

# Mahesh Manglesh Plastics Pvt. Ltd.

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## Comparison Between Vydyne R550 Natural & Zytel 70G50 Natural

Property	Vydyne R550 (PA66-GF50)	Zytel 70G50HSLABK039B (PA66-GF50)
Density (kg/m <sup>3</sup> )	1580	1570
Molding Shrinkage, Parallel (%)	0.3	0.3
Molding Shrinkage, Normal (%)	0.8	0.8
Humidity Absorption (%)	1.2	1.2
Water Absorption (%)	0.5	4.2
Tensile Modulus (MPa, dry/cond.)	16800 / 12600	17000 / 13000
Stress at Break (MPa, dry/cond.)	240 / 180	240 / 170
Strain at Break (% dry/cond.)	2.5 / 3.5	2.4 / 3.5
Charpy Impact Strength, 23°C (kJ/m <sup>2</sup> , dry/cond.)	95 / 110	90 / 95
Charpy Notched Impact, 23°C (kJ/m <sup>2</sup> , dry/cond.)	15 / 21	15 / 20
Charpy Impact, -30°C (kJ/m <sup>2</sup> , dry/cond.)	91 / 95	90 / 90
Charpy Notched Impact, -30°C (kJ/m <sup>2</sup> , dry/cond.)	14 / 15	15 / 14
Melting Temperature (°C)	260	262
Glass Transition Temperature (°C)	-	65
Deflection Temp. under Load, 1.80 MPa (°C)	255	255
Deflection Temp. under Load, 0.45 MPa (°C)	260	261
Vicat Softening Temperature (°C)	-	255
Burning Behavior (1.5mm thickness, IEC 60695)	HB	HB

### Summary -

- Water absorption is significantly higher for Zytel 70G50HSLABK039B (4.2%) than Vydyne R550
- Glass transition temperature is reported for Zytel (65°C) and not stated for Vydyne.
- Other mechanical and thermal properties are nearly equivalent, with only minor variations.

Overall, both are PA66-GF50 (50% glass fiber reinforced nylon 66) materials with very similar profiles, except for much higher water absorption in the Zytel grade, which could be relevant in hygroscopic environments.