



Zytel® HTNFE8200 BK431

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTN high performance polyamide resins feature high retention of properties upon exposure to elevated temperature, to high moisture, and to harsh chemical environments. Polymer families and grades of Zytel® HTN are tailored to optimize performance as well as processability.

Typical applications with Zytel® HTN include demanding applications in the automotive, electrical and electronics, domestic appliances, and construction industries.

Zytel® HTNFE8200 BK431 is an unreinforced, toughened, heat stabilised high performance polyamide resin for injection moulding. It is also a PPA resin.

Product information

| | | |
|----------------------|--------------------------------------|-----------|
| Resin Identification | PA6T/XT-HI | ISO 1043 |
| Part Marking Code | >PA6T/XT-HI< | ISO 11469 |
| Part Marking Code | >PPA-I< | SAE J1344 |
| ISO designation | ISO 16396-PA6T/XT-I,,M1CG1HR,S10-020 | |

Rheological properties

| | dry/cond. | | |
|------------------------------|-----------|---|-----------------|
| Moulding shrinkage, parallel | 1.0/- | % | ISO 294-4, 2577 |
| Moulding shrinkage, normal | 1.0/- | % | ISO 294-4, 2577 |

Typical mechanical properties

| | dry/cond. | | |
|--------------------------------------|-----------|-------------------|--------------|
| Tensile Modulus | 2200/- | MPa | ISO 527-1/-2 |
| Yield stress | 69/- | MPa | ISO 527-1/-2 |
| Yield strain | 5.5/- | % | ISO 527-1/-2 |
| Nominal strain at break | 14/- | % | ISO 527-1/-2 |
| Flexural Modulus | 2100/- | MPa | ISO 178 |
| Charpy impact strength, 23°C | N/N | kJ/m ² | ISO 179/1eU |
| Charpy impact strength, -30°C | N/N | kJ/m ² | ISO 179/1eU |
| Charpy notched impact strength, 23°C | 80/- | kJ/m ² | ISO 179/1eA |
| Poisson's ratio | 0.39/- | - | |

Thermal properties

| | dry/cond. | | |
|--|-----------|----|----------------|
| Melting temperature, first heat | 300/* | °C | ISO 11357-1/-3 |
| Temp. of deflection under load, 1.8 MPa | 125/* | °C | ISO 75-1/-2 |
| Temp. of deflection under load, 0.45 MPa | 138/* | °C | ISO 75-1/-2 |

Flammability

| | dry/cond. | | |
|-------------------------------|---------------------|--------|----------------------|
| Burning Behav. at thickness h | HB/* | class | IEC 60695-11-10 |
| Thickness tested | 0.75/* | mm | IEC 60695-11-10 |
| FMVSS Class | B | - | ISO 3795 (FMVSS 302) |
| Burning rate, Thickness 1 mm | <80 ^[DS] | mm/min | ISO 3795 (FMVSS 302) |

[DS]: Derived from similar grade



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Electrical properties

| | | | |
|--------------------|-----------|-------|---------------|
| | dry/cond. | | |
| Volume resistivity | >1E13/- | Ohm.m | IEC 62631-3-1 |

Other properties

| | | | |
|---------|-----------|-------------------|----------|
| | dry/cond. | | |
| Density | 1130/- | kg/m ³ | ISO 1183 |

Injection

| | |
|---------------------------------|---------|
| Drying Recommended | yes |
| Drying Temperature | 100 °C |
| Drying Time, Dehumidified Dryer | 6 - 8 h |
| Processing Moisture Content | ≤0.1 % |
| Melt Temperature Optimum | 325 °C |
| Min. melt temperature | 320 °C |
| Max. melt temperature | 330 °C |
| Min. mould temperature | 80 °C |
| Max. mould temperature | 120 °C |

Additional Information

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|-------------------|---|
| Injection molding | During molding, use proper protective equipment and adequate ventilation. Avoid exposure to fumes and limit the hold up time and temperature of the resin in the machine. Purge degraded resin carefully with HDPE. |
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