



### POLYPROPYLENE FILAMENT PROPERTIES

- Best value
- Low density/high yield
- Excellent flex fatigue resistance
- Good abrasion resistance
- Good bend recovery
- Will take a set if not handled properly
- Limited sunlight resistance
- High stiffness
- Best acid resistance

Monahan Filaments **PROSTRAN**<sup>®</sup> polypropylene is a top quality, versatile filament for a wide variety of applications. It has excellent wet stiffness and flex fatigue resistance.

**PROSTRAN**<sup>®</sup> is inert to most solvents, oils and chemicals and is especially good at resisting strong acids and bases. It has good bend recovery but will take a set more easily than other materials. This problem can be easily addressed with good brush design and reasonable care in handling and packaging. **PROSTRAN**<sup>®</sup> offers a 50% better yield than PVC. It has limited natural sunlight resistance, which may be greatly improved by the addition of black color or UV stabilizer. **PROSTRAN**<sup>®</sup> products are differentiated by shape. Ovality for **PROSTRAN**<sup>®</sup>, **PROSTRAN**<sup>®</sup> FTR, **PROSTRAN**<sup>®</sup> FTY and **PROLUBE** runs from 1.02 for small diameters to 1.50 in larger diameters.

**PROSTRAN**<sup>®</sup> is a high quality filament for a wide variety of applications. Its many features include excellent stiffness when wet. More rugged than shaped fibers, **PROSTRAN**<sup>®</sup> is the product of choice for tough scrubbing applications.

**PROSTRAN**<sup>®</sup> **PROLUBE** is a flaggable, softer fiber. It has a more slippery surface for ease of picking in certain applications.

**PROSTRAN**<sup>®</sup> **FTY & FTR** are the most popular of several inexpensive flaggable **PROSTRAN**<sup>®</sup> formulations. **PROSTRAN**<sup>®</sup> FTY and FTR may be purchased flagged or unflagged. FTY is a pro based product containing SAN for applications needing solvent resistance. FTR contains styrene and is more suitable for dry applications.

**POLYSTAR-O**<sup>®</sup> is a triangular shaped polypropylene fiber that was developed as a Tampico fiber replacement. It is a high yield fiber, making twice as many brushes per pound as PVC. It is excellent for household, hardware and industrial brushes.

**PROEX**<sup>®</sup> is an X-shaped fiber designed to provide a multi-surface cross section for high yield and improved liquid retention.



**POLYCORN®** filaments were specifically designed for an upright household broom. They are intended as replacements for natural broomcorn. The Polycorn® material is flaggable, whereas the Polycorn P is not flaggable, 100% polypropylene. It is available in controlled weight bundles.

**PROPE® HOLLO®** is a hollow polypropylene filament where high yield is necessary.

**POLYBASS®** is a 100% polypropylene fiber. It is a heavy duty, X-shaped, two color, two diameter fiber. This fiber was designed as a replacement for African Bass fiber. It is used in street brooms, push brooms, barn brooms and upright brooms. Polybass® will also run much more easily and cleanly, with less waste in your brush making machinery than natural fiber.

**POLYPALM® I & II** are light weight, very attractive, long wearing 100% polypropylene X-shaped fibers designed to replace Palmyre and Bassine. The Polypalm® I is a two-diameter, two color fiber that is a very good material for push-brooms. Polypalm® II is a one color 0.024" diameter version of Polypalm® I. Both materials run much more easily and cleanly, with less waste in your brush making machinery than natural fiber.

**POLYMET-O®** is a heavy gauge two diameter, two color filament designed specifically as a Palmyra replacement product. Lightweight but coarse, this product is ideal for heavy sweeping applications.

**PROSTRAN® C/L** provides excellent cleaning action and durability. The clover leaf shape gives greater yield and improved sweeping. Prostran® C/L is available in 0.012" to 0.060" diameters, level or crimped, and in PVC wrapped bundles.

**PROPYLITE®** is a blend of polypropylene and polyethylene in hollow construction producing an economical and high yielding filament.

**POLYUNION®** is MFI's synthetic alternative for natural Union mix. This three diameter, three color, two profile crimped material closely resembles its natural counterpart and is excellent in any heavy scrubbing applications.

**DURAPALM®** is a multicolor, multi-diameter, durable, lightweight and cost effective alternative to natural Palmyra. Durapalm® features a smooth, consistent texture that resists water, chemicals and bug infestation. Available in two stiffnesses, DuraPalm® I and DuraPalm® II offer improved efficiencies for the manufacturer and effective tools for the end use.



