHz                                          | 2.0E-3                                                                                                               |      | ASTM D150   |
| Flammability                                   | Nominal Value                                                                                                        | Unit | Test Method |
| Flame Rating <sup>10</sup>                     |                                                                                                                      |      | UL 94       |
| 1.60 mm                                        | V-2                                                                                                                  |      | UL 94       |
| 3.20 mm                                        | V-2                                                                                                                  |      | UL 94       |
| Oxygen Index <sup>11</sup>                     | 26                                                                                                                   | %    | ISO 4589-2  |
| Additional Information                         |                                                                                                                      |      |             |
| ASTM 和 ISO 测试方法在技术上可能不相同,所以数据值可能不同于简单单位换算获得的值. |                                                                                                                      |      |             |
| NOTE                                           |                                                                                                                      |      |             |
| 1.                                             | 50 mm/min                                                                                                            |      |             |
| 2.                                             | 50 mm/min                                                                                                            |      |             |
| 3.                                             | 50 mm/min                                                                                                            |      |             |
| 4.                                             | 50 mm/min                                                                                                            |      |             |
| 5.                                             | 50 mm/min                                                                                                            |      |             |
| 6.                                             | Method I (three-point load), 2.0 mm/min                                                                              |      |             |
| 7.                                             | Method I (three-point load), 2.0 mm/min                                                                              |      |             |
| 8.                                             | 3.39 m/sec                                                                                                           |      |             |
| 9.                                             | 速率 A (50°C/h), 载荷2 (50N)                                                                                             |      |             |
| 10.                                            | This rating is not intended to reflect the danger caused by this or any other material under actual fire conditions. |      |             |
| 11.                                            | This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.    |      |             |

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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



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