



# Americas Styrenics EA3130

## Americas Styrenics LLC - General Purpose Polystyrene

Tuesday, November 5, 2019

### General Information

#### General

|                   |                       |                           |            |
|-------------------|-----------------------|---------------------------|------------|
| Material Status   | • Commercial: Active  |                           |            |
| Availability      | • Latin America       | • North America           |            |
| Features          | • Additive Free       | • Food Contact Acceptable |            |
| Uses              | • Color Concentrates  | • Medical Devices         | • Profiles |
| Agency Ratings    | • FDA 21 CFR 177.1640 |                           |            |
| Forms             | • Pellets             |                           |            |
| Processing Method | • Extrusion           | • Injection Molding       |            |

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

| Physical                                                           | Nominal Value    | Unit     | Test Method |
|--------------------------------------------------------------------|------------------|----------|-------------|
| Density / Specific Gravity                                         | 1.04             |          | ASTM D792   |
| Melt Mass-Flow Rate (200°C/5.0 kg)                                 | 4.8              | g/10 min | ASTM D1238  |
| Molding Shrinkage - Flow (24 hr)                                   | 4.0E-3 to 8.0E-3 | in/in    | ASTM D955   |
| Mechanical                                                         | Nominal Value    | Unit     | Test Method |
| Tensile Modulus                                                    | 450000           | psi      | ASTM D638   |
| Tensile Strength (Yield)                                           | 7250             | psi      | ASTM D638   |
| Tensile Elongation (Yield)                                         | 3.0              | %        | ASTM D638   |
| Flexural Modulus                                                   | 470000           | psi      | ASTM D790   |
| Flexural Strength (Yield)                                          | 9570             | psi      | ASTM D790   |
| Tensile Rupture                                                    | 7252             | psi      | ASTM D638   |
| Impact                                                             | Nominal Value    | Unit     | Test Method |
| Notched Izod Impact (73°F)                                         | 0.39             | ft-lb/in | ASTM D256   |
| Hardness                                                           | Nominal Value    | Unit     | Test Method |
| Rockwell Hardness (L-Scale)                                        | 107              |          | ASTM D785   |
| Thermal                                                            | Nominal Value    | Unit     | Test Method |
| Deflection Temperature Under Load (66 psi, Unannealed)             | 207              | °F       | ASTM D648   |
| Deflection Temperature Under Load<br>264 psi, Unannealed, 0.250 in | 190              | °F       | ASTM D648   |
| Vicat Softening Temperature                                        | 225              | °F       | ASTM D1525  |
| CLTE - Flow                                                        | 5.0E-5           | in/in/°F | ASTM D696   |

### Processing Information

| Injection          | Nominal Value | Unit |
|--------------------|---------------|------|
| Rear Temperature   | 424 to 480    | °F   |
| Middle Temperature | 424 to 480    | °F   |
| Front Temperature  | 390 to 415    | °F   |
| Nozzle Temperature | 415 to 469    | °F   |
| Back Pressure      | 29.0 to 174   | psi  |

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| Extrusion             | Nominal Value | Unit |
|-----------------------|---------------|------|
| Cylinder Zone 1 Temp. | 351 to 379    | °F   |
| Cylinder Zone 2 Temp. | 360 to 399    | °F   |
| Cylinder Zone 3 Temp. | 370 to 410    | °F   |
| Cylinder Zone 4 Temp. | 390 to 421    | °F   |
| Cylinder Zone 5 Temp. | 399 to 430    | °F   |
| Adapter Temperature   | 379 to 450    | °F   |
| Melt Temperature      | 379 to 450    | °F   |
| Die Temperature       | 390 to 450    | °F   |

### Extrusion Notes

Polish Rolls: 66 to 104 °C  
Head Pressure: 10 to 21 Mpa

### Notes

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