### POLYPROPYLENE PRODUCTION CAPABILITIES

PRODUCT	SHAPE	AVAILABLE DIAMETERS	BUNDLE WRAP	BUNDLE DIAMETER	CUT LENGTH	HANK LENGTH
PROSTRAN® Fine	●	.0055-.009	PVC	2-3"	1" and up	48"
PROSTRAN® Medium	●	.010-.060	PVC	2-3"	1" and up	46-52"
PROPE® HOLLO®	○	.027-.042	PVC	2-3"	1⅞" and up	46-52"
PROPYLITE®	○	.008-.016	PVC	2-3"	1⅞" and up	46-52"
POLYSTAR-O®	⚗	.012-.060	PVC	2-3"	1" and up	46-52"
PROEX®	✕	.015-.060	PVC	2-3"	1" and up	46-52"
PROSTRAN® CL		.018-.060	PVC	2-3"	1" and up	46-52"
POLYCORN®	H	.025-.045	PVC	2-3"	4" and up	46-52"
POLYPALM® I	✕	.018-.028 mix	PVC	2-3"	1" and up	46-52"
POLYPALM® II	✕	.024	PVC	2-3"	1" and up	46-52"
POLYMET-O®		.018 & .022 mix	PVC	2-3"	1" and up	46-52"
POLYUNION®	✕⚗	.017, .020 & .030 mix	PVC	2-3"		50"
DURAPALM® I	✕	.015, .025 & .035 mix	PVC	2-3"		50"
DURAPALM® II	✕	.035 & .053 mix	PVC	2-3"		50"
POLYBASS®	⊞	.035 & .050 mix	PVC	2-3"	4" and up	46-52"
RIPL PROSTRAN® C/L	⊞	.045-.055 or .035 & .050 mix	N/A	2-3"	8½-28"	46-"
STREETBROOM RIPL PROSTRAN®		.065-.080	N/A	2-3"	6-28"	46-52"

#### Tolerances

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

Cut Length Tolerance:  $\pm \frac{1}{16}$ " or  $\pm \frac{1}{32}$ " of the specified length

Bundle Weight Tolerance:  $\pm \frac{1}{2}$  oz. of the specified weight

Strapped Cut Length Tolerance:  $\pm \frac{3}{16}$ " of the specified length

#### Notes on Wrap:

PVC is a thin helical PVC film stretch wrap. Paper wrap is similar to PVC and is available on some products.

Strapped are bundles that are banded with plastic strapping near each end.

#### Notes on Flagged Bundles

Maximum bundle diameter for flagged bundles is 2½".

Maximum cut length for flagged bundles is 12". Minimum cut length is 4½".



### POLYPROPYLENE STANDARD CRIMP & AMPLITUDES

for PROSTRAN<sup>®</sup>, WP-40, FTR, FTY, & POLYSTAR-0<sup>®</sup>

Diameter	2.25 Crimps Per Inch Amplitude (In.)			3 Crimps Per Inch Amplitude (In.)			5 Crimps Per Inch Amplitude (In.)			6.5 Crimps Per Inch Amplitude (In.)		
	Heavy <sup>1</sup>	Med.	Light	Heavy <sup>1</sup>	Med.	Light	Heavy <sup>1</sup>	Med.	Light	Heavy <sup>1</sup>	Med.	Light
0.006			*	0.020	0.017	0.014	0.016	0.014	0.012	0.014	0.012	0.010
0.008		*	*	0.024	0.020	0.016	0.018	0.016	0.014	0.018	0.016	0.014
0.010	*	*	*	0.028	0.023	0.018	0.024	0.020	0.016	0.022	0.019	0.016
0.012	*	*	0.021	0.034	0.027	0.020	0.028	0.023	0.018	0.026	0.022	0.018
0.014	0.032	0.027	0.023	0.038	0.031	0.024	0.032	0.027	0.022	0.028	0.024	0.020
0.016	0.034	0.030	0.025	0.042	0.035	0.028	0.038	0.031	0.024	0.032	0.028	0.024
0.018	0.036	0.032	0.027	0.048	0.040	0.032	0.042	0.034	0.026	0.034	0.030	0.026
0.020	0.038	0.034	0.029	0.054	0.044	0.034	0.046	0.038	0.030	0.038	0.033	0.028
0.022	0.040	0.036	0.031	0.058	0.048	0.028	0.052	0.042	0.032	0.040	0.035	0.030
0.024	0.042	0.038	0.033	0.060	0.050	0.040	0.054	0.045	0.036	0.042	0.037	0.032
0.026	0.044	0.040	0.035	0.064	0.054	0.044	0.058	0.048	0.038	*	0.039	0.032
0.028	0.046	0.042	0.037	0.064	0.055	0.046	0.058	0.049	0.040	*	*	0.034
0.030	0.050	0.045	0.039	0.064	0.056	0.048	0.058	0.050	0.042	*	*	*
0.032	0.054	0.048	0.041	0.064	0.057	0.050	0.058	0.051	0.044	*	*	*
0.034	0.058	0.054	0.043	0.064	0.058	0.052	0.060	0.053	0.046	*	*	*
0.036	0.060	0.053	0.045	0.064	0.059	0.054	0.060	0.054	0.048	*	*	*
0.038	0.062	0.055	0.047	0.066	0.061	0.056	0.062	0.056	0.050	*	*	*
0.040	0.064	0.057	0.050	0.066	0.062	0.058	0.062	0.057	0.052	*	*	*

