# Zytel® HTN42G30EF NC010

## HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTN42G30EF NC010 is a 30% glass reinforced, high performance polyamide resin, biobased, developed for electrical and electronics applications. It is also a PPA resin.

## Product information

| | | |
|---|---|---|
| Resin Identification | PA-GF30 | ISO 1043 |
| Part Marking Code | >PA-GF30< | ISO 11469 |
| Part Marking Code | >PPA-GF30< | SAE J1344 |
| ISO designation | ISO 16396-PA,GF30,M1CGHO2R, S10-100 | |

## Rheological properties

| | dry/cond. | | |
|---|---|---|---|
| Molding shrinkage, parallel | 0.5 / - | % | ISO 294-4, 2577 |
| Molding shrinkage, normal | 0.9 / - | % | ISO 294-4, 2577 |

## Typical mechanical properties

| | dry/cond. | | |
|---|---|---|---|
| Tensile modulus | 1.39E6 / 1.35E6 | psi | ISO 527-1/-2 |
| Tensile stress at break, 5mm/min | 25200 / 21200 | psi | ISO 527-1/-2 |
| Tensile strain at break, 5mm/min | 2.8 / 2.5 | % | ISO 527-1/-2 |
| Flexural modulus | 1.35E6 / 1.31E6 | psi | ISO 178 |
| Flexural strength | 35100 / 32100 | psi | ISO 178 |
| Charpy impact strength, 23°C | 40.9 / 31.4 | ftlb/in² | ISO 179/1eU |
| Charpy impact strength, -30°C | 26.2 / 25.7 | ftlb/in² | ISO 179/1eU |
| Charpy notched impact strength, 23°C | 6.18 / 4.76 | ftlb/in² | ISO 179/1eA |
| Charpy notched impact strength, -30°C | 4.76 / 4.76 | ftlb/in² | ISO 179/1eA |

## Thermal properties

| | dry/cond. | | |
|---|---|---|---|
| Melting temperature, 10°C/min | 597 / * | °F | ISO 11357-1/-3 |
| Melting temperature, first heat | 601 / * | °F | ISO 11357-1/-3 |
| Glass transition temperature, 10°C/min | 185 / - | °F | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa | 532 / * | °F | ISO 75-1/-2 |
| Coefficient of linear thermal expansion (CLTE), parallel | 0.11 / * | E-4/°F | ISO 11359-1/-2 |
| Coefficient of linear thermal expansion (CLTE), parallel, -40-23°C | 0.0944 / * | E-4/°F | ISO 11359-1/-2 |
| Coefficient of linear thermal expansion (CLTE), parallel, 55-160°C | 0.05 / * | E-4/°F | ISO 11359-1/-2 |
| Coefficient of linear thermal expansion (CLTE), normal | 0.456 / * | E-4/°F | ISO 11359-1/-2 |
| Coefficient of linear thermal expansion (CLTE), normal, -40-23°C | 0.367 / * | E-4/°F | ISO 11359-1/-2 |
| Coefficient of linear thermal expansion (CLTE), normal, 55-160°C | 0.533 / * | E-4/°F | ISO 11359-1/-2 |

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## Flammability

| | dry/cond. | | |
|---|---|---|---|
| Burning Behav. at thickness h | HB / * | class | IEC 60695-11-10 |
| Thickness tested | 0.0315 / * | in | IEC 60695-11-10 |
| FMVSS Class | B | | ISO 3795 (FMVSS 302) |
| Burning rate, Thickness 1 mm | 0.984[1] | in/min | ISO 3795 (FMVSS 302) |

[1]: Derived from BK grade data.

