



## Comparison Between Vydyne 22HSP & Zytel 103HSL

Property	Vydyne 22HSP	Zytel 103HSL NC010
Polymer Type	PA66 (polyamide 66)	PA66 (polyamide 66)
Filler / Reinforcement	Unfilled, lubricated, heat stabilized	Unfilled
Density	1.14 g/cm <sup>3</sup>	1.14 g/cm <sup>3</sup>
Tensile Modulus (23°C, dry/cond)	3100 / 1600 MPa	3100 / 1400 MPa
Tensile Strength - Yield (dry/cond)	89 / 57 MPa	85 / 55 MPa
Tensile Strength - Break (dry/cond)	81 / 48 MPa	- / - MPa
Tensile Strain - Yield (dry/cond)	4.8 / 20%	4.3 / 25%
Tensile Strain - Break (dry/cond)	25 / 76%	- / - %
Charpy Notched Impact (23°C, dry/cond)	4.1 / 11 kJ/m <sup>2</sup>	5.5 / 12 kJ/m <sup>2</sup>
Charpy Notched Impact (-30°C, dry/cond)	2.8 / 2.7 kJ/m <sup>2</sup>	4.5 / 3.5 kJ/m <sup>2</sup>
Flexural Modulus (23°C, dry/cond)	3200 / 1100 MPa	-
Flexural Strength (23°C, dry/cond)	102 / 29 MPa	-
Heat Deflection Temp., 1.80 MPa	70 / 83°C	70°C
Heat Deflection Temp., 0.45 MPa	208 / 195°C	200°C
Melting Temperature	260°C	262°C
Flammability (UL 94)	V-2 (0.71mm, 1.5mm, 3.0mm)	V-2 (at 1.5mm)
Chemical Resistance	Good (many oils, gasoline, solvents)	Typical PA66 resistance
Main Applications	Automotive, electrical, general purpose	Automotive OEM parts

### Key Observations

- Both materials are PA66 and very similar in mechanical and thermal properties, making them suitable for similar applications.
- Tensile modulus, tensile strength, and heat performance are nearly equivalent, and both offer V-2 flammability ratings as standard.
- Vydyne 22HSP BK highlights added lubricity and improved moldability for good surface finish; Zytel 103HSL NC010 targets automotive OEM compliance and is considered a general standard for unfilled PA66.
- Impact properties are close, with only slight variance in Charpy and Izod test results across temperature ranges.

These materials are practically interchangeable for most engineering applications requiring unfilled heat-stabilized PA66, unless specialized certifications or properties are needed for specific projects.