

# VALOX™ DR48 resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

17% glass reinforced, flame retardant grade UL-94 rated V-0/5VA.

| General Information                                  |                                                       |                    |                 |
|------------------------------------------------------|-------------------------------------------------------|--------------------|-----------------|
| UL YellowCard                                        | E45587-236823                                         |                    |                 |
| Filler / Reinforcement                               | Glass fiber reinforced material, 17% filler by weight |                    |                 |
| Features                                             | Flame retardancy                                      |                    |                 |
| Processing Method                                    | Injection molding                                     |                    |                 |
| Physical                                             | Nominal Value                                         | Unit               | Test Method     |
| Specific Gravity                                     | 1.53                                                  | g/cm <sup>3</sup>  | ASTM D792       |
| Specific Volume                                      | 0.658                                                 | cm <sup>3</sup> /g | ASTM D792       |
| Molding Shrinkage                                    |                                                       |                    | Internal method |
| Flow <sup>1</sup>                                    | 0.40 - 0.60                                           | %                  | Internal method |
| Flow <sup>2</sup>                                    | 0.60 - 0.90                                           | %                  | Internal method |
| Transverse flow <sup>3</sup>                         | 0.50 - 0.80                                           | %                  | Internal method |
| Transverse flow <sup>4</sup>                         | 0.80 - 1.1                                            | %                  | Internal method |
| Water Absorption (24 hr)                             | 0.070                                                 | %                  | ASTM D570       |
| Hardness                                             | Nominal Value                                         | Unit               | Test Method     |
| Rockwell Hardness (R-Scale)                          | 118                                                   |                    | ASTM D785       |
| Mechanical                                           | Nominal Value                                         | Unit               | Test Method     |
| Tensile Strength <sup>5</sup> (Break)                | 93.1                                                  | MPa                | ASTM D638       |
| Flexural Modulus <sup>6</sup> (50.0 mm Span)         | 5030                                                  | MPa                | ASTM D790       |
| Flexural Strength <sup>7</sup> (Break, 50.0 mm Span) | 145                                                   | MPa                | ASTM D790       |
| Impact                                               | Nominal Value                                         | Unit               | Test Method     |
| Notched Izod Impact (23°C)                           | 53                                                    | J/m                | ASTM D256       |
| Unnotched Izod Impact (23°C)                         | 530                                                   | J/m                | ASTM D4812      |
| Thermal                                              | Nominal Value                                         | Unit               | Test Method     |
| Deflection Temperature Under Load                    |                                                       |                    | ASTM D648       |
| 0.45 MPa, unannealed, 6.40mm                         | 210                                                   | °C                 | ASTM D648       |
| 1.8 MPa, unannealed, 6.40mm                          | 182                                                   | °C                 | ASTM D648       |
| CLTE - Flow                                          |                                                       |                    | ASTM E831       |
| -40 to 40°C                                          | 2.0E-5                                                | cm/cm/°C           | ASTM E831       |
| 60 to 138°C                                          | 2.0E-5                                                | cm/cm/°C           | ASTM E831       |
| RTI Elec                                             | 120                                                   | °C                 | UL 746          |
| RTI Imp                                              | 120                                                   | °C                 | UL 746          |
| RTI                                                  | 140                                                   | °C                 | UL 746          |
| Electrical                                           | Nominal Value                                         | Unit               | Test Method     |

|                                       |                    |         |             |
|---------------------------------------|--------------------|---------|-------------|
| Volume Resistivity                    | 3.6E+16            | ohms·cm | ASTM D257   |
| Dielectric Strength                   |                    |         | ASTM D149   |
| 1.60 mm, in Oil                       | 26                 | kV/mm   | ASTM D149   |
| 3.20 mm, in Air                       | 19                 | kV/mm   | ASTM D149   |
| Dielectric Constant                   |                    |         | ASTM D150   |
| 100 Hz                                | 3.60               |         | ASTM D150   |
| 1 MHz                                 | 3.40               |         | ASTM D150   |
| Dissipation Factor                    |                    |         | ASTM D150   |
| 100 Hz                                | 2.0E-3             |         | ASTM D150   |
| 1 MHz                                 | 0.020              |         | ASTM D150   |
| Arc Resistance <sup>8</sup>           | PLC 6              |         | ASTM D495   |
| Comparative Tracking Index (CTI)      | PLC 3              |         | UL 746      |
| High Amp Arc Ignition (HAI)           | PLC 0              |         | UL 746      |
| High Voltage Arc Tracking Rate (HVTR) | PLC 4              |         | UL 746      |
| Hot-wire Ignition (HWI)               | PLC 3              |         | UL 746      |
| Flammability                          | Nominal Value      | Unit    | Test Method |
| Flame Rating                          |                    |         | UL 94       |
| 0.889 mm                              | V-0                |         | UL 94       |
| 3.00 mm                               | 5VA                |         | UL 94       |
| Oxygen Index                          | 29                 | %       | ASTM D2863  |
| Injection                             | Nominal Value      | Unit    |             |
| Drying Temperature                    | 121                | °C      |             |
| Drying Time                           | 3.0 - 4.0          | hr      |             |
| Drying Time, Maximum                  | 12                 | hr      |             |
| Suggested Max Moisture                | 0.020              | %       |             |
| Suggested Shot Size                   | 40 - 80            | %       |             |
| Rear Temperature                      | 238 - 254          | °C      |             |
| Middle Temperature                    | 243 - 260          | °C      |             |
| Front Temperature                     | 249 - 266          | °C      |             |
| Nozzle Temperature                    | 243 - 260          | °C      |             |
| Processing (Melt) Temp                | 249 - 266          | °C      |             |
| Mold Temperature                      | 65.6 - 87.8        | °C      |             |
| Back Pressure                         | 0.345 - 0.689      | MPa     |             |
| Screw Speed                           | 50 - 80            | rpm     |             |
| Vent Depth                            | 0.025 - 0.038      | mm      |             |
| NOTE                                  |                    |         |             |
| 1.                                    | 1.5 to 3.2 mm      |         |             |
| 2.                                    | 3.2 to 4.6 mm      |         |             |
| 3.                                    | 1.5 to 3.2 mm      |         |             |
| 4.                                    | 3.2-4.6 mm         |         |             |
| 5.                                    | Type 1, 5.0 mm/min |         |             |
| 6.                                    | 1.3 mm/min         |         |             |

|    |                    |
|----|--------------------|
| 7. | 1.3 mm/min         |
| 8. | 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