## Electrical properties

| | dry/cond. | | |
|---|---|---|---|
| Volume resistivity | >1E13 / - | Ohm.m | IEC 62631-3-1 |
| Comparative tracking index | 600 / - | | IEC 60112 |
| Dielectric Constant, 1 GHz | 3.5 / - | | ASTM D 2520 B |
| Dielectric Constant, 23 °C, 10 GHz | 3.5 / - | | ASTM D 2520 B / IPC-TM-650 |
| Dissipation Factor, 1 GHz | 113 / - | E-4 | ASTM D 2520 B |
| Dissipation Factor, 23 °C, 10 GHz | 98 / - | E-4 | ASTM D 2520 B / IPC-TM-650 |

## Physical/Other properties

| | dry/cond. | | |
|---|---|---|---|
| Humidity absorption, 2mm | 1.2 / * | % | Sim. to ISO 62 |
| Water absorption, 2mm | 3.1 / * | % | Sim. to ISO 62 |
| Water absorption, Immersion 24h | 0.3 / * | % | Sim. to ISO 62 |
| Density | 0.0487 / - | lb/in³ | ISO 1183 |

## Injection

| | | |
|---|---|---|
| Drying Recommended | yes | |
| Drying Temperature | 212 | °F |
| Drying Time, Dehumidified Dryer | 6 - 8 | h |
| Processing Moisture Content | ≤0.1 | % |
| Melt Temperature Optimum | 631 | °F |
| Min. melt temperature | 626 | °F |
| Max. melt temperature | 635 | °F |
| Mold Temperature Optimum | 248 | °F |
| Min. mold temperature | 230 | °F |
| Max. mold temperature | 266 | °F |
| Hold Pressure Time<br>(h is the max. wall thickness of the part in mm) | $h^2$+2 | s |
| Ejection temperature | 489 | °F |

## Characteristics

| | |
|---|---|
| Processing | Injection Molding |
| Additives | Release agent |
| Special characteristics | Heat stabilized or stable to heat |

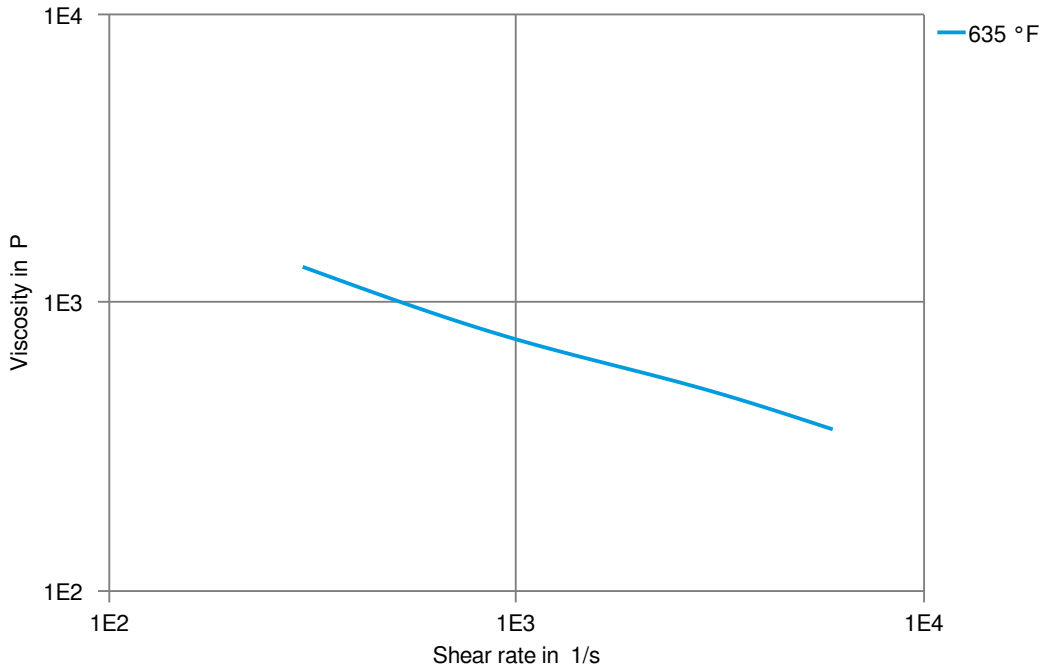
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## Additional information

| | |
|---|---|
| Injection molding | For molding machine components, use corrosion resistant and wear resistant steel. For details please contact our representative. Limit the residence time of the resin in the machine. Use proper protective equipment and adequate ventilation. |

