# We Connect Science



# MRC365D1

### **Description**

MRC365D1, a Flame Retardant Post-Consumer Recycled ABS product for injection molding, contains 10% PCR resin and is designed to carry out black colors with the same physical properties as standard FR ABS, flammability rating of V-0 at 2.0mm. (Early stage of development: The data can be changed as a result of the quality improvement of the products)

### **Key Features**

# **Application**

Flame Retardancy, Recycled ABS (PCR 10%)

Batter Case, PCB Case, Electrical/Electronic Products

| Properties                  | Condition                            | Method     | Unit     | MRC365D1  |
|-----------------------------|--------------------------------------|------------|----------|-----------|
| Physical                    |                                      |            |          |           |
| Specific Gravity            | 23℃                                  | ASTM D792  |          | 1.17      |
| Mold Shrinkage              | 23°C, 3.2mm                          | ASTM D955  | %        | 0.4 ~ 0.7 |
| Melt Flow Index             | 220°C, 10kg                          | ASTM D1238 | g/10min  | 65        |
| Mechanical                  |                                      |            |          |           |
| Tensile Strength at Yield   | 23°C, 50mm/min, 3.2mm                | ASTM D638  | MPa      | 40        |
| Tensile Elongation at Break | 23°C, 50mm/min, 3.2mm                | ASTM D638  | %, (Min) | 15 ~      |
| Flexural Strength           | 23°C, 10mm/min, 6.4mm                | ASTM D790  | MPa      | 64        |
| Flexural Modulus            | 23°C, 10mm/min, 6.4mm                | ASTM D790  | MPa      | 2300      |
| Izod Impact Strength        | Notched, 3.2mm, 23°C                 | ASTM D256  | J/m      | 200       |
| Izod Impact Strength        | Notched, 6.4mm, 23°C                 | ASTM D256  | J/m      | 130       |
| Thermal                     |                                      |            |          |           |
| Heat Deflection Temperature | Edgewise, 1.82MPa, 6.4mm, Unannealed | ASTM D648  | °C       | 84        |
| Flammability                | 2.0mm                                | UL 94      |          | V-0       |
| Flammability                | 3.0mm                                | UL 94      |          | V-0       |

#### Note

Typical values can be used only for the purpose of selecting material, and there can be variation within normal tolerances for various colors. Values given should not be interpreted as specification and not be used for designing part or tool.

All properties, except melt flow index are measured by injection molded specimens after 48 hours storage at 23°C, 50% relative humidity.

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### Processing Guide (Injection Molding)

| Processing Parameters | Unit | Value     |
|-----------------------|------|-----------|
| Drying Temperature    | °C   | 70 ~ 80   |
| Drying Time           | hrs  | 3 ~ 4     |
| Injection Temperature | °C   | 200 ~ 230 |
| Mold Temperature      | °C   | 40 ~ 80   |
| Screw Speed           | rpm  | 30 ~ 60   |

### **Note**

Injection Temperature & Drew Speed are only mentioned as general guidelines.

These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.