

## ISO Property | LOTTE Advanced Materials

|                     |            |         |
|---------------------|------------|---------|
| starex <sup>®</sup> | Grade      | WR-9120 |
|                     | Resin Type | ASA     |

Weatherability, Automotive

| Item                                    | Measuring Method | Condition                       | Unit              | Value     |
|---|------------------|---------------------------------|-------------------|-----------|
| <b>Physical</b>                         |                  |                                 |                   |           |
| Specific Gravity                        | ISO 1183         | Natural or representative color | -                 | 1.06      |
| Melt Flow Index                         | ISO 1133         | 220°C, 10kg                     | g/10min           | 17        |
| Mold Shrinkage(MD)                      | ISO 294-4        | Flow at 2mm(MD)                 | %                 | 0.40~0.49 |
| Mold Shrinkage(TD)                      | ISO 294-4        | X-Flow at 2mm(TD)               | %                 | 0.42~0.52 |
| <b>Mechanical</b>                       |                  |                                 |                   |           |
| Tensile Strength at Yield               | ISO 527          | 50mm/min                        | MPa               | 47        |
| Tensile Strain at break                 | ISO 527          | 50mm/min                        | %                 | 18        |
| Tensile Modulus                         | ISO 527          | 50mm/min                        | MPa               | 2200      |
| Tensile Strength at Break               | ISO 527          | 50mm/min                        | MPa               | 34        |
| Flexural Strength                       | ISO 178          | 2mm/min                         | MPa               | 67        |
| Flexural Modulus                        | ISO 178          | 2mm/min                         | MPa               | 2100      |
| Izod Impact Strength (notched)          | ISO 180 1A       | at 23°C, 4mm                    | KJ/m <sup>2</sup> | 11        |
| Charpy Impact Strength (V-notched)      | ISO 179 1eA      | at 23°C, 4mm                    | KJ/m <sup>2</sup> | 16        |
| Rockwell Hardness                       | ISO 2039-2       | R-scale                         | -                 | 106       |
| <b>Thermal</b>                          |                  |                                 |                   |           |
| Heat Deflection Temperature(Unannealed) | ISO 75-2         | 1.8MPa, 4.0mm                   | °C                | 72        |
| Heat Deflection Temperature(Unannealed) | ISO 75-2         | 0.45MPa, 4.0mm                  | °C                | 90        |
| Heat Deflection Temperature(Annealing)  | ISO 75-2         | 1.8MPa, 4.0mm                   | °C                | 95        |
| Heat Deflection Temperature(Annealing)  | ISO 75-2         | 0.45MPa, 4.0mm                  | °C                | 99        |
| VICAT Softening Temperature             | ISO 306          | B/50                            | °C                | 98        |
| <b>Flammability</b>                     |                  |                                 |                   |           |
| Flammability                            | UL94             | HB                              | mm                | 1.5       |

1. The value above is the representative value of the NP or representative color and may have deviation. It can only be used for selecting materials.
2. The value above shall not be regarded as a material specification and cannot be used for molding designs.

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