Comparison Between Zytel 101L & Radilon 164

Property	Zytel 101L	Radilon A HS 164NT-1 (DAM)
Tensile Modulus (MPa)	3210	3000 (1 mm/min)
Tensile Stress at Yield (MPa)	85	80 (50 mm/min)
Tensile Strain at Yield (%)	4	4.6
Flexural Modulus (MPa)	3040	2800 (2 mm/min)
Flexural Strength (MPa)	110 (2 mm/min)	110 (2 mm/min)
Izod Notched Impact (kJ/m)	5	5
Charpy Notched Impact (kJ/m)	5.7	5 (@23°C); 4.5 (@-30°C)
Charpy Unnotched Impact	-	N (@23°C)

Melting Point (°C)	260	260
DTUL/HDT 1.8 MPa (°C)	67	70
HDT 0.45 MPa (°C)	200	200
Vicat Softening Temp (50°C/h, 50N)	230	240

Density	1.13 g/cm³	1140 kg/m³ (~1.14 g/cm³)
Water Content	0.11% (max 0.18%)	0.11%
Relative Viscosity	49.8 (46.3-52.7)	49.8
Viscosity Number	137.7 cm³/g (132-142)	137.7 cm³/g
Tensile Modulus	3210 MPa	3000 MPa (DAM); 1300 MPa (Cond.)
Tensile Stress at Yield	85 MPa	80 MPa (DAM); 50 MPa (Cond.)
Tensile Strain at Yield	4%	4.6% (DAM); 30% (Cond.)

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Flexural Modulus	3040 MPa	2800 MPa (DAM)
Flexural Strength	-	110 MPa (DAM)
Izod Notched Impact	5 kJ/m	-
Charpy Notched Impact	5.7 kJ/m	5 kJ/m (DAM 23°C); 15 kJ/m (Cond.)
Charpy Unnotched Impact	-	N kJ/m (DAM)
Melting Point	260 °C	260 °C
DTUL/HDT 1.8 MPa	67 °C	70 °C
HDT 0.45 MPa	200 °C	200 °C
Vicat Softening Temp	240 °C	240 °C
Mould Shrinkage	1.2–1.3%	1.2–1.3%
Volume Resistivity	1E13 Ωm	1E13 Ωm
Flammability	V-2 UL94 0.8 mm	V-2 UL94 0.8 mm

Summary -

Zytel 101L and Radilon A HS 164NT-1 are comparable PA66 nylon resins with matching core properties.

Similarities

Both show tensile stress near 80-85 MPa (DAM), melting point at 260°C, DTUL 1.8 MPa around 67-70°C, and Charpy notched impact ~5 kJ/m (dry).Density aligns at 1.13-1.14 g/cm³.

Differences

Zytel offers batch-specific viscosity data (RV 49.8, VN 137.7) and water content (0.11%).
Radilon details conditioned performance (e.g., tensile drops to 1300 MPa wet), plus extras like shrinkage (1.2-1.3%), flammability (V-2), and resistivity.Verdict

Zytel suits standard verified batches; Radilon excels for detailed processing and wet-condition needs.