

Diran 410MF07



FDM Thermoplastic Filament
Perfect for manufacturing
tooling applications.

The information presented are typical values intended for reference and comparison purposes only.
They should not be used for design specifications or quality control purposes.

Physical Properties

Values are measured as printed. XY and XZ/ZX orientations were tested.

For full details refer to the [Stratasys Materials Test Procedure on www.stratasys.com](http://www.stratasys.com).

DSC and TMA curves can be found in the Appendix.

Table 2. Diran 410MF07 Thermoplastic Filament Physical Properties

Property	Test Method	Typical Values XY	Typical Values XZ/ZX
HDT @ 66psi	ASTM D648 Method B	90 °C (194 °F)	90 °C (194 °F)
HDT @ 264psi	ASTM D648 Method B	70 °C (158 °F)	70 °C (158 °F)
Tg	ASTM D7426 Inflection Point	117 °C (243 °F)	117 °C (243 °F)
Mean CTE	ASTM E831 (40 °C to 140 °C)	55 $\mu\text{m}/[\text{m}\cdot^{\circ}\text{C}]$ (31 $\mu\text{in}/[\text{in}\cdot^{\circ}\text{F}]$)	113 $\mu\text{m}/[\text{m}\cdot^{\circ}\text{C}]$ (63 $\mu\text{in}/[\text{in}\cdot^{\circ}\text{F}]$)
Volume Resistivity	ASTM D257	$> 1.5 \cdot 10^{15} \Omega\cdot\text{cm}$	$> 1.5 \cdot 10^{15} \Omega\cdot\text{cm}$
Dielectric Constant	ASTM D150 1 kHz test condition	3.58	3.73
Dielectric Constant	ASTM D150 2 MHz test condition	2.85	2.95
Dissipation Factor	ASTM D150 1 kHz test condition	0.013	0.014
Dissipation Factor	ASTM D150 2 MHz test condition	0.000	0.012
Specific Gravity	ASTM D792 @ 23 °C	1.16	1.16

Table 3. Diran 410MF07 Thermoplastic Filament Mechanical Properties

		XZ Orientation ⁽¹⁾	ZX Orientation ⁽¹⁾
Tensile Properties: ASTM D638			
Yield Strength	MPa	45 (2)	No yield
	psi	6,490 (220)	No yield
Elongation @ Yield	%	4.26 (0.04)	No yield
Strength @ Break	MPa	40 (3)	30 (2)
	psi	5,860 (440)	4,460 (295)
Elongation @ Break	%	12 (3)	3.1 (1.0)
Modulus (Elastic)	GPa	1.69 (0.02)	1.46 (0.02)
	ksi	245 (3)	210 (3)
Flexural Properties: ASTM D790, Procedure A			
Strength @ Break	MPa	No break	45 (2)
	psi	No break	6,770 (325)
Strength @ 5% Strain	MPa	60 (2)	-
	psi	8,800 (230)	-
Strain @ Break	%	No break	3.1 (0.6)
Modulus	GPa	1.85 (0.04)	1.47 (0.07)
	ksi	270 (6)	210 (10)
Compression Properties: ASTM D695			
Yield Strength	MPa	75 (5)	160 (30)
	psi	10,980 (630)	23,560 (4330)
Modulus	GPa	1.54 (0.03)	1.45 (0.02)
	ksi	220 (4)	210 (3)
Impact Properties: ASTM D256, ASTM D4812			
Izod, Notched	J/m	380 (135)	27 (5)
	ft*lb/in	7 (3)	0.5 (0.1)
Izod, Unnotched	J/m	1,415 (200)	140 (25)
	ft*lb/in	25 (4)	2.6 (0.5)

(1) Values in parentheses are standard deviations