

# Optix® CA-924 G

Polymethyl Methacrylate Acrylic

Plaskolite West, Inc.

Message:

Optix® CA-924 G is a Polymethyl Methacrylate Acrylic product. It can be processed by injection molding and is available in North America. Typical application: Medical/Healthcare.

Characteristics include:

- Flame Rated
- Good Weather Resistance
- Impact Resistant
- Insulating
- Sterilizable

| General Information                                     |                                 |          |             |
|---------------------------------------------------------|---------------------------------|----------|-------------|
| Features                                                | Electrically Insulating         |          |             |
|                                                         | Good Impact Resistance          |          |             |
|                                                         | Good Weather Resistance         |          |             |
|                                                         | Machinable                      |          |             |
|                                                         | Radiation Sterilizable          |          |             |
| Uses                                                    | Medical/Healthcare Applications |          |             |
| Appearance                                              | Clear/Transparent               |          |             |
| Forms                                                   | Pellets                         |          |             |
| Processing Method                                       | Injection Molding               |          |             |
| Physical                                                | Nominal Value                   | Unit     | Test Method |
| Specific Gravity                                        | 1.17                            | g/cm³    | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)                | 6.3                             | g/10 min | ASTM D1238  |
| Molding Shrinkage - Flow                                | 0.20 to 0.70                    | %        | ASTM D955   |
| Hardness                                                | Nominal Value                   | Unit     | Test Method |
| Rockwell Hardness (M-Scale)                             | 68                              |          | ASTM D785   |
| Mechanical                                              | Nominal Value                   | Unit     | Test Method |
| Tensile Modulus                                         | 3250                            | MPa      | ASTM D638   |
| Tensile Strength (Yield)                                | 58.4                            | MPa      | ASTM D638   |
| Tensile Elongation (Yield)                              | 4.5                             | %        | ASTM D638   |
| Flexural Modulus                                        | 2550                            | MPa      | ASTM D790   |
| Flexural Strength (Yield)                               | 86.3                            | MPa      | ASTM D790   |
| Compressive Strength                                    | 82.7                            | MPa      | ASTM D695   |
| Impact                                                  | Nominal Value                   | Unit     | Test Method |
| Notched Izod Impact                                     | 43                              | J/m      | ASTM D256   |
| Gardner Impact                                          | 1.58                            | J        | ASTM D3029  |
| Thermal                                                 | Nominal Value                   | Unit     | Test Method |
| Deflection Temperature Under Load (1.8 MPa, Unannealed) | 83.3                            | °C       | ASTM D648   |

|                             |                      |                    |                    |
|-----------------------------|----------------------|--------------------|--------------------|
| Vicat Softening Temperature | 112                  | °C                 | ASTM D1525         |
| RTI Elec (1.50 mm)          | 50.0                 | °C                 | UL 746             |
| RTI Imp (1.50 mm)           | 50.0                 | °C                 | UL 746             |
| RTI Str (1.50 mm)           | 50.0                 | °C                 | UL 746             |
| <b>Electrical</b>           | <b>Nominal Value</b> | <b>Unit</b>        | <b>Test Method</b> |
| Dielectric Strength         | 15                   | kV/mm              | ASTM D149          |
| Dielectric Constant         |                      |                    | ASTM D150          |
| 1 kHz                       | 3.14                 |                    |                    |
| 1 MHz                       | 2.44                 |                    |                    |
| Dissipation Factor          |                      |                    | ASTM D150          |
| 1 kHz                       | 0.041                |                    |                    |
| 1 MHz                       | 0.030                |                    |                    |
| <b>Flammability</b>         | <b>Nominal Value</b> | <b>Unit</b>        | <b>Test Method</b> |
| Flame Rating (1.50 mm)      | HB                   |                    | UL 94              |
| <b>Optical</b>              | <b>Nominal Value</b> | <b>Unit</b>        | <b>Test Method</b> |
| Refractive Index            | 1.490                |                    | ASTM D542          |
| Transmittance               | 91.6                 | %                  | ASTM D1003         |
| <b>Injection</b>            | <b>Nominal Value</b> | <b>Unit</b>        |                    |
| Drying Temperature          | 82.2                 | °C                 |                    |
| Drying Time                 | 2.0 to 4.0           | hr                 |                    |
| Rear Temperature            | 177 to 232           | °C                 |                    |
| Middle Temperature          | 193 to 249           | °C                 |                    |
| Front Temperature           | 204 to 260           | °C                 |                    |
| Nozzle Temperature          | 193 to 249           | °C                 |                    |
| Processing (Melt) Temp      | 216 to 249           | °C                 |                    |
| Mold Temperature            | 43.3 to 87.8         | °C                 |                    |
| Injection Pressure          | 68.9 to 138          | MPa                |                    |
| Back Pressure               | 0.345 to 1.03        | MPa                |                    |
| Screw Speed                 | 50 to 100            | rpm                |                    |
| Clamp Tonnage               | 14                   | kN/cm <sup>2</sup> |                    |

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