

Table 4 Typical properties of Direct-Formed VESPEL® ST parts

| Property | Temp. °C | ASTM Method | Units | ST2010 | ST2030 | |
|------------------------------|-------------|----------------|-------|------------|--------|-----|
| Tensile strength | 23 | D638 | MPa | 68 | 57 | |
| | 150 | | | 49 | | |
| | 260 | | | 32 | | |
| | 300 | | | 26 | | |
| Strain at break | 23 | D638 | % | 10,0 | 4,9 | |
| | 150 | | | 10,0 | | |
| | 260 | | | 9,8 | | |
| | 300 | | | 9,7 | | |
| Tensile modulus | 23 | D638 | MPa | 2758 | 3930 | |
| Izod notched impact strength | 23 | D256 | J/m | 53 | | |
| Compressive strength | 23 | D695 | MPa | | | |
| | | | | 1% strain | 15 | |
| | | | | 10% strain | 82 | |
| | | | | ultimate | 269 | 155 |
| Compressive modulus | 23 | D695 | MPa | 1827 | 1207 | |

Note: ST Stock Shapes are not yet available.

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|---------------------|-------------|----------------|--------|----------------------|-------------------|------|
| Dielectric strength | 23 | D149 | kV/mm | 10,4 | | |
| Dielectric constant | 23 | D150 | | | | |
| | | | | 100 Hz | 4,80 | 300 |
| | | | | 10 kHz | 4,78 | 110 |
| | | | | 1 MHz | 4,70 | 40,6 |
| Dissipation factor | 23 | D150 | | | | |
| | | | | 100 Hz | 0,0014 | 6,90 |
| | | | | 10 kHz | 0,0023 | 0,65 |
| | | | | 1 MHz | 0,0075 | 0,30 |
| Volume resistivity | 23 | D257 | ohm-cm | $3,2 \times 10^{16}$ | $4,8 \times 10^7$ | |
| Surface resistivity | 23 | D257 | ohm | $2,0 \times 10^{16}$ | $2,6 \times 10^9$ | |

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| Thermal conductivity | 23 | F433 | [W · cm/cm ² · °C] × 10 ⁻³ | 5,0 | 9,7 |
| Coefficient of linear thermal expansion | 23-260 | D696 | µm/°C | 48 | 32 |
| Water absorption % change (weight), | | | | | |
| 24 h | 23 | D570 | | 1,3 | 0,5 |
| 48 h | | | | 3,1 | 1,3 |
| Deformation under 14 MPa load | 23 50 | D621 | % | 0,18 0,38 | |
| Specific gravity | 23 | D272 | | 1,38 | 1,44 |

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MISCELLANEOUS