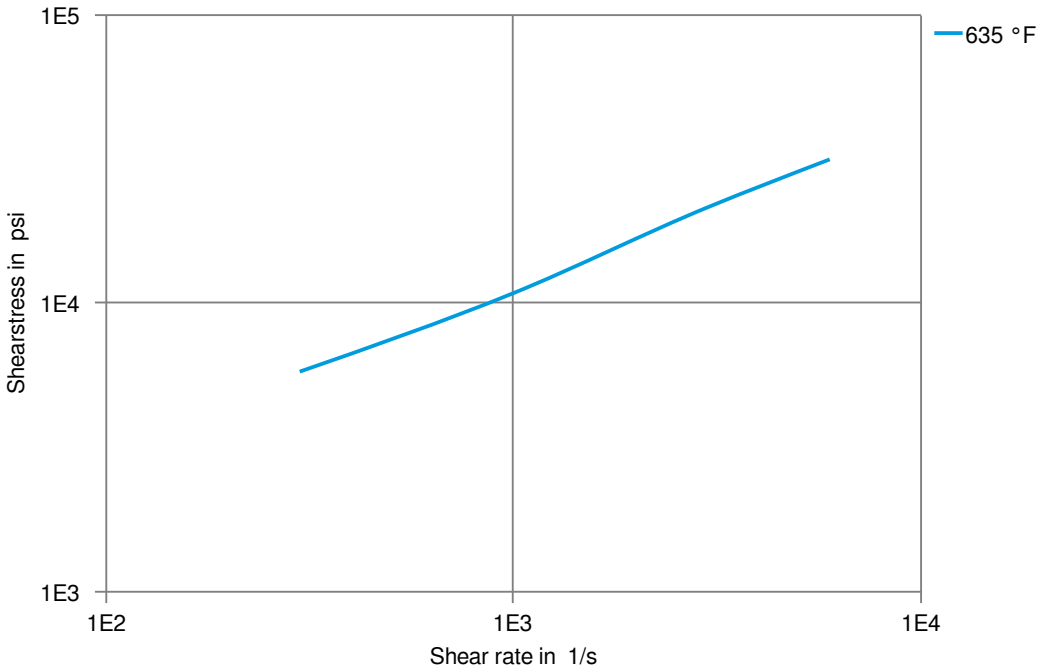
## Viscosity-shear rate



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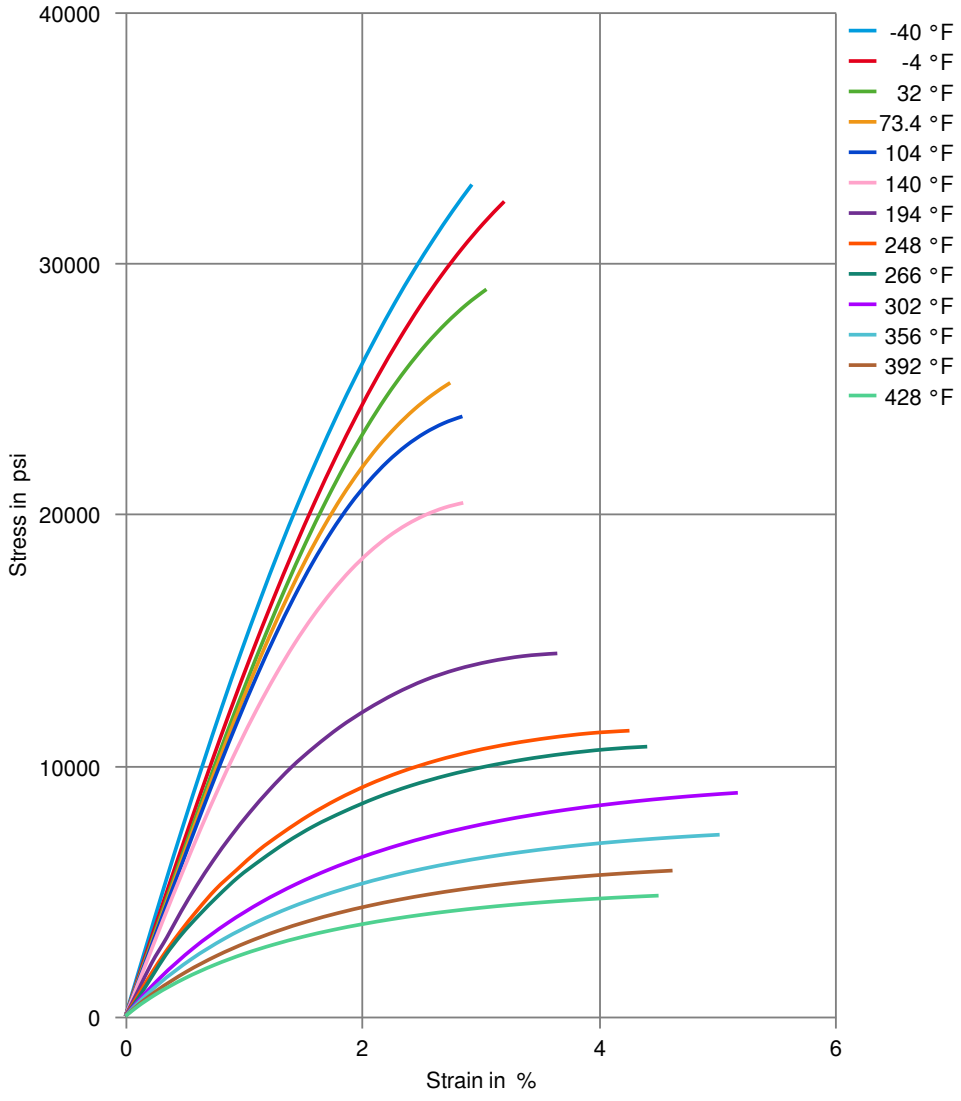
## Shearstress-shear rate



