

SHIVPRIYA TEXCHEM · KNOWLEDGE SERIES

Polyester. The workhorse of the Indian wardrobe.

PTA and MEG to chips. Chips to filament and staple. Fibre to more than half of everything the world wears. A working guide to polyester — POY, FDY, DTY, ATY and PSF — and where the Indian market is heading.

~57%

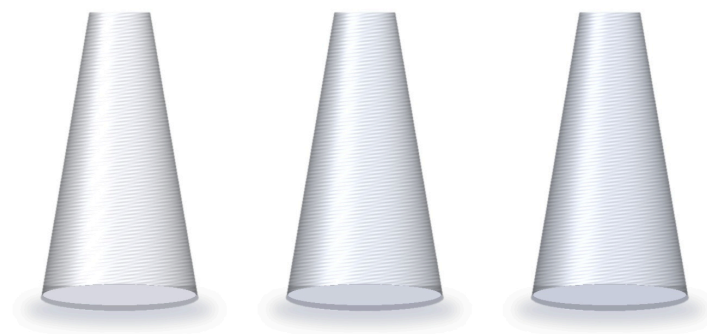
of global fibre production is polyester —
the largest fibre by far

45

cN/tex tenacity, dry and wet alike —
strength unaffected by water

#2

India is the world's second-largest
polyester producer after China



Bridging world-class spinning mills and your needs, since 2003.

shivpriyatexchem.com

CHAPTER 01

What exactly is polyester?

Polyester (PET) is a synthetic fibre melt-spun from purified terephthalic acid and mono-ethylene glycol. It is supplied as filament yarn in several draw states, or cut into staple fibre for spinning — and the form decides the market.

FORM	FULL NAME	WHAT IT SIGNIFIES
POY	Partially oriented yarn	The intermediate — feedstock for texturing into DTY
FDY	Fully drawn yarn	Flat, lustrous filament for wovens, embroidery and bright fabrics
DTY	Draw textured yarn	Bulked, stretchy filament — the volume of Indian weaving and knitting
ATY	Air textured yarn	Spun-like surface on a filament backbone; furnishing and technical
PSF	Polyester staple fibre	Cut fibre for spun polyester and PC / PV blended yarns
Specialities	CD, dope dyed, micro, FR	Cationic dyeable, spun-dyed, micro-denier, flame retardant grades

Buyer's note. Denier, filament count, lustre, intermingle and dye batch discipline decide whether two “identical” DTY lots run the same on your machines. Qualify the producer and lock the specification — polyester is standardised, but not interchangeable.

Raw material

PTA + MEG, both petroleum derivatives; increasingly recycled PET as well.

Process

Melt spinning — no solvent, no water; polymer is extruded and drawn.

Supplied as

Filament on paper tubes (POY/FDY/DTY) or staple in bales (PSF).

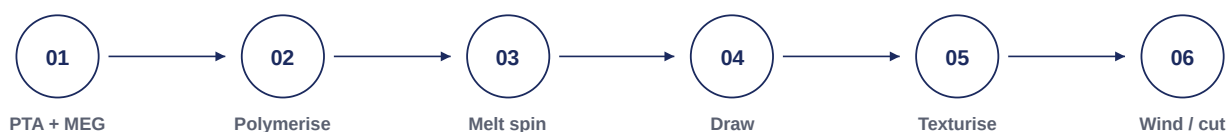
End of life

Not biodegradable; mechanically and chemically recyclable at scale.

CHAPTER 02

Chips to filament: melt spinning

Polyester is the simplest major fibre to make — molten polymer pushed through a spinneret and drawn. The engineering is in consistency at enormous speed.



01 Polymerisation

PTA and MEG react into PET polymer, either spun directly (continuous) or cut into chips for remelting.

03 Drawing

Filaments are drawn to orient molecules — fully (FDY) or partially (POY) for later processing.

05 Air texturing

Air jets loop filaments into ATY for a spun-like surface on furnishing and technical yarns.

02 Melt spinning

Molten PET is extruded through spinnerets at high speed. Denier and filament count are set here.

