

THREAD & NEEDLE RECOMMENDATIONS

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THREAD MATERIAL OVERVIEW

POLYESTER

Best Choice for Outdoor Projects

Polyester is the most common choice for outdoor applications. Perfect for sail and canvaswork, polyester thread has high strength and stretch control, stability in sunlight (UVR), and resistance to needle heat, abrasion, saltwater and mildew. Use a lighter weight polyester thread in sewing machines that struggle in heavy canvas.

PTFE/FLUOROPOLYMER

Lasts a Lifetime

PTFE and fluoropolymer threads (Sailrite® Lifetime Thread and Tenara®) come with a lifetime guarantee. These are the best threads to use for outdoor applications where your projects will see frequent, intense sun or other weather extremes. These threads are unaffected by exposure to UV rays, cleaning agents, pollution, saltwater, air, rain and snow. These threads are an excellent choice for awnings, biminis, boat covers and more.

NYLON

Perfect for Upholstery

Nylon threads have excellent elasticity, which makes them the perfect choice for upholstery projects. When you sit on a seat, you want the thread to be able to give and rebound under your weight. Nylon is excellent for indoor upholstery, automotive upholstery, luggage and more. Nylon thread is a great choice for leather due to its abrasion resistance, strength, and sewability.

MONOFILAMENT

Clear Thread for Hidden Stitches

Monofilament thread is a clear, strong nylon thread that blends in with fabrics. This thread sews well and comes in three sizes. Use #18 for quilting, stretchy or heavy garments, and tacking and binding stitches; #40 for fine leather goods and upholstery; and #52 for binding and serging carpets and for upholstery.

6 QUICK TIPS ABOUT THREAD SIZE

- #1 Tex 70 is the heaviest commercial size recommended for home sewing machines.
- #2 Heavier threads make your stitching more visible.
- #3 The thread size indicates the thread's thickness. If another weight is given for thread (like ounces), it refers to the amount of thread on the spool.
- #4 Thread tends to get stronger as it gets thicker.
- #5 The tension on your sewing machine will need to be adjusted when you switch thread weights.
- #6 Try to use a needle where the eye is 40% larger than the thickness of the thread.

WHAT IS TEX SIZING?

Tex is the most consistent of the measuring methods. It uses a fixed length to measure the weight of a thread. Tex is the weight (in grams) of 1,000 meters of thread. Or, in other words, 1,000 meters of thread that weighs 1 gm. = 1 Tex. The higher the Tex, the thicker the thread.

Thread Sizing System Conversion

COMMERCIAL	TEX	GOV'T SIZE
V 15	Tex 16	A
V 30	Tex 30	AA
V 46	Tex 45	B
V 69	Tex 70	E
V 92	Tex 90	F
V 138	Tex 135	FF
V 207	Tex 210	3-cord
V 277	Tex 270	4-cord
V 346	Tex 350	5-cord

AUTO & RV

Thread & Needle Recommendations

USES	THREAD SIZE RANGE	NEEDLE POINT
Auto Covers	Tex 70-Tex 92	Round/Sharp
Auto Upholstery	Tex 70-Tex 135	Round/Sharp
Awnings	Tex 70-Tex 138	Round/Sharp
Curtains	Tex 70 or Tex 75	Round/Sharp
Flooring & Mats	Tex 90	Round/Sharp
Pop-Up Enclosures	Tex 90 or Tex 92	Round/Sharp
Powersport Upholstery	Tex 70-Tex 135	Round/Sharp
RV Covers	Tex 70-Tex 92	Round/Sharp
RV Cushions	Tex 70-Tex 135	Round/Sharp
RV Headliners	Tex 70-Tex 135	Round/Sharp, Ball
RV Pillows	Tex 70 or Tex 75	Round/Sharp
RV Skirts	Tex 70-Tex 90	Round/Sharp
RV Upholstery	Tex 70-Tex 135	Round/Sharp
Sun Shades	Tex 70-Tex 138	Round/Sharp
Tarps	Tex 70-Tex 90	Round/Sharp
Tonneau Covers	Tex 70-Tex 92	Round/Sharp
Trunkliner	Tex 90	Round/Sharp
Windows	Tex 70-Tex 92	Round/Sharp

Needle Size Selection

THREAD SIZE	NEEDLE SIZE*
Tex 18	#10 or #12
Tex 30	#10 or #12
Tex 35	#10 or #12
Tex 40	#12 or #14
Tex 45	#14 or #16
Tex 50	#14 or #16
Tex 52	#14 or #16
Tex 70	#16 or #18
Tex 75	#16 or #18
Tex 90	#18-#20
Tex 92 (PTFE)	#14-#19
Tex 135	#20-#22
Tex 138 (PTFE)	#20-#23

*If sewing 4 or more layers, use the larger needle size; 3 or fewer layers, use the smaller size.

Sewing Machine Thread Size Ranges

MACHINE	THREAD SIZE
Home Machine	up to Tex 70
Ultrafeed	up to Tex 92
Fabricator/Industrial	up to Tex 138

HOBBY

Thread & Needle Recommendations

USES	THREAD SIZE RANGE	NEEDLE POINT
Bags		
• Lightweight (3 oz. or fewer)	Tex 18-Tex 45	Round/Sharp
• Medium weight (4-14 oz.)	Tex 50-Tex 75	Round/Sharp
• Heavy weight (15 oz. or more)	Tex 90-Tex 135	Round/Sharp
Flags & Burgees	Tex 45-Tex 70	Round/Sharp
Utility	Tex 70-Tex 135	Round/Sharp

Needle Size Selection

THREAD SIZE	NEEDLE SIZE*
Tex 18	#10 or #12
Tex 30	#10 or #12
Tex 35	#10 or #12
Tex 40	#12 or #14
Tex 45	#14 or #16
Tex 50	#14 or #16
Tex 52	#14 or #16
Tex 70	#16 or #18
Tex 75	#16 or #18
Tex 90	#18-#20
Tex 92 (PTFE)	#14-#19
Tex 135	#20-#22
Tex 138 (PTFE)	#20-#23

*If sewing 4 or more layers, use the larger needle size; 3 or fewer layers, use the smaller size.

Sewing Machine Thread Size Ranges

MACHINE	THREAD SIZE
Home Machine	up to Tex 70
Ultrafeed	up to Tex 92
Fabricator/Industrial	up to Tex 138

INDOOR

Thread & Needle Recommendations

USES	THREAD SIZE RANGE	NEEDLE POINT
Commercial/Hospitality Seating	Tex 70-Tex 135	Round/Sharp
Décor & Upholstery		
• Lightweight (3 oz. or fewer)	Tex 18-Tex 45	Round/Sharp
• Medium weight (4-14 oz.)	Tex 50-Tex 75	Round/Sharp
• Heavy weight (15 oz. or more)	Tex 90-Tex 135	Round/Sharp
Drapery	Tex 30-Tex 70	Round/Sharp
Roller Shades	Tex 70-Tex 138	Round/Sharp

Needle Size Selection

THREAD SIZE	NEEDLE SIZE*
Tex 18	#10 or #12
Tex 30	#10 or #12
Tex 35	#10 or #12
Tex 40	#12 or #14
Tex 45	#14 or #16
Tex 50	#14 or #16
Tex 52	#14 or #16
Tex 70	#16 or #18
Tex 75	#16 or #18
Tex 90	#18-#20
Tex 92 (PTFE)	#14-#19
Tex 135	#20-#22
Tex 138 (PTFE)	#20-#23

*If sewing 4 or more layers, use the larger needle size; 3 or fewer layers, use the smaller size.

Sewing Machine Thread Size Ranges

MACHINE	THREAD SIZE
Home Machine	up to Tex 70
Ultrafeed	up to Tex 92
Fabricator/Industrial	up to Tex 138

MARINE

Thread & Needle Recommendations

USES	THREAD SIZE RANGE	NEEDLE POINT
Awnings	Tex 70-Tex 138	Round/Sharp
Biminis & T-Tops	Tex 70-Tex 138	Round/Sharp
Boat Covers	Tex 70-Tex 138	Round/Sharp
Boat Flooring & Mats	Tex 90	Round/Sharp
Bug Protection • 2 oz. or fewer • 3 oz.-5 Oz. • 6 oz. or more	Tex 30 or Tex 35 Tex 45 Tex 70-Tex 90	Ball Round/Sharp Round/Sharp
Chafe Protection	Tex 70-Tex 138	Round/Sharp
Curtains	Tex 70 or Tex 75	Round/Sharp
Dodgers	Tex 70-Tex 138	Round/Sharp
Enclosures	Tex 70-Tex 138	Round/Sharp
Exterior Cushions	Tex 70-Tex 135	Round/Sharp
Exterior Pillows	Tex 70 or Tex 75	Round/Sharp
Exterior Upholstery	Tex 70-Tex 135	Round/Sharp
Headliners & Hull Liners	Tex 70-Tex 135	Round/Sharp
Insulations & Padding	Tex 70-Tex 135	Round/Sharp
Interior Cushions	Tex 70-Tex 135	Round/Sharp
Interior Pillows	Tex 70 or Tex 75	Round/Sharp
Interior Upholstery	Tex 70-Tex 135	Round/Sharp
Sacrificial Sail Covers	Tex 70-Tex 138	Round/Sharp
Sail Bags	Tex 70-Tex 138	Round/Sharp

USES	THREAD SIZE RANGE	NEEDLE POINT
Sail Covers	Tex 70-Tex 138	Round/Sharp
Sails • Spinnakers, Drifters Light Air Sails (0.75 oz. or fewer) • Spinnakers, Drifters Light Air Sails (1.5 oz. or more) • Dinghies, Daysailors, Beach Cats (4 oz.) • Heavier Sails (5 oz. or more)	Tex 30 or Tex 35 Tex 45 or Tex 50 Tex 70 or Tex 75 Tex 70-Tex 92	Round/Sharp Round/Sharp Round/Sharp, DI, SD1
Spinnaker Socks	Tex 70	Round/Sharp
Sun Shades	Tex 45 or Tex 50	Round/Sharp
Tarps	Tex 70-Tex 138	Round/Sharp
Trampolines	Tex 70-Tex 138	Round/Sharp, DI
Weather Cloths	Tex 70-Tex 138	Round/Sharp
Windows	Tex 70	Round/Sharp
Windshield Covers	Tex 70-Tex 138	Round/Sharp

Needle Size Selection

THREAD SIZE	NEEDLE SIZE*
Tex 18	#10 or #12
Tex 30	#10 or #12
Tex 35	#10 or #12
Tex 40	#12 or #14
Tex 45	#14 or #16
Tex 50	#14 or #16
Tex 52	#14 or #16
Tex 70	#16 or #18
Tex 75	#16 or #18
Tex 90	#18-#20
Tex 92 (PTFE)	#14-#19
Tex 135	#20-#22
Tex 138 (PTFE)	#20-#23

*If sewing 4 or more layers, use the larger needle size; 3 or fewer layers, use the smaller size.

Sewing Machine Thread Size Ranges

MACHINE	THREAD SIZE
Home Machine	up to Tex 70
Ultrafeed	up to Tex 92
Fabricator/Industrial	up to Tex 138

OUTDOOR LIVING

Thread & Needle Recommendations

USES	THREAD SIZE RANGE	NEEDLE POINT
Awnings	Tex 70-Tex 138	Round/Sharp
Bug Protection • 2 oz. or fewer • 3 oz.-5 Oz. • 6 oz. or more	Tex 30 or Tex 35 Tex 45 Tex 70-Tex 90	Ball Round/Sharp Round/Sharp
Covers	Tex 70-Tex 138	Round/Sharp
Cushions	Tex 70-Tex 135	Round/Sharp
Drapery	Tex 30-Tex 45	Round/Sharp
Pillows	Tex 70 or Tex 75	Round/Sharp
Shade Sails	Tex 70-Tex 138	Round/Sharp
Sling Chairs	Tex 70-Tex 135	Round/Sharp
Umbrellas	Tex 70-Tex 92	Round/Sharp
Upholstery	Tex 70-Tex 135	Round/Sharp
Wire Hung Canopies & Pergolas	Tex 70-Tex 138	Round/Sharp

Needle Size Selection

THREAD SIZE	NEEDLE SIZE*
Tex 18	#10 or #12
Tex 30	#10 or #12
Tex 35	#10 or #12
Tex 40	#12 or #14
Tex 45	#14 or #16
Tex 50	#14 or #16
Tex 52	#14 or #16
Tex 70	#16 or #18
Tex 75	#16 or #18
Tex 90	#18-#20
Tex 92 (PTFE)	#14-#19
Tex 135	#20-#22
Tex 138 (PTFE)	#20-#23

*If sewing 4 or more layers, use the larger needle size; 3 or fewer layers, use the smaller size.

Sewing Machine Thread Size Ranges

MACHINE	THREAD SIZE
Home Machine	up to Tex 70
Ultrafeed	up to Tex 92
Fabricator/Industrial	up to Tex 138

LEATHER

Thread & Needle Recommendations

USES	THREAD SIZE RANGE	NEEDLE POINT
Upholstery	Tex 70 - Tex 135	Round/Sharp, DI, LR, NW
Leather Garments	Tex 70 - Tex 90	Round/Sharp, DI, LR, NW
Fine Leather Goods	Tex 70	LR, NW
Bag Making	Tex 70 - Tex 135	DI, LR, NW
Wallets & Accessories	Tex 70 - Tex 135	DI, LR, NW, TRI
Shoes (Uppers)	Tex 90 - Tex 135	DI, LR, NW, TRI
Belts	Tex 90 - Tex 135	DI, LR, NW, TRI
Sheaths	Tex 135+	DI, NW, TRI
Equestrian	Tex 135+	DI, NW, TRI
Shoes (Soles)	Tex 135+	DI, NW, TRI

Leather Needle Points

ABBREVIATION	NAME
DI	Diamond
LR	Twist Point
NW	Perpendicular
TRI	Triangle

Needle Size Selection

THREAD SIZE	NEEDLE SIZE*
Tex 30	#10 or #12
Tex 35	#10 or #12
Tex 40	#12 or #14
Tex 45	#14 or #16
Tex 50	#14 or #16
Tex 70	#16 or #18
Tex 90	#18-#20
Tex 135	#20-#22
Tex 210	#22-#24
Tex 270	#24-#26
Tex 350	#26-#28

*The thickness of the leather assembly and the type of leather determine which needle size to use within the recommended range. For thicker assemblies, move up to the larger needle size for that thread.

Sewing Machine Thread Size Ranges

MACHINE	THREAD SIZE
Home Machine	Not Recommended
Ultrafeed/Leatherwork	up to Tex 90
Fabricator/Industrial	up to Tex 135
Heavy Industrial	Tex 135+