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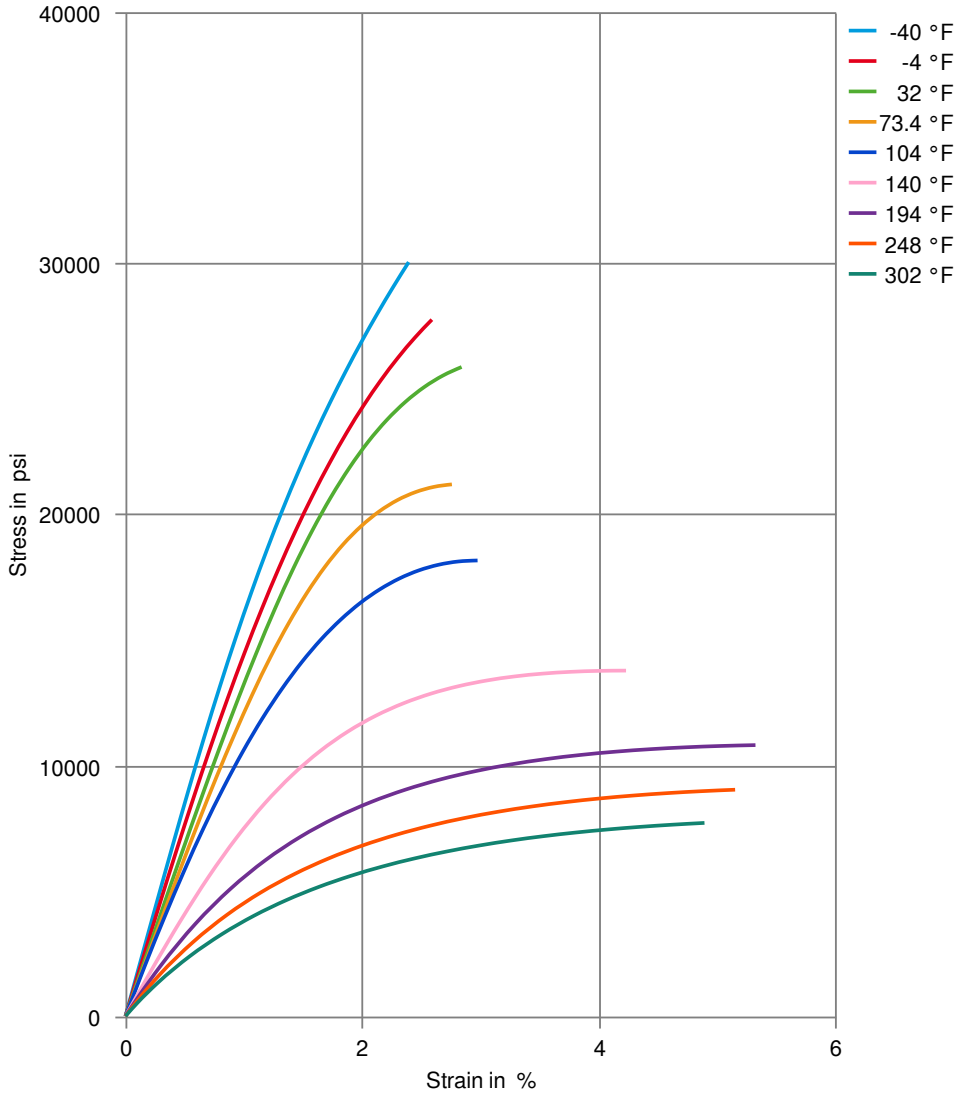
## Stress-strain (dry)



