

# Durolon® HFR1700

Polycarbonate

Unigel Plásticos

## Message:

Injection molding polycarbonate.

High flow rate product with enhanced mold release performance for parts with complex design.

Product complies with FDA 21 CFR 177.1580.

| General Information                      |                             |                   |                      |
|------------------------------------------|-----------------------------|-------------------|----------------------|
| Additive                                 | demoulding                  |                   |                      |
| Features                                 | Low viscosity               |                   |                      |
|                                          | High liquidity              |                   |                      |
|                                          | Definition, high            |                   |                      |
|                                          | Compliance of Food Exposure |                   |                      |
|                                          | Good demoulding performance |                   |                      |
| Uses                                     | Thin wall parts             |                   |                      |
|                                          | Medical/nursing supplies    |                   |                      |
| Agency Ratings                           | FDA 21 CFR 177.1580         |                   |                      |
| UL File Number                           | E102385                     |                   |                      |
| Appearance                               | Available colors            |                   |                      |
|                                          | Clear/transparent           |                   |                      |
| Forms                                    | Particle                    |                   |                      |
| Processing Method                        | Injection molding           |                   |                      |
| Physical                                 | Nominal Value               | Unit              | Test Method          |
| Specific Gravity                         | 1.20                        | g/cm <sup>3</sup> | ASTM D792, ISO 1183  |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg) | 27                          | g/10 min          | ASTM D1238, ISO 1133 |
| Molding Shrinkage - Flow                 | 0.50 - 0.70                 | %                 | ASTM D955            |
| Water Absorption (23°C, 24 hr)           | 0.23                        | %                 | ASTM D570            |
| Hardness                                 | Nominal Value               | Unit              | Test Method          |
| Rockwell Hardness                        |                             |                   | ASTM D785            |
| Class m                                  | 75                          |                   | ASTM D785            |
| Class r                                  | 120                         |                   | ASTM D785            |
| Mechanical                               | Nominal Value               | Unit              | Test Method          |
| Tensile Modulus                          | 2300                        | MPa               | ASTM D638, ISO 527-2 |
| Tensile Strength                         |                             |                   | ASTM D638, ISO 527-2 |
| Yield                                    | 63.0                        | MPa               | ASTM D638, ISO 527-2 |
| Fracture                                 | 68.0                        | MPa               | ASTM D638, ISO 527-2 |
| Tensile Elongation (Break)               | 90                          | %                 | ASTM D638, ISO 527-2 |

|                                                                                      |                      |             |                       |
|--------------------------------------------------------------------------------------|----------------------|-------------|-----------------------|
| Flexural Modulus                                                                     | 2350                 | MPa         | ASTM D790, ISO 178    |
| Flexural Strength                                                                    | 90.0                 | MPa         | ASTM D790, ISO 178    |
| <b>Impact</b>                                                                        | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b>    |
| Notched Izod Impact (3.20 mm)                                                        | 590                  | J/m         | ASTM D256             |
| <b>Thermal</b>                                                                       | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b>    |
| Deflection Temperature Under Load (1.8 MPa, Unannealed)                              | 125                  | °C          | ASTM D648, ISO 75-2/A |
| CLTE - Flow                                                                          | 6.5E-5               | cm/cm/°C    | ASTM D696             |
| <b>Electrical</b>                                                                    | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b>    |
| Volume Resistivity                                                                   | 1.0E+16              | ohms·cm     | ASTM D257             |
| Dielectric Strength (1.60 mm)                                                        | 29                   | kV/mm       | ASTM D149             |
| Dielectric Constant                                                                  |                      |             | ASTM D150             |
| 60 Hz                                                                                | 2.91                 |             | ASTM D150             |
| 1 MHz                                                                                | 2.85                 |             | ASTM D150             |
| Dissipation Factor                                                                   |                      |             | ASTM D150             |
| 60 Hz                                                                                | 6.6E-4               |             | ASTM D150             |
| 1 MHz                                                                                | 9.2E-3               |             | ASTM D150             |
| Arc Resistance                                                                       | 110                  | sec         | ASTM D495             |
| <b>Flammability</b>                                                                  | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b>    |
| Flame Rating (1.50 mm)                                                               | HB                   |             | UL 94                 |
| Glow Wire Ignition Temperature (3.20 mm)                                             | 850                  | °C          | IEC 60695-2-13        |
| <b>Optical</b>                                                                       | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b>    |
| Refractive Index                                                                     | 1.586                |             | ASTM D542, ISO 489    |
| Transmittance                                                                        | 85.0 - 89.0          | %           | ASTM D1003            |
| <b>Additional Information</b>                                                        |                      |             |                       |
| Volume Resistivity, ASTM D257: >1E16 ohm-cmArc Resistance, ASTM D495: 100 to 120 sec |                      |             |                       |
| <b>Injection</b>                                                                     | <b>Nominal Value</b> | <b>Unit</b> |                       |
| Drying Temperature                                                                   | 120                  | °C          |                       |
| Drying Time                                                                          | 4.0                  | hr          |                       |
| Rear Temperature                                                                     | 250                  | °C          |                       |
| Middle Temperature                                                                   | 260                  | °C          |                       |
| Front Temperature                                                                    | 265                  | °C          |                       |
| Nozzle Temperature                                                                   | 250                  | °C          |                       |
| Processing (Melt) Temp                                                               | 240 - 300            | °C          |                       |
| Mold Temperature                                                                     | 80.0 - 100           | °C          |                       |

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