

SHIVPRIYA TEXCHEM · KNOWLEDGE SERIES

Acrylic. Winter's workhorse.

Acrylonitrile to a fibre engineered to imitate wool at a fraction of the price. A working guide to acrylic — the fibre that dresses North Indian winters — and where it goes next.

Wool-like

bulk and warmth — by design, at a value price

Ludhiana

the acrylic knitwear capital of India

$\frac{1}{2}$ — $\frac{1}{3}$

the price of the wool it substitutes



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CHAPTER 01

What exactly is acrylic?

Acrylic is a synthetic fibre polymerised from acrylonitrile and spun as staple engineered to mimic wool: crimped, bulky, warm and light — with easy care and moth-proof storage wool cannot offer.

GRADE	FORM	WHAT IT SIGNIFIES
Standard acrylic	1.5–3.3 dtex staple	The knitwear workhorse for sweaters and caps
High-bulk (HB)	Relaxed + stretched blend	Extra loft after steaming — the sweater standard
Modacrylic	Modified copolymer	Inherent flame resistance for protective and pile uses
Producer-dyed	Gel / dope dyed	Deep, fast shades without dyehouse dependence
Micro acrylic	<1.0 dtex	Softer cashmere-like hand for premium knits

Buyer's note. High-bulk acrylic yarn is sold on bulk development — the loft that appears after steaming. Two yarns of identical count can knit to visibly different sweaters. Sample, steam and weigh before committing a programme.

Raw material

Acrylonitrile, petroleum-derived; wet or dry spun into staple.

Structure

Engineered crimp mimicking wool's bulk-trap insulation.

Supplied as

Staple and tow; spun yarn in Nm/Ne; high-bulk qualities.

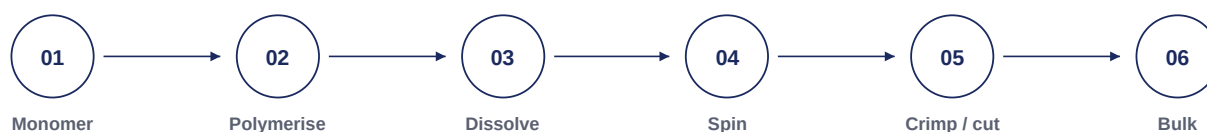
End of life

Not biodegradable; recycling routes are limited today.

CHAPTER 02

Acrylonitrile to fibre

Acrylic is solution-spun — polymer dissolved and extruded into a bath or warm air — then crimped and cut. The high-bulk trick happens later, in the yarn.



01 Polymerisation

Acrylonitrile (with comonomers for dyeability) polymerises to PAN resin.

02 Dissolving

PAN dissolves in solvent (wet route) for extrusion — it cannot be melt spun.

03 Spinning

Dope extrudes into a coagulation bath (wet) or warm air (dry) forming filaments.

04 Drawing and crimping

Filaments draw for strength and take mechanical crimp — the wool imitation begins here.

05 Cutting

Tow cuts to staple for spinning on worsted or cotton systems.

06 High-bulk yarns

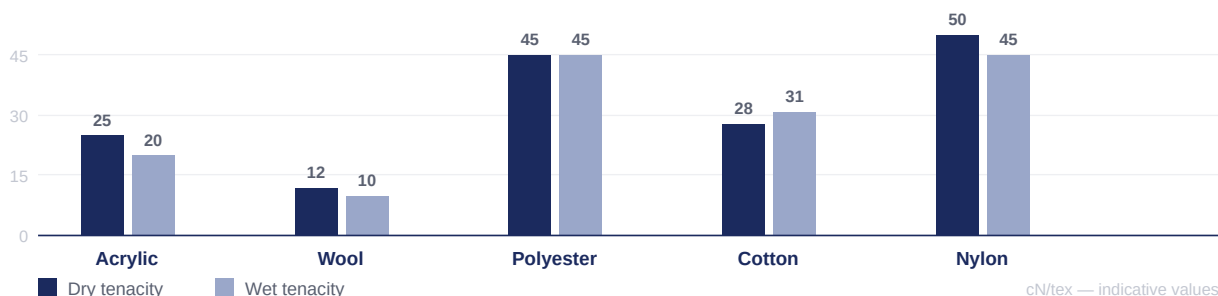
Blending shrinkable and stable fibre in one yarn: after steaming, shrinkage differences create loft.

PARAMETER	ACRYLIC	WOOL
Warmth / weight	Very good — engineered crimp	Excellent — natural crimp
Care	Machine wash, quick dry, moth-proof	Careful wash or superwash
Moisture buffering	Poor — can feel clammy	Best in class
Price	Value	Premium
Flame behaviour	Burns / melts (modacrylic is FR)	Naturally self-extinguishing

CHAPTER 03

What the fibre actually does

Acrylic's datasheet is a wool imitation optimised for price and care — and read honestly, it shows exactly where the imitation ends.



PROPERTY	TYPICAL VALUE	COMMERCIAL MEANING
Tenacity	20–30 cN/tex	Comfortably stronger than wool; adequate for knitwear
Bulk / warmth	Very high	Crimped staple traps air like wool at half the weight
Moisture regain	1–2%	Quick-dry, easy-care — but limited comfort buffering
Softness	Good; micro grades excellent	Modern micro acrylic approaches cashmere hand
Colour	Brilliant (basic dyes)	The brightest shade palette of the majors; superb fastness
Pilling	The known weakness	Anti-pilling grades and quality spinning manage it
UV resistance	Excellent	Outdoor fabrics, awnings and canopies last
Care	Machine wash, moth-proof	The practical advantages over wool in one line

Process caution for your mill. Bulk development and pilling are acrylic's two battlegrounds. Steam-relax high-bulk yarns to