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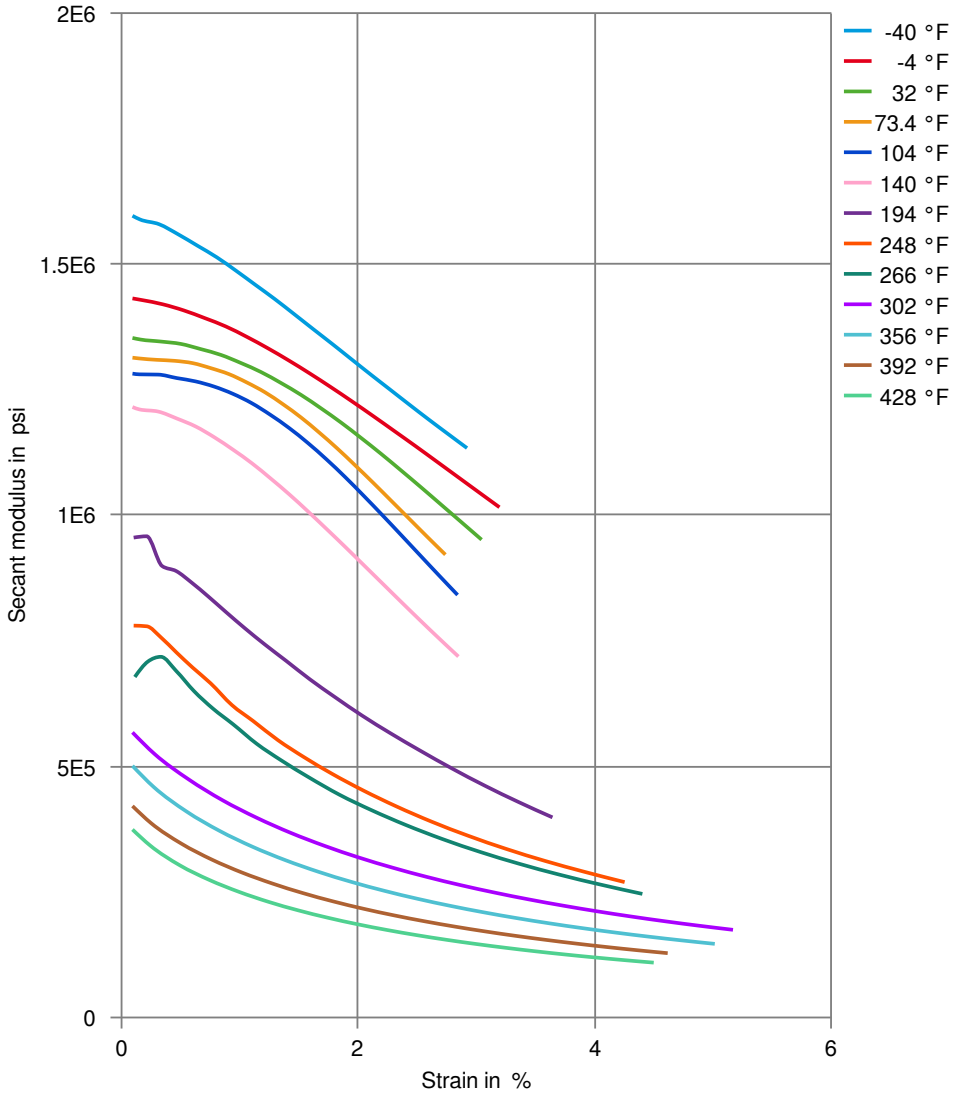
### Stress-strain (cond.)



