# DuraForm® EX

Unspecified

3D Systems

## Message:

Manufacture tough, impact-resistant plastic prototypes or end-use parts requiring molded-part performance and capable of withstanding harsh enviroments.
Applications
Complex, thin-walled ductwork
Motorsports
Aerospace
Unmanned air vehicles (UAV's)
Housings and enclosures
Impellers
Connectors
Consumer sporting goods
Vehicle dashboards and grilles
Bumpers
Snap-fit designs
Living hinges
Features
Outstanding toughness
Excellent impact resistance
Repeatable mechanical properties
Easy-to-process
Consistent black or natural color
Benefits
Parts have the toughness of injection molded ABS and polypropylene
Functional prototypes can be tested in "real life" enviroments
Complex end-use parts can be economically manufactured in low and medium volumes
No painting required for black parts

| General Information | |
|---|---|
| Features | Good Processability |
| | Good Toughness |
| | High Impact Resistance |
| Uses | Aerospace Applications |
| | Automotive Bumper |
| | Automotive Interior Trim |
| | Connectors |
| | Housings |
| | Living Hinges |
| | Prototyping |
| | Sporting Goods |
| | Thin-walled Parts |
| Appearance | Black |
| | White |

| | | | |
|---|---|---|---|
| Forms | Powder | | |
| Processing Method | 3D Printing, Laser Sintering/Melting | | |
| **Physical** | **Nominal Value** | **Unit** | **Test Method** |
| Specific Gravity | 1.01 | g/cm³ | ASTM D792 |
| Water Absorption | | | ASTM D570 |
| 24 hr | 0.48 | % | |
| Saturation | 1.2 | % | |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Rockwell Hardness | | | ASTM D785 |
| L-Scale | 69 | | |
| M-Scale | 34 | | |
| Durometer Hardness (Shore D) | 74 | | ASTM D2240 |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Modulus | 1520 | MPa | ASTM D638 |
| Tensile Strength | | | ASTM D638 |
| Yield | 37.0 | MPa | |
| Ultimate | 48.0 | MPa | |
| Tensile Elongation | | | ASTM D638 |
| Yield | 5.0 | % | |
| Break | 47 | % | |
| Flexural Modulus | 1310 | MPa | ASTM D790 |
| Flexural Strength | | | ASTM D790 |
| Yield | 42.0 | MPa | |
| Break | 46.0 | MPa | |
| **Impact** | **Nominal Value** | **Unit** | **Test Method** |
| Notched Izod Impact (23°C) | 74 | J/m | ASTM D256 |
| Unnotched Izod Impact (23°C) | 1500 | J/m | ASTM D256 |
| Gardner Impact | 11.8 | J | ASTM D5420 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Deflection Temperature Under Load | | | ASTM D648 |
| 0.45 MPa, Unannealed | 188 | °C | |
| 1.8 MPa, Unannealed | 48.0 | °C | |
| CLTE - Flow | | | ASTM E831 |
| 0 to 50°C | 1.2E-4 | cm/cm/°C | |
| 85 to 145°C | 3.4E-4 | cm/cm/°C | |
| Specific Heat | 1750 | J/kg/°C | ASTM E1269 |
| Thermal Conductivity | 0.51 | W/m/K | ASTM E1225 |
| **Electrical** | **Nominal Value** | **Unit** | **Test Method** |
| Surface Resistivity | 4.9E+12 | ohms | ASTM D257 |
| Volume Resistivity | 1.3E+13 | ohms·cm | ASTM D257 |
| Dielectric Strength | 19 | kV/mm | ASTM D149 |

| | | | |
|---|---|---|---|
| Dielectric Constant (1 kHz) | 4.50 | | ASTM D150 |
| Dissipation Factor (1 kHz) | 0.050 | | ASTM D150 |
| **Flammability** | **Nominal Value** | **Unit** | **Test Method** |
| Flame Rating | HB | | UL 94 |



## Recommended distributors for this material

### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China