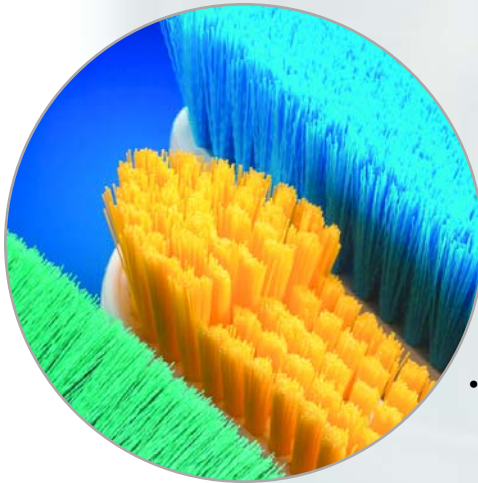


POLYPROPYLENE FIBERS

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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

POLYPROPYLENE

Specialty Filaments PROSTRAN® polypropylene is a top quality, versatile filament for a wide variety of applications. It has excellent wet stiffness and flex fatigue resistance.

PROSTRAN® 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 a reasonable care in handling and packaging. PROSTRAN® offers a 50% better yield than PVC. It has limited natural sunlight resistance, which may be greatly improved by the addition of black color. PROSTRAN® products are differentiated by shape. Ovality for PROSTRAN®, PROSTRAN® FTR, PROSTRAN® FTY and PROLUBE runs from 1.02 for small diameters to 1.50 in larger diameters

PROSTRAN® 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® is the product of choice for tough scrubbing applications.

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

PROSTRAN® FTY & FTR are the most popular of several inexpensive flaggable PROSTRAN® formulations. PROSTRAN® 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® 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® is an X shaped fiber designed to provide a multi-surface cross section for high yield and improved liquid retention.

POLYPROPYLENE FIBERS

Page 2 of 6

POLYPROPYLENE FILAMENTS CONTINUED

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 Palmyra 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 SFI'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 stiffness, DuraPalm® I and DuraPalm® II offer improved efficiencies for the manufacturer and effective tools for the end use.

POLYPROPYLENE FIBERS

POLYPROPYLENE PRODUCTION CAPABILITIES

PRODUCT	SHAPE	AVAILABLE DIAMETERS	BUNDLE WRAP	BUNDLE DIAMETER	CUT LENGTH	HANK LENGTH
PROSTRAN® Fine	●	.0055 to .009	PVC	2 ¹ / ₄ " to 2 ³ / ₄ "	1" and up	48"
PROSTRAN® Med.	●	.010 to .060	PVC	2 ¹ / ₄ " to 2 ³ / ₄ "	1" and up	46" to 52"
Prope® Hollo®	○	.027 to .042	PVC	2 ¹ / ₄ " to 2 ³ / ₄ "	1 ¹ / ₈ " and up	46" to 52"
Propylite®	⊗	.008 to .016	PVC	2 ¹ / ₄ " to 2 ³ / ₄ "	1 ¹ / ₈ " and up	46" to 52"
Polystar-O®	⊕	.012 to .060	PVC	2 ¹ / ₄ " to 2 ³ / ₄ "	1" and up	46" to 52"
Proex®	⊗	.015 to .060	PVC	2 ¹ / ₄ " to 2 ³ / ₄ "	1" and up	46" to 52"
PROSTRAN® C/L		.018 to .060	PVC	2 ¹ / ₄ " to 2 ³ / ₄ "	1" and up	46" to 52"
Polycorn®	H	.025 to .045	PVC or Strapped	2 ¹ / ₄ " to 2 ³ / ₄ " or Controlled Wgt.	4" and up 6" and up	46" to 52"
Polypalm® I	⊕	.018 to .028 mix	PVC	2 ¹ / ₄ " to 2 ³ / ₄ "	1" and up	46" to 52"
Polypalm® II	⊕	.024	PVC	2 ¹ / ₄ " to 2 ³ / ₄ "	1" and up	46" to 52"
Polymet-O®	⊕	.018 & .022 mix	PVC	2 ¹ / ₄ " to 2 ³ / ₄ "	1" and up	46" to 52"
PolyUnion	⊗⊕	.017, .020 & .030 mix	PVC	2 ³ / ₄ "	2 ³ / ₄ "	50"
DuraPalm® I	⊗	.015, .025 & .035 mix	PVC	2 ³ / ₄ "	2 ³ / ₄ "	50"
DuraPalm® II	⊗	.035 & .053 mix	PVC	2 ³ / ₄ "	2 ³ / ₄ "	50"
Polybass®	⊗	.035 & .050 mix	PVC	2 ¹ / ₄ " to 4"	4" and up	46" to 52"
Ripl	⊗	.045 to .055 or	Strapped	Not	8 ¹ / ₂ " to 28"	Not
PROSTRAN® C/L		.045 & .055 mix		Applicable		Applicable
Streetbroom		.065 to .130	Strapped	Not	6" to 28"	Not
Ripl PROSTRAN®				Applicable		Applicable

Tolerances:

Diameter Tolerance: Average diameter will be within ± 7% of the specified diameter

Cut Length Tolerance: +1/16" or ± 1/32" of the specified length

Bundle Weight Tolerance: ± 1/2 oz. of the specified weight

Strapped Cut Length Tolerance: ± 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 2¹/₂".

Maximum cut length for flagged bundles is 12". Minimum cut length is 4¹/₂".

POLYPROPYLENE FIBERS

POLYPROPYLENE STANDARD CRIMP & AMPLITUDES

For PROSTRAN®, WP-40, FTR, FTY & Polystar-O®

DIAMETER (INCHES)	2.25 CRIMPS PER INCH AMPLITUDE (INCHES)			3 CRIMPS PER INCH AMPLITUDE (INCHES)			5 CRIMPS PER INCH AMPLITUDE (INCHES)			6.5 CRIMPS PER INCH AMPLITUDE (INCHES)		
	HEAVY ¹	MEDIUM	LIGHT	HEAVY ¹	MEDIUM	LIGHT	HEAVY ¹	MEDIUM	LIGHT	HEAVY ¹	MEDIUM	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:

Larger Diameters: are available in Rippl Crimp of 0.8 and 1.33 crimps per inch

Amplitude = diameter + 0.031"

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 PROSTRAN®:

- 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"

¹FTR® & FTY®: Available in medium and light crimp only

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

POLYPROPYLENE FIBERS

POLYPROPYLENE STANDARD CRIMP & AMPLITUDES for Polystar-O® and Proex®

DIAMETER (INCHES)	2.25 CRIMPS PER INCH AMPLITUDE (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	HEAVY	MEDIUM	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:

Larger Diameters: are available in Rippl Crimp of 0.8 and 1.33 crimps per inch

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

Frequency Tolerance: ± 1 crimp per inch

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

POLYPROPYLENE FIBERS

POLYPROPYLENE STANDARD CRIMP & AMPLITUDES

For Streetbroom: offered in RIPL crimp with amplitudes from 0.100" to 0.0115"

DIAMETER (INCHES)	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.

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

	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