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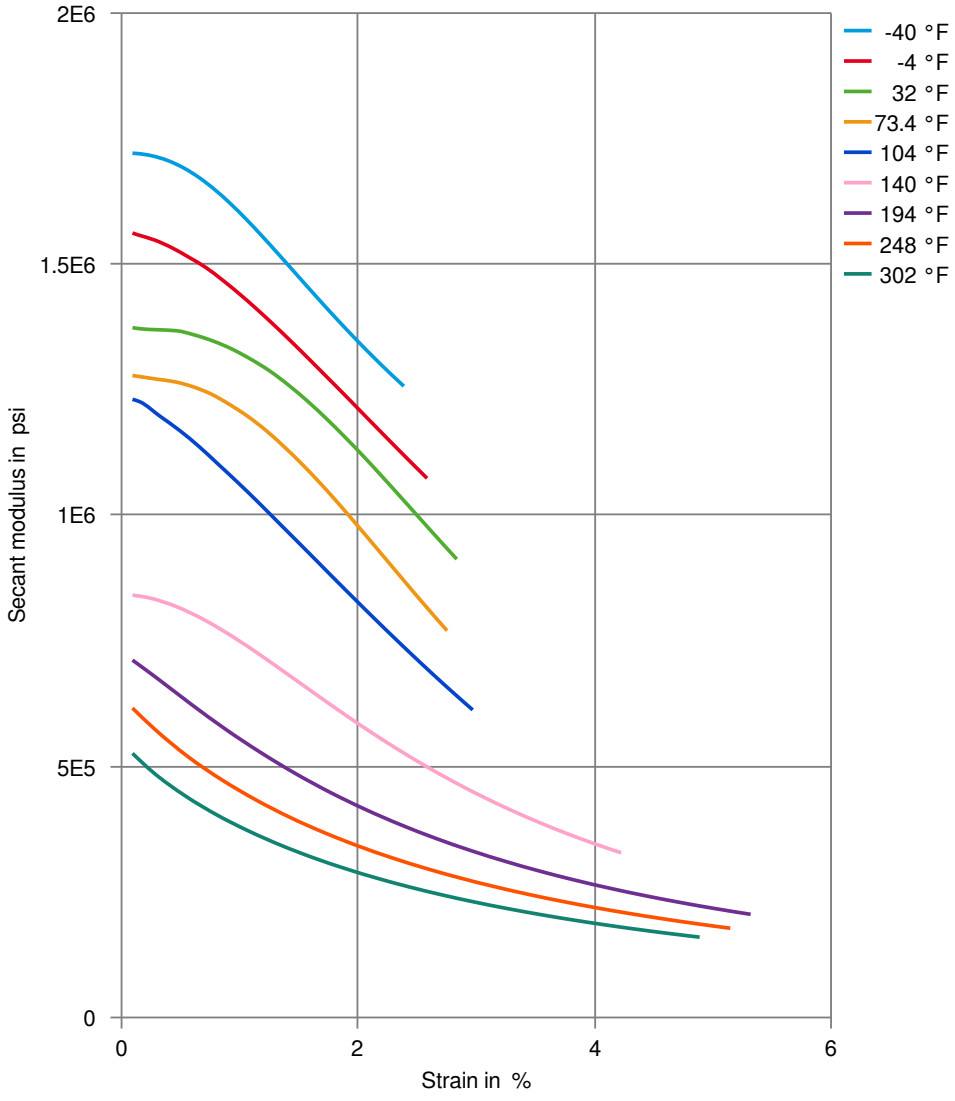
### Secant modulus-strain (dry)



