

# Mahesh Manglesh Plastics Pvt. Ltd.

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## Comparison Between Zytel 70G33 & Vydine R533H

Property	Zytel 70G33HS1L NC010 (PA66-GF33)	Ascend Vydine r-R533H BK02 (PA66-GF33)
Density (g/cm <sup>3</sup> )	1.39	1.40
Molding Shrinkage (parallel)	0.3%	0.4%
Molding Shrinkage (normal)	1.1%	0.9%
Water Absorption (23°C, 24h)	5.7%	0.8%
Water Absorption (equilibrium)	1.8%	1.7%
Tensile Modulus (dry)	11,000 MPa	10,600 MPa
Tensile Modulus (cond.)	8,000 MPa	8,000 MPa
Tensile Stress at Break (dry)	200 MPa	205 MPa
Tensile Stress at Break (cond.)	140 MPa	145 MPa
Tensile Strain at Break (dry)	3.5%	3%
Tensile Strain at Break (cond.)	5%	4.7%
Flexural Modulus (dry)	Not specified	10,500 MPa
Flexural Modulus (cond.)	Not specified	7,200 MPa
Flexural Strength (dry)	Not specified	292 MPa
Flexural Strength (cond.)	Not specified	200 MPa
Charpy Notched Impact (23°C)	13 kJ/m <sup>2</sup>	13 kJ/m <sup>2</sup>
Charpy Notched Impact (-30°C)	10 kJ/m <sup>2</sup>	11 kJ/m <sup>2</sup>
Charpy Unnotched Impact (23°C)	85 kJ/m <sup>2</sup>	81 kJ/m <sup>2</sup>
Charpy Unnotched Impact (-30°C)	70 kJ/m <sup>2</sup>	68 kJ/m <sup>2</sup>
Melting Temperature	262°C	262°C
Heat Deflection Temp. (1.8 MPa)	252°C	249°C
Heat Deflection Temp. (0.45 MPa)	261°C	261°C
CLTE (parallel)	Not specified	16 x 10 <sup>-6</sup> /K
CLTE (normal)	Not specified	72 x 10 <sup>-6</sup> /K
Flammability (UL 94)	HB	HB
Processing Method	Injection Molding	Injection Molding

### Summary :-

Both materials are glass-filled PA66 resins with similar mechanical and thermal properties, but Vydine r-R533H BK02 shows slightly lower water absorption and higher flexural strength, while Zytel 70G33HS1L NC010 has a marginally higher tensile modulus and impact strength.