



## POLYREX® PH-55Y

CHI MEI CORPORATION - High Impact Polystyrene

Tuesday, November 5, 2019

### General Information

#### General

|                     |                                          |                             |                 |
|---------------------|------------------------------------------|-----------------------------|-----------------|
| Material Status     | • Commercial: Active                     |                             |                 |
| Availability        | • Africa & Middle East<br>• Asia Pacific | • Europe<br>• Latin America | • North America |
| Features            | • Medium Impact Resistance               |                             |                 |
| RoHS Compliance     | • RoHS Compliant                         |                             |                 |
| Resin ID (ISO 1043) | • >PS-HI<                                |                             |                 |

### ASTM & ISO Properties <sup>1</sup>

| Physical                                              | Nominal Value | Unit                   | Test Method  |
|-------------------------------------------------------|---------------|------------------------|--------------|
| Density / Specific Gravity <sup>2</sup>               | 1.05          |                        | ASTM D792    |
| Density (73°F)                                        | 1.05          | g/cm <sup>3</sup>      | ISO 1183     |
| Melt Mass-Flow Rate (200°C/5.0 kg)                    | 9.0           | g/10 min               | ASTM D1238   |
| Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)            | 9.00          | cm <sup>3</sup> /10min | ISO 1133     |
| Molding Shrinkage                                     | 0.40 to 0.70  | %                      | ISO 294-4    |
| Mechanical                                            | Nominal Value | Unit                   | Test Method  |
| Tensile Stress (Yield)                                | 3340          | psi                    | ISO 527-2/50 |
| Tensile Strength <sup>3</sup> (Break)                 | 3120          | psi                    | ASTM D638    |
| Tensile Stress (Break)                                | 3630          | psi                    | ISO 527-2/50 |
| Tensile Elongation <sup>3</sup> (Break)               | 50            | %                      | ASTM D638    |
| Tensile Strain (Break)                                | 60            | %                      | ISO 527-2/50 |
| Flexural Modulus <sup>4</sup>                         | 330000        | psi                    | ASTM D790    |
| Flexural Modulus <sup>5</sup>                         | 189000        | psi                    | ISO 178      |
| Flexural Strength <sup>4</sup>                        | 6390          | psi                    | ASTM D790    |
| Flexural Stress <sup>5</sup>                          | 5510          | psi                    | ISO 178      |
| Impact                                                | Nominal Value | Unit                   | Test Method  |
| Charpy Notched Impact Strength                        |               |                        | ISO 179      |
| -22°F                                                 | 1.7           | ft·lb/in <sup>2</sup>  |              |
| 73°F                                                  | 2.9           | ft·lb/in <sup>2</sup>  |              |
| Notched Izod Impact                                   |               |                        | ASTM D256    |
| 73°F, 0.126 in                                        | 1.4           | ft·lb/in               |              |
| 73°F, 0.252 in                                        | 1.2           | ft·lb/in               |              |
| Notched Izod Impact Strength                          |               |                        | ISO 180/1A   |
| -22°F                                                 | 1.4           | ft·lb/in <sup>2</sup>  |              |
| 73°F                                                  | 2.4           | ft·lb/in <sup>2</sup>  |              |
| Hardness                                              | Nominal Value | Unit                   | Test Method  |
| Rockwell Hardness (L-Scale)                           | 70            |                        | ASTM D785    |
| Thermal                                               | Nominal Value | Unit                   | Test Method  |
| Deflection Temperature Under Load                     |               |                        | ASTM D648    |
| 264 psi, Unannealed                                   | 172           | °F                     |              |
| Heat Deflection Temperature (264 psi, Unannealed)     | 165           | °F                     | ISO 75-2/A   |
| Deflection Temperature Under Load (264 psi, Annealed) | 192           | °F                     | ASTM D648    |

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| Thermal                                         | Nominal Value    | Unit     | Test Method             |
|-------------------------------------------------|------------------|----------|-------------------------|
| Heat Deflection Temperature (264 psi, Annealed) | 189              | °F       | ISO 75-2/A              |
| Vicat Softening Temperature                     | 203              | °F       | ASTM D1525 <sup>6</sup> |
| Vicat Softening Temperature                     |                  |          |                         |
| --                                              | 201              | °F       | ISO 306/A50             |
| --                                              | 189              | °F       | ISO 306/B50             |
| CLTE - Flow                                     | 2.2E-5 to 3.3E-5 | in/in/°F | ISO 11359-2             |
| Flammability                                    | Nominal Value    | Unit     | Test Method             |
| Flame Rating (0.06 in)                          | HB               |          | UL 94                   |

### Processing Information

| Injection          | Nominal Value | Unit |
|--------------------|---------------|------|
| Drying Temperature | 176           | °F   |
| Drying Time        | 2.0 to 3.0    | hr   |
| Rear Temperature   | 320 to 356    | °F   |
| Middle Temperature | 383 to 401    | °F   |
| Front Temperature  | 356 to 428    | °F   |
| Mold Temperature   | 104 to 158    | °F   |

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 23°C

<sup>3</sup> 0.24 in/min

<sup>4</sup> 0.11 in/min

<sup>5</sup> 0.079 in/min

<sup>6</sup> Rate A (50°C/h), Loading 1 (10 N)