

# ACRYPET® VR L40

Polymethyl Methacrylate Acrylic  
Mitsubishi Rayon Co., Ltd.

Message:

Acrypet® VR L40 is a polymethyl methacrylate-acrylic material. This product is available in North America.  
Acrypet® The main features of VR L40 are:  
high hardness  
beautiful  
good weather resistance  
chemical resistance  
Transparency  
Typical application areas include:  
Electrical/electronic applications  
electrical appliances  
optics/lens  
Automotive Industry

| General Information                      |                                    |                   |                   |
|------------------------------------------|------------------------------------|-------------------|-------------------|
| UL YellowCard                            | E54695-565909                      | E256044-100422218 | E256044-100422225 |
|                                          | E95683-101677766                   | E95683-101677768  | E54695-244825     |
| Features                                 | Good chemical resistance           |                   |                   |
|                                          | Good weather resistance            |                   |                   |
|                                          | Definition, high                   |                   |                   |
|                                          | Good appearance                    |                   |                   |
|                                          | High hardness                      |                   |                   |
|                                          |                                    |                   |                   |
| Uses                                     | Electrical/Electronic Applications |                   |                   |
|                                          | Electrical appliances              |                   |                   |
|                                          | Optical applications               |                   |                   |
|                                          | Application in Automobile Field    |                   |                   |
| Forms                                    |                                    | Particle          |                   |
| Physical                                 | Nominal Value                      | Unit              | Test Method       |
| Specific Gravity                         | 1.16                               | g/cm <sup>3</sup> | ASTM D792         |
| Melt Mass-Flow Rate (MFR) (230°C/3.8 kg) | 2.2                                | g/10 min          | ASTM D1238        |
| Molding Shrinkage - Flow                 | 0.30 - 0.70                        | %                 | ASTM D955         |
| Water Absorption (24 hr)                 | 0.40                               | %                 | ASTM D570         |
| Hardness                                 | Nominal Value                      | Unit              | Test Method       |
| Rockwell Hardness (M-Scale)              | 67                                 |                   | ASTM D785         |
| Mechanical                               | Nominal Value                      | Unit              | Test Method       |
| Tensile Strength <sup>1</sup>            | 42.1                               | MPa               | ASTM D638         |
| Tensile Elongation <sup>2</sup> (Break)  | 80                                 | %                 | ASTM D638         |
| Flexural Modulus (6.35 mm)               | 1960                               | MPa               | ASTM D790         |

|                                                                                                                                                                                                                                                           |               |          |             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------|-------------|
| Flexural Strength (6.35 mm)                                                                                                                                                                                                                               | 62.1          | MPa      | ASTM D790   |
| Impact                                                                                                                                                                                                                                                    | Nominal Value | Unit     | Test Method |
| Notched Izod Impact (6.35 mm)                                                                                                                                                                                                                             | 110           | J/m      | ASTM D256   |
| Thermal                                                                                                                                                                                                                                                   | Nominal Value | Unit     | Test Method |
| Deflection Temperature Under Load (1.8 MPa, Unannealed)                                                                                                                                                                                                   | 94.0          | °C       | ASTM D648   |
| Vicat Softening Temperature                                                                                                                                                                                                                               | 109           | °C       | ASTM D1525  |
| CLTE - Flow                                                                                                                                                                                                                                               | 9.0E-5        | cm/cm/°C | ASTM D696   |
| Optical                                                                                                                                                                                                                                                   | Nominal Value | Unit     | Test Method |
| Refractive Index                                                                                                                                                                                                                                          | 1.490         |          | ASTM D542   |
| Transmittance (3200 μm)                                                                                                                                                                                                                                   | 92.0          | %        | ASTM D1003  |
| Additional Information                                                                                                                                                                                                                                    |               |          |             |
| Surface Resistivity, JIS K6911: > 10 <sup>16</sup> ohmVolume Resistivity, JIS K6911: > 10 <sup>15</sup> ohm-cmDielectric Breakdown Strength: 15 kV/mmDielectric Constant, 60Hz: 3.9Dielectric Loss Tangent, 60Hz: 0.04Arc Resistance, JIS K6911: No Trace |               |          |             |
| NOTE                                                                                                                                                                                                                                                      |               |          |             |
| 1.                                                                                                                                                                                                                                                        | Type 1        |          |             |
| 2.                                                                                                                                                                                                                                                        | Type 1        |          |             |

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