

# SD POLYCA™ 876-20

Polycarbonate

Sumika Styron Polycarbonate Limited

Message:

SD POLYCA™ 870 series, SI8001H and SI6001W are based on silicone type flame retardants instead of conventional bromine type and phosphonate type flame retardants. SD POLYCA 870 series, SI8001H and SI6001W are environmentally friendly polycarbonate resins and show excellent hydrolysis resistance, thermal stability, heat resistance and molding capability.

| General Information                        |                                    |           |                    |
|--------------------------------------------|------------------------------------|-----------|--------------------|
| UL YellowCard                              | E123529-221533                     |           |                    |
| Additive                                   | Flame retardancy                   |           |                    |
| Features                                   | Good Heat Resistance               |           |                    |
|                                            | Environmental protection           |           |                    |
|                                            | Good formability                   |           |                    |
|                                            | Hydrolysis resistance              |           |                    |
|                                            | Thermal stability, good            |           |                    |
|                                            | Flame retardancy                   |           |                    |
| Uses                                       | Electrical/Electronic Applications |           |                    |
|                                            | Architectural application field    |           |                    |
| Appearance                                 | Opacity                            |           |                    |
| Part Marking Code                          | >PC FR(76)                         |           |                    |
| Physical                                   | Nominal Value                      | Unit      | Test Method        |
| Density                                    | 1.20                               | g/cm³     | ISO 1183           |
| Melt Volume-Flow Rate (MVR) (300°C/1.2 kg) | 20.0                               | cm³/10min | ISO 1133           |
| Molding Shrinkage                          |                                    |           | ASTM D955          |
| Flow                                       | 0.50 - 0.70                        | %         | ASTM D955          |
| Transverse flow                            | 0.50 - 0.70                        | %         | ASTM D955          |
| Water Absorption (23°C, 24 hr)             | 0.20                               | %         | ASTM D570          |
| Mechanical                                 | Nominal Value                      | Unit      | Test Method        |
| Tensile Modulus                            | 2250                               | MPa       | ISO 527-2          |
| Tensile Strength                           |                                    |           |                    |
| --                                         | 61.0                               | MPa       | ASTM D638          |
| --                                         | 60.0                               | MPa       | ISO 527-2          |
| Tensile Elongation                         |                                    |           |                    |
| Fracture                                   | 70                                 | %         | ASTM D638          |
| Fracture                                   | 80                                 | %         | ISO 527-2          |
| Flexural Modulus                           | 2200                               | MPa       | ASTM D790, ISO 178 |
| Flexural Strength                          |                                    |           |                    |

|                                       |               |                   |             |
|---------------------------------------|---------------|-------------------|-------------|
| --                                    | 87.0          | MPa               | ASTM D790   |
| --                                    | 85.0          | MPa               | ISO 178     |
| Impact                                | Nominal Value | Unit              | Test Method |
| Charpy Notched Impact Strength (23°C) | 21            | kJ/m <sup>2</sup> | ISO 179     |
| Notched Izod Impact (23°C)            | 590           | J/m               | ASTM D256   |
| Thermal                               | Nominal Value | Unit              | Test Method |
| Deflection Temperature Under Load     |               |                   |             |
| 1.8 MPa, not annealed                 | 131           | °C                | ASTM D648   |
| 1.8 MPa, not annealed                 | 125           | °C                | ISO 75-2/A  |
| Linear thermal expansion coefficient  |               |                   | ASTM D696   |
| Flow                                  | 7.0E-5        | cm/cm/°C          | ASTM D696   |
| Lateral                               | 7.0E-5        | cm/cm/°C          | ASTM D696   |
| Flammability                          | Nominal Value | Test Method       |             |
| Flame Rating                          |               |                   | UL 94       |
| 1.5 mm                                | V-0           | UL 94             |             |
|                                       | V-0           |                   |             |
| 2.5 mm                                | 5VA           | UL 94             |             |
|                                       | V-0           |                   |             |
| 3.0 mm                                | 5VA           | UL 94             |             |

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