

## AquaSys® 180 Soluble Support for Additive Manufacturing

Rev 1: 8/21/20

### Introducing High Temperature Water Dispersible Support

AquaSys 180 is a high temperature water dispersible thermoplastic material to be extruded, injection molded, or 3D printed.

| GENERAL INFORMATION  |   |           |                   |
|--|---|-----------|-------------------|
| Resin  | Water Soluble Copolymer                   |           |                   |
| Filler   | Carbohydrate and Polyamide                |           |                   |
| Fill level   | 0-100%                                    |           |                   |
| Uses   | Extrusion, Injection Molding, 3D Printing |           |                   |
| Form   | Pellets or Filament (1.75mm or 2.85mm)    |           |                   |
| PHYSICAL PROPERTIES  | TYPICAL VALUE                             | UNITS     | METHOD            |
| Specific Gravity   | 1.26                                      |           | ASTM D792         |
| Coefficient Thermal Expansion  | 4.2E-05                                   | in/in°C   | ASTM D696         |
| MECHANICAL PROPERTIES  |   | UNITS     | METHOD            |
| Melt Flow Index (260 °C; 5kg)  | 15.5                                      | g/10min   | ASTM D1238        |
| <b>Tensile</b>   |   |           | ASTM D638         |
| Modulus  | 983,000                                   | psi       |                   |
| Strength   | 18,000                                    | psi       |                   |
| Elongation @ Break   | 2.8                                       | %         |                   |
| <b>Flexural</b>  |   |           | ASTM D790         |
| Modulus  | 872,000                                   | psi       |                   |
| Strength   | 28,700                                    | psi       |                   |
| <b>Impact (IZOD)</b>   |   |           | ASTM D256 / D4812 |
| Unnotched  | 10.3                                      | ft-lbf/in |                   |
| Notched  | 0.4                                       | ft-lbf/in |                   |
| Heat Deflection Temperature (0.45 Mpa)   | 70  | °C        | ASTM D648         |
| Vicat Softening (10.0N)  | 171                                       | °C        | ASTM D1525        |
| RECOMMENDED DRYING CONDITIONS  |   |           |                   |
| Oven dry for at least 4-6 hours at 85 °C   |   |           |                   |
| RECOMMENDED MOLDING CONDITIONS   |   |           |                   |
| Barrel temperatures  | 390 – 435 °F                              |           |                   |
| Mold temperatures  | 100 – 130 °F                              |           |                   |
| STORAGE AND PACKAGING  |   |           |                   |
| Store AquaSys 180 in metallized foil packaging with desiccant. Reseal after use. |   |           |                   |
| See MSDS/SDS for material handling.  |   |           |                   |

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