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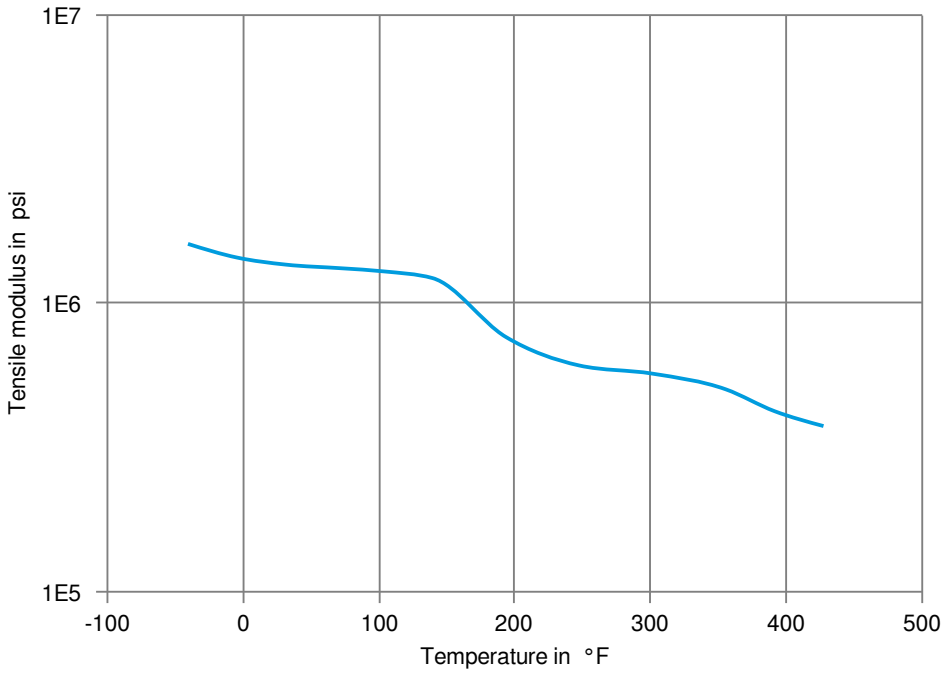
### Secant modulus-strain (cond.)



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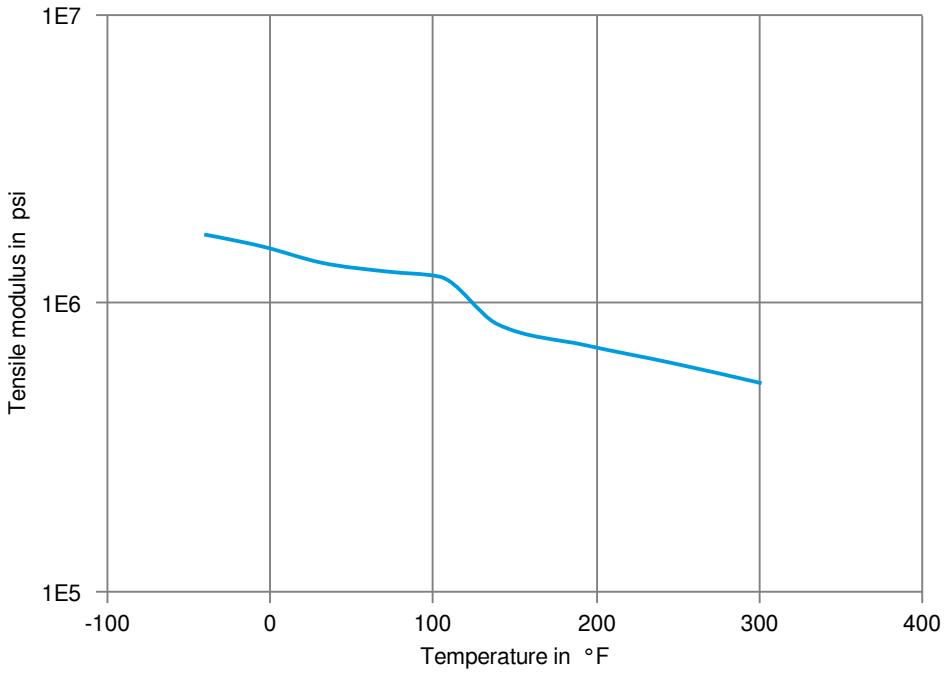
## Tensile modulus-temperature (dry)



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### Tensile modulus-temperature (cond.)






Revised: 2026-06-18 Source: Celanese Materials Database

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