



**3D COMPOSITES**

Transforming ideas into 3-dimensional objects

# ABSplus™-P430

## MATERIAL DATA SHEET

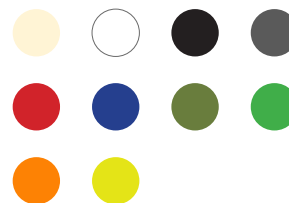
ABSplus™ is a true production-grade thermoplastic that is durable enough to perform virtually the same as production parts. When combined with Design Series 3D Printers, ABSplus™ is ideal for building 3D models and prototypes in an office environment.

### Color options:

Ivory, White, Black, Dark Grey, Red, Blue, Olive, Green, Nectarine, Fluorescent Yellow

### Quick Facts:

- Production grade thermoplastic
- Durable and long-lasting
- Great for usable parts



| MECHANICAL PROPERTIES                                     | TEST METHOD | ENGLISH      | METRIC    |
|-----------------------------------------------------------|-------------|--------------|-----------|
|                                                           |             | XZ Axis      | XZ Axis   |
| Tensile Strength, Ultimate<br>(Type 1, 0.125", 0.2"/min)  | ASTM D638   | 4,700 psi    | 33 MPa    |
| Tensile Strength, Yield<br>(Type 1, 0.125", 0.2"/min)     | ASTM D638   | 4,500 psi    | 8 MPa     |
| Tensile Modulus (Type 1, 0.125", 0.2"/min)                | ASTM D638   | 320,000 psi  | 2,200 MPa |
| Tensile Elongation at Break<br>(Type 1, 0.125", 0.2"/min) | ASTM D638   | 6%           | 6%        |
| Tensile Elongation at Yield<br>(Type 1, 0.125", 0.2"/min) | ASTM D638   | 2%           | 2%        |
| IZOD Impact, notched (Method A, 23°C)                     | ASTM D256   | 2.0 ft-lb/in | 106 J/m   |

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Materials and data based on Stratasys FDM material product testing reports.

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# ABSplus™-P430

| MECHANICAL PROPERTIES                          | TEST METHOD | ENGLISH     |             | METRIC    |           |
|------------------------------------------------|-------------|-------------|-------------|-----------|-----------|
|                                                |             | XZ Axis     | ZX Axis     | XZ Axis   | ZX Axis   |
| Flexural Strength (Method 1, 0.05"/min)        | ASTM D790   | 8,450 psi   | 5,050 psi   | 58 MPa    | 35 MPa    |
| Flexural Modulus (Method 1, 0.05"/min)         | ASTM D790   | 300,000 psi | 240,000 psi | 2,100 MPa | 1,650 MPa |
| Flexural Strain at Break (Method 1, 0.05"/min) | ASTM D790   | 4%          | 4%          | 2%        | 2%        |

| THERMAL PROPERTIES                | TEST METHOD | ENGLISH           | METRIC            |
|-----------------------------------|-------------|-------------------|-------------------|
| Heat Deflection (HDT) @ 66 psi    | ASTM D648   | 204°F             | 96°C              |
| Heat Deflection (HDT) @ 264 psi   | ASTM D648   | 180°F             | 82°C              |
| Glass Transition Temperature (Tg) | DSC (SSYS)  | 226°F             | 108°C             |
| Melt Point                        | -----       | Not Applicable    | Not Applicable    |
| Coefficient of Thermal Expansion  | ASTM E831   | 4.90E-05 in/in/°F | 8.82E-05 mm/mm/°C |

| ELECTRICAL PROPERTIES | TEST METHOD                            | VALUE RANGE            |
|-----------------------|----------------------------------------|------------------------|
| Volume Resistivity    | ASTM D257                              | 2.6E15 - 5.0E16 ohm-cm |
| Dielectric Constant   | ASTM D150-98                           | 2.3 - 2.85             |
| Dissipation Factor    | ASTM D150-98                           | 0.0046 - 0.0053        |
| Dielectric Strength   | ASTM D149-09, Method A, XZ Orientation | 130 V/mil              |
| Dielectric Strength   | ASTM D149-09, Method A, ZX Orientation | 290 V/mil              |

| OTHER                | TEST METHOD | VALUE              |
|----------------------|-------------|--------------------|
| Specific Gravity     | ASTM D792   | 1.04               |
| Flame Classification | UL94        | HB (0.09", 2.50mm) |
| UL File Number       | -----       | E345258            |
| Rockwell Hardness    | ASTM D785   | 109.5              |