**NOTES:**

**Large Diameters:** Available in RIPL Crimp of 0.0 and 1.33 crimps per inch

**Amplitude = diameter +.31"**

**Amplitude Tolerance:** Average amplitude will be within ±15% or ±0.005", whichever is less

**Frequency Tolerance:** ±1 crimp per inch

**Fine Gear Crimps (Embossed Surfaces) are available for PROSTRAN<sup>®</sup>:**

- 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"

<sup>1</sup> FTR & FTY: Available in medium and light crimp only

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



### POLYPROPYLENE STANDARD CRIMP & AMPLITUDES

for POLYSTAR-O® and PROEX®

Diameter	2.25 Crimps Per Inch Amplitude (In.)			3 Crimps Per Inch Amplitude (In.)			5 Crimps Per Inch Amplitude (In.)			6.5 Crimps Per Inch Amplitude (In.)		
	Heavy <sup>1</sup>	Med.	Light	Heavy <sup>1</sup>	Med.	Light	Heavy <sup>1</sup>	Med.	Light	Heavy <sup>1</sup>	Med.	Light
0.012	0.030	0.026	0.021	0.026	0.024	0.022	0.024	0.021	0.018	0.020	0.018	0.016
0.015	0.035	0.028	0.022	0.030	0.027	0.024	0.026	0.023	0.020	0.024	0.022	0.020
0.017	0.035	0.030	0.024	0.034	0.030	0.025	0.028	0.025	0.022	0.028	0.026	0.024
0.018	0.036	0.031	0.026	0.036	0.031	0.026	0.032	0.029	0.025	0.030	0.028	0.026
0.020	0.038	0.033	0.028	0.040	0.034	0.028	0.036	0.032	0.028	0.032	0.030	0.028
0.022	0.040	0.035	0.030	0.044	0.037	0.030	0.040	0.035	0.030	0.036	0.033	0.030
0.024	0.042	0.037	0.032	0.046	0.040	0.033	0.043	0.038	0.033	*	*	0.032
0.026	0.044	0.039	0.034	0.048	0.042	0.035	0.045	0.040	0.035	*	*	0.034
0.028	0.046	0.041	0.036	0.050	0.044	0.038	0.048	0.043	0.038	*	*	0.036
0.030	0.050	0.044	0.038	0.052	0.046	0.040	0.050	0.045	0.040	*	*	*
0.032	0.052	0.046	0.040	0.054	0.048	0.042	0.052	0.047	0.042	*	*	*
0.034	*	*	0.042	0.056	0.050	0.044	0.054	0.049	0.044	*	*	*
0.036	*	*	*	0.058	0.052	0.046	0.056	0.051	0.046	*	*	*
0.038	*	*	*	0.060	0.054	0.048	*	*	*	*	*	*
0.040	*	*	*	0.065	0.058	0.050	*	*	*	*	*	*
0.045	*	*	*	0.070	0.063	0.055	*	*	*	*	*	*
0.050	*	*	*	0.075	0.068	0.060	*	*	*	*	*	*
0.055	*	*	*	*	*	*	*	*	*	*	*	*
0.060	*	*	*	*	*	*	*	*	*	*	*	*

**NOTES:**

**Large Diameters:** Available in RIPL Crimp of 0.0 and 1.33 crimps per inch

**Amplitude Tolerance:** Average amplitude will be within ±15% or ±0.005", whichever is less

**Frequency Tolerance:** ±1 crimp per inch

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



**POLYPROPYLENE STANDARD CRIMP & AMPLITUDES**

for STREETBROOM®: offered in RIPL crimp with amplitudes from 0.100" to 0.0115"

Diameter	Amplitude (Inches)		
	Heavy	Medium	Light
0.060	0.100	0.090	0.080
0.070	0.110	0.100	0.090
0.075	0.115	0.105	0.095
0.080	0.130	0.115	0.100
0.090	0.140	0.125	0.110
0.100	0.150	0.135	0.120
0.110	0.160	0.145	0.130
0.120	0.170	0.155	0.140
0.130	0.180	0.165	0.150
0.135	0.185	0.170	0.155

**NOTES:**

With two diameter mixtures, the amplitude is measured on the larger diameter.

**POLYPROPYLENE STANDARD CRIMP & AMPLITUDES**

for POLYPALM®, DURAPALM®, POLYUNION, POLYBASS®, and RIPL PROSTRAN® C/L

PRODUCT	Frequency (crimps per inch)	Amplitude (inches)
POLYPALM®	2.25	0.039
POLYBASS®	1.33	0.081
DURAPALM® I	2.25	0.070
DURAPALM® II	2.25	0.058
POLYUNION	2.25	0.052
RIPL PROSTRAN® C/L	0.80	0.031