

# Styrolution PS 5300

High Impact Polystyrene  
INEOS Styrolution Group GmbH

Message:

Styrolution PS 5300 is a High Impact Polystyrene product. It can be processed by injection molding and is available in Latin America or North America. Applications of Styrolution PS 5300 include decorative parts and packaging. Characteristics include:  
Flame Rated  
Good Toughness  
High ESCR (Stress Crack Resistant)  
Impact Resistant

| General Information                                   |                                  |                   |             |
|-------------------------------------------------------|----------------------------------|-------------------|-------------|
| Features                                              | Good Toughness                   |                   |             |
|                                                       | High ESCR (Stress Crack Resist.) |                   |             |
|                                                       | High Impact Resistance           |                   |             |
| Uses                                                  | Decorative Parts                 |                   |             |
|                                                       | Displays                         |                   |             |
|                                                       | Food Packaging                   |                   |             |
| UL File Number                                        | E57887                           |                   |             |
| Forms                                                 | Pellets                          |                   |             |
| Processing Method                                     | Injection Molding                |                   |             |
| Physical                                              | Nominal Value                    | Unit              | Test Method |
| Specific Gravity                                      | 1.04                             | g/cm <sup>3</sup> | ASTM D792   |
| Apparent Density <sup>1</sup>                         | 0.59 to 0.64                     | g/cm <sup>3</sup> |             |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)              | 2.6                              | g/10 min          | ASTM D1238  |
| Molding Shrinkage - Flow                              | 0.40 to 0.70                     | %                 | ASTM D955   |
| Hardness                                              | Nominal Value                    | Unit              | Test Method |
| Rockwell Hardness (L-Scale)                           | 45                               |                   | ASTM D785   |
| Mechanical                                            | Nominal Value                    | Unit              | Test Method |
| Tensile Modulus                                       | 1790                             | MPa               | ASTM D638   |
| Tensile Strength (Yield, 23°C)                        | 17.7                             | MPa               | ASTM D638   |
| Tensile Elongation (Break)                            | 53                               | %                 | ASTM D638   |
| Flexural Modulus                                      | 1720                             | MPa               | ASTM D790   |
| Flexural Strength                                     | 41.4                             | MPa               | ASTM D790   |
| Impact                                                | Nominal Value                    | Unit              | Test Method |
| Notched Izod Impact (23°C)                            | 120                              | J/m               | ASTM D256   |
| Thermal                                               | Nominal Value                    | Unit              | Test Method |
| Deflection Temperature Under Load (1.8 MPa, Annealed) | 85.0                             | °C                |             |

|                                      |                                    |          |                         |
|--------------------------------------|------------------------------------|----------|-------------------------|
| Vicat Softening Temperature          | 101                                | °C       | ASTM D1525 <sup>2</sup> |
| CLTE - Flow                          | 9.0E-5                             | cm/cm/°C | ASTM D696               |
| Electrical                           | Nominal Value                      | Unit     | Test Method             |
| Dielectric Strength (3.18 mm)        | 16                                 | kV/mm    | ASTM D149               |
| Dielectric Constant (1.00 mm, 1 MHz) | 2.50                               |          | ASTM D150               |
| Flammability                         | Nominal Value                      | Unit     | Test Method             |
| Flame Rating                         | HB                                 |          | UL 94                   |
| Optical                              | Nominal Value                      |          | Test Method             |
| Gardner Gloss (60°)                  | 15                                 |          | ASTM D523               |
| Injection                            | Nominal Value                      | Unit     |                         |
| Processing (Melt) Temp               | 182 to 277                         | °C       |                         |
| Mold Temperature                     | 37.8 to 82.2                       | °C       |                         |
| NOTE                                 |                                    |          |                         |
| 1.                                   | without external lubricant         |          |                         |
| 2.                                   | Rate B (120°C/h), Loading 1 (10 N) |          |                         |

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