

POLYESTER FIBERS

Page 1 of 3

POLYESTER FILAMENT PROPERTIES



- Excellent solvent resistance
- Excellent oxidation resistance
- Does not absorb water
- Good abrasion resistance
- Excellent bend recovery
- Excellent heat resistance

POLYESTER

Plyer® is the Specialty Filaments brand name for fibers made with polybutylene terephthalate polyester (PBT). Plyer® offers superior bend recovery compared to PET Polyesters. Plyer® is an economical substitute for nylon 6.6 or 6.12 in many applications. It has better abrasion resistance than polypropylene or polystyrene, but not as good as nylon. It also has excellent bend recovery, excellent solvent resistance and excellent oxidation resistance as high temperatures. Plyer has very good resistance to sunlight. The properties of Plyer do not change significantly between wet and dry applications because it does not absorb much water. This makes it the ideal material for many wet applications. Typical ovality ranges from 1.01 for .008" to 1.65 for .070".

PLYER® was developed as a replacement for horsehair, as it has an appearance and feel quite similar to horsehair. It offers many of the same properties as the nylons, but absorbs very little water; therefore, Plyer® holds its stiffness in wet applications. This material is a multipurpose fiber used in industrial, personal care and food service brushes. Plyer® is available in formulations FDA-approved for food contact.

PLYER® X fibers offer increased liquid retention and better yield. They are available in three weights: light, medium and heavy shapes.

POLYESTER FIBERS

POLYESTER PRODUCTION CAPABILITIES

PRODUCT	SHAPE	AVAILABLE DIAMETERS	BUNDLE WRAP	BUNDLE DIAMETER	CUT LENGTH	HANK LENGTH
PLYER®	●	.006 to .075	PVC or Paper	2" to 2 ³ / ₄ "	1" and up	46" to 52"
PLYER® SK	●	.006 to .020	PVC or Paper	2" to 2 ¹ / ₄ "	1" and up	48"
PLYER® LX	×	.012 to .016	PVC or Paper	2" to 2 ³ / ₄ "	1" and up	46" to 52"
PLYER® MX	×	.014 to .020	PVC or Paper	2" to 2 ³ / ₄ "	1" and up	46" to 52"
PLYER® HX	⊠	.016 to .028	PVC or Paper	2" to 2 ³ / ₄ "	1" and up	46" to 52"
PLYER® FR	●	.006 to .075	PVC or Paper	2" to 2 ³ / ₄ "	1" and up	46" to 52"

Tolerances:

Diameter Tolerance: Average diameter will be within $\pm 7\%$ of the specified diameter

Cut Length Tolerance: $\pm 1/32$ " of the specified length

POLYESTER FIBERS

POLYESTER STANDARD CRIMP & AMPLITUDES for PLYER®, PLYER® H and PLYER® FR

DIAMETER (INCHES)	3 CRIMPS PER INCH AMPLITUDE (INCHES)			5 CRIMPS PER INCH AMPLITUDE (INCHES)			6.5 CRIMPS PER INCH AMPLITUDE (INCHES)		
	HEAVY	MEDIUM	LIGHT	HEAVY	MEDIUM	LIGHT	HEAVY	MEDIUM	LIGHT
0.006				*	*	*	*	*	0.010
0.008			*	*	*	0.014	0.016	0.014	0.012
0.010		*	*	0.020	0.017	0.014	0.020	0.017	0.014
0.012	*	*	*	0.022	0.019	0.016	0.024	0.021	0.018
0.014	*	*	*	0.024	0.021	0.018	0.026	0.023	0.020
0.016	*	*	*	0.026	0.023	0.020	0.028	0.025	0.022
0.018	*	0.032	0.028	0.028	0.026	0.024	0.028	0.025	0.022
0.020	*	0.034	0.030	0.030	0.028	0.026	0.030	0.027	0.024
0.022	*	0.036	0.032	0.032	0.030	0.028	0.032	0.029	0.026
0.024	*	0.040	0.036	0.034	0.032	0.030	0.034	0.031	0.028
0.026	0.046	0.042	0.038	0.036	0.034	0.032	0.036	0.033	0.030
0.028	0.048	0.044	0.040	0.038	0.036	0.034	0.038	0.035	0.032
0.030	0.050	0.046	0.042	0.040	0.038	0.036	0.040	0.037	0.034
0.032	0.052	0.048	0.044	0.042	0.040	0.038	0.042	0.039	0.036
0.034	0.054	0.050	0.046	0.044	0.042	0.040	*	*	*
0.036	0.056	0.052	0.048	0.046	0.044	0.042	*	*	*
0.038	*	*	*	*	*	*	*	*	*
0.040	*	*	*	*	*	*	*	*	*

NOTES:

Amplitude Tolerance: Average amplitude will be within $\pm 15\%$ or $\pm .005"$, whichever is less

Frequency Tolerance: ± 1 crimp per inch

Fine Gear Crimps (Embossed Surfaces) are available for PLYER:

- 18 crimps per inch; 0.002" and 0.004" crimp depths for diameters of 0.010" and smaller
- 18 crimps per inch; 0.002", 0.004" and 0.006" crimp depths for diameters larger than 0.010"

*These amplitudes may be available upon request. Contact your Monahan Filaments Sales Representative.