

# Optix® CP-82

Polymethyl Methacrylate Acrylic  
Plaskolite West, Inc.

Message:

Optix® CP-82 is a polymethyl methacrylate-acrylic acid product. It can be processed by injection molding and is available in North America or Europe.  
Typical application areas are: automotive industry.  
Features include:  
flame retardant/rated flame  
odorless/tasteless channel  
high molecular weight  
Good processability  
insulation

| General Information                      |                            |                   |                   |
|------------------------------------------|----------------------------|-------------------|-------------------|
| UL YellowCard                            | E167330-100061611          | E167330-100061612 | E167330-100061613 |
| Features                                 | Good dimensional stability |                   |                   |
|                                          | High molecular weight      |                   |                   |
|                                          | Insulation                 |                   |                   |
|                                          | Impact resistance, good    |                   |                   |
|                                          | Workability, good          |                   |                   |
|                                          | Machinable                 |                   |                   |
|                                          | Low liquidity              |                   |                   |
|                                          | Good chemical resistance   |                   |                   |
|                                          | Good weather resistance    |                   |                   |
|                                          | Heat resistance, high      |                   |                   |
|                                          | The smell is low to none   |                   |                   |
|                                          | The smell is low to none   |                   |                   |
| Definition, high                         |                            |                   |                   |
| Appearance                               | Available colors           |                   |                   |
| Forms                                    | Particle                   |                   |                   |
| Processing Method                        | Injection molding          |                   |                   |
| Physical                                 | Nominal Value              | Unit              | Test Method       |
| Specific Gravity                         | 1.19                       | g/cm³             | ASTM D792         |
| Melt Mass-Flow Rate (MFR) (230°C/3.8 kg) | 2.4                        | g/10 min          | ASTM D1238        |
| Molding Shrinkage - Flow                 | 0.50                       | %                 | ASTM D955         |
| Water Absorption (24 hr)                 | 0.30                       | %                 | ASTM D570         |
| Hardness                                 | Nominal Value              | Unit              | Test Method       |
| Rockwell Hardness (M-Scale)              | 87                         |                   | ASTM D785         |
| Mechanical                               | Nominal Value              | Unit              | Test Method       |
| Tensile Modulus                          | 3030                       | MPa               | ASTM D638         |
| Tensile Strength                         | 67.6                       | MPa               | ASTM D638         |

|                                                                 |               |          |             |
|-----------------------------------------------------------------|---------------|----------|-------------|
| Tensile Elongation (Break)                                      | 3.4           | %        | ASTM D638   |
| Flexural Modulus                                                | 2940          | MPa      | ASTM D790   |
| Flexural Strength                                               | 105           | MPa      | ASTM D790   |
| Impact                                                          | Nominal Value | Unit     | Test Method |
| Notched Izod Impact                                             | 21            | J/m      | ASTM D256   |
| Unnotched Izod Impact                                           | 280           | J/m      | ASTM D256   |
| Dart Drop Impact                                                | 0.339         | J        | ASTM D3029  |
| Thermal                                                         | Nominal Value | Unit     | Test Method |
| Deflection Temperature Under Load (1.8 MPa, Unannealed)         | 95.6          | °C       | ASTM D648   |
| Vicat Softening Temperature                                     | 102           | °C       | ASTM D1525  |
| CLTE - Flow (-30 to 30°C)                                       | 6.2E-5        | cm/cm/°C | ASTM D696   |
| Flammability                                                    | Nominal Value |          | Test Method |
| Flame Rating                                                    | HB            |          | UL 94       |
| Optical                                                         | Nominal Value | Unit     | Test Method |
| Refractive Index                                                | 1.490         |          | ASTM D542   |
| Transmittance                                                   | 92.0          | %        | ASTM D1003  |
| Haze                                                            | 1.0           | %        | ASTM D1003  |
| Additional Information                                          |               |          |             |
| Thermal Index, UL-746 ABC: 90°CBurn Rate, ASTM D635: 1.3 in/min |               |          |             |
| Injection                                                       | Nominal Value | Unit     |             |
| Drying Temperature                                              | 71.1 - 85.0   | °C       |             |
| Rear Temperature                                                | 204 - 249     | °C       |             |
| Middle Temperature                                              | 210 - 254     | °C       |             |
| Front Temperature                                               | 216 - 260     | °C       |             |
| Nozzle Temperature                                              | 210 - 260     | °C       |             |
| Processing (Melt) Temp                                          | 210 - 254     | °C       |             |
| Mold Temperature                                                | 48.9 - 93.3   | °C       |             |
| Injection instructions                                          |               |          |             |
| Heated Manifold: 410-490°FHeated Drop (Sprue): 410-490°F        |               |          |             |

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