04 Texturising

POY is false-twist textured into DTY, adding bulk, stretch and a fabric-friendly hand.

06 Staple line

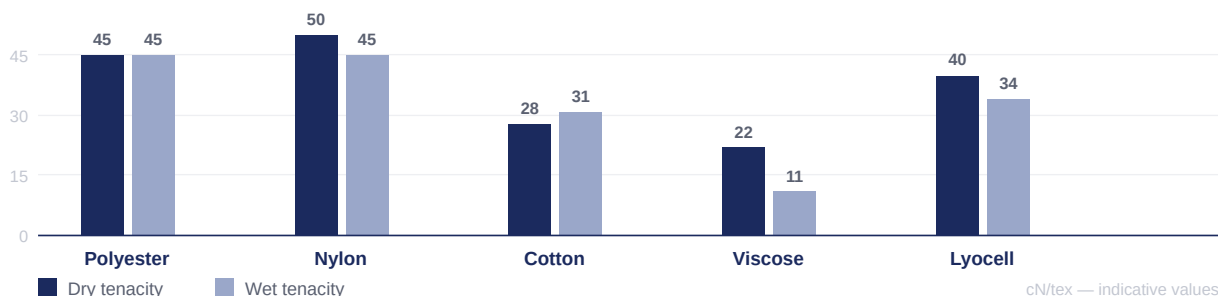
For PSF, tow is crimped, heat-set and cut to 32–51 mm for blending with cotton or viscose.

PROPERTY LEVER	SET AT	COMMERCIAL EFFECT
Denier / filament	Spinneret	Hand, cover, drape — micro-denier feels like silk
Lustre	Polymer (TiO ₂)	Bright, semi-dull or full-dull appearance
Colour	Dope dyeing	Spun-dyed black and colours — no dyehouse, lowest water
Dyeability	Polymer (CD)	Cationic-dyeable grades open deep, brilliant shades

CHAPTER 03

What the fibre actually does

Polyester's numbers explain its dominance: the strongest, most stable, most predictable fibre in the market — at the lowest price.



PROPERTY	TYPICAL VALUE	COMMERCIAL MEANING
Tenacity	40–50 cN/tex	High strength dry and wet; downgauging and durability
Elongation	15–30%	Good stretch and recovery; textured DTY adds more
Moisture regain	0.4%	Dries instantly; wicks rather than absorbs
Dimensional stability	Excellent	Heat-set fabrics hold shape and pleats permanently
Crease recovery	Excellent	Wash-and-wear without ironing — the original selling point
Abrasion resistance	Very high	Uniforms, workwear and upholstery last
Dyeing	Disperse, 130°C	HT dyeing; excellent fastness once dyed
UV / chemical	Good	Outdoor and technical use with stabilisation

Process caution for your mill. Polyester's enemies are static, oligomer deposits in dyeing, and batch-to-batch dye variation on DTY. Insist on single-merge lots for critical shades, manage heat-setting temperatures precisely, and specify intermingle level to your weaving preparation.

CHAPTER 04

Polyester against the alternatives

A like-for-like view of the fibres competing for the same programme. Ratings are indicative and read horizontally, not as absolute laboratory values.

PARAMETER	POLYESTER	NYLON	COTTON	VISCOSE	ACRYLIC
Origin	Petroleum	Petroleum	Cotton crop	Wood pulp	Petroleum
Strength	Very high	Highest	Medium	Low	Medium
Moisture	Near zero	Low	Good	Very good	Low
Handle	Engineered	Smooth, cool	Soft, natural	Fluid	Wool-like
Price	Lowest	Higher	Volatile	Value	Value
Recyclability	Best-in-class	Difficult	Mechanical	Limited	Limited
Biodegradable	No	No	Yes	Yes	No
Regulatory pressure	Microplastics, EPR	Similar	Low	Chemistry scrutiny	Microplastics

The honest trade-off

Polyester's weaknesses are comfort-physics and optics: near-zero absorbency, odour retention, microplastic shedding and a petroleum story that brands increasingly have to defend. None of this has dented its volume — but it caps its premium.

The direction of travel

The direction is recycled, dope-dyed and speciality. rPET with GRS certification, spun-dyed yarns that eliminate dyehouse water, micro-deniers and functional finishes are where polyester margins are moving.

CHAPTER 05

India's polyester engine

India built world-scale polyester capacity across the full chain — PTA to filament to fabric. For a yarn buyer the producer set is concentrated, integrated and fiercely competitive.

LEADING PRODUCERS IN THE INDIAN MARKET

Reliance

PAN-INDIA ·
INTEGRATED

The world-scale integrated producer across PTA, MEG, PSF and filament, plus Recron speciality grades.

Sanathan Textiles

SILVASSA ·
PUNJAB

POY, FDY, DTY, ATY and cotton yarns; a principal mill for which Shivpriya Texchem is an authorised agent.

Bhilosa Industries

SILVASSA

Major POY / FDY / DTY capacity with a century-old textile legacy; a Shivpriya principal.

Indorama & others

GLOBAL · INDIA

Indorama, Wellknown, Filatex and others complete a deep, competitive filament market.

Scale is the moat

Continuous polymerisation and high-speed spinning reward the largest, most integrated producers.

Speciality is the margin

Dope dyed, CD, micro and functional yarns escape commodity pricing.

rPET is the growth story

Bottle-to-fibre recycling gives polyester its sustainability answer — and India recycles at world scale.

PSF feeds the blend market

Staple fibre into PC and PV yarns connects polyester to the entire spun-yarn economy.

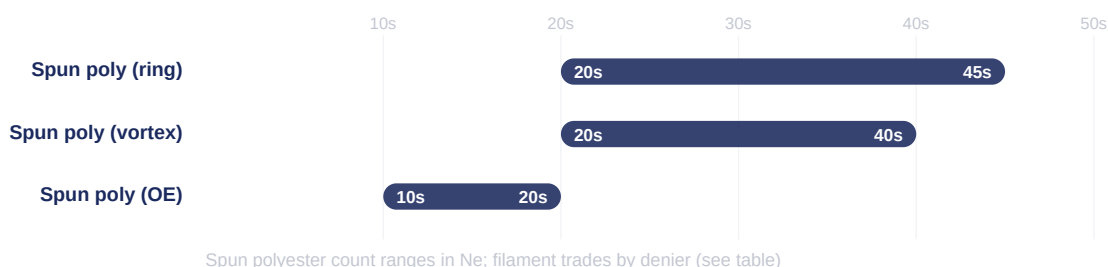
What this means for the yarn trade. Shivpriya Texchem is an authorised selling agent for Sanathan Textiles and Bhilosa Industries — mill-direct access to POY, FDY, DTY and ATY programmes with transparent, current pricing across deniers and lustres.

All company and brand names referenced are the property of their respective owners and are used for identification and informational purposes only; no affiliation or endorsement is implied unless stated.

CHAPTER 06

100% polyester yarn: filament and spun

Polyester splits into two markets: filament (POY / FDY / DTY / ATY) sold by denier, and spun polyester sold by count. Each has its own machines, buyers and price logic.



YARN TYPE / SYSTEM	USUAL RANGE	WHERE IT FITS
DTY	75D – 300D	Knitting and weaving volume; bulk, stretch, cover
FDY	50D – 300D	Bright wovens, embroidery, linings, sarees
ATY	160D – 600D	Furnishing, luggage, spun-look technical fabrics
Spun polyester	20s – 45s Ne	Sewing thread base, shirting, workwear on ring / vortex
Micro / speciality	0.5–1.0 dpf	Peach-skin, high-density and performance fabrics

Specification to order

- Denier and filament count (e.g. 150/48) matched to fabric
- Lustre: bright / semi-dull / full-dull; dope-dyed shade cards
- Intermingle nips per metre for weaving preparation
- Single-merge dye lots for critical shades

What decides quality

- Uster evenness and broken-filament levels
- Shrinkage and crimp stability on DTY
- Oil pick-up consistency for downstream processing
- Package density and winding for high-speed warping

CHAPTER 07

Blends: polyester as the backbone

Polyester is the partner fibre in India's two biggest blended categories — PC and PV. It contributes strength, stability and price; the partner contributes comfort and appearance.

BLEND	COMMON RATIOS	WHAT IT DELIVERS	PRIMARY END USE
Polyester / Cotton (PC)	65:35, 52:48	Durability and crease recovery with cotton comfort	Shirting, uniforms, sheeting, workwear
Polyester / Viscose (PV)	65:35, 70:30	Drape and lustre at sharp economics	Suiting, trousers, ethnic wear
Polyester / Wool	55:45, 70:30	Suiting stability and price with wool character	Suiting, blazers
Polyester / Lyocell	50:50	Natural-feel surface on a stable backbone	Home textiles, uniforms
Polyester / Elastane	95:5	Four-way stretch performance	Athleisure, leggings
Polyester / Linen	70:30	Linen look with wash-and-wear behaviour	Summer suiting, casual wovens



The commercial logic in one line. Wherever a fabric must survive daily use, industrial laundering or a price point, polyester enters the blend. PC and PV together are the largest spun-yarn categories in India — and both are Shivpriya's home turf.

CHAPTER 08

Where polyester is being used

Polyester runs from sarees to seatbelts. Its share of any category tracks two things: the required durability and the target price.



Apparel wovens

DTY and FDY fabrics, PC shirting and PV suiting cover the value-to-mid market.



Activewear

Moisture-wicking knits, micro-deniers and stretch blends — polyester's premium segment.



Home furnishing

Curtains, upholstery and sheeting; ATY and dope-dyed yarns dominate.



Knitwear

DTY circular knits and spun-poly fleece at every price point.



Sarees and ethnic

FDY and speciality filaments power Surat's saree and dress-material economy.



Technical textiles

High-tenacity yarns for webbing, geotextiles, tarpaulins and conveyor fabrics.



Nonwovens

Spunbond and needlepunch PSF for hygiene, filtration and civil engineering.

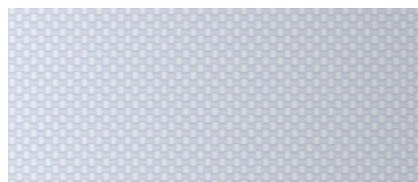


Fibrefill

Hollow conjugate PSF for pillows, quilts and padding.



PC 65:35 · SHIRTING



PV · SUITING



DTY · FURNISHING

Segment to watch in India. Dope-dyed and recycled filament. Water-free colour and GRS-certified rPET answer the two loudest objections to polyester — and command real premiums today.

CHAPTER 09 · OUR VIEW

Polyester keeps the volume — recycled and speciality take the margin

Nothing displaces polyester's price-performance in the value market. The Indian opportunity is moving up the grade ladder while the commodity base keeps growing.

01 Volume is secure

Population, urbanisation and price sensitivity keep polyester the default fibre of Indian apparel.

02 rPET is the licence to operate

Brand commitments and EPR rules make GRS-certified recycled content the fastest-growing specification.

03 Dope dyed eliminates the dyehouse

Spun-dyed yarn removes water, effluent and shade risk — compliance and cost in one move.

04 Speciality escapes the cycle

Micro, CD, FR and functional yarns price on capability, not on PTA-MEG spreads.

05 Technical textiles are the frontier

Government mission support and import substitution open high-tenacity and nonwoven demand.

What to be realistic about

Commodity filament margins track feedstock spreads and Chinese capacity; differentiation, not tonnage, protects profit.



HOW SHIVPRIYA TEXCHEM CAN HELP

Authorised agent and strategic partner to India's leading spinning mills since 2003, trusted by **2,500+ customers** across polyester, viscose, cotton, PC/PV, fancy and recycled yarns. For polyester and polyester-blend programmes we support mill identification and capability matching, count and blend development, sampling and trial lots, mill-direct commercial terms, and delivery through our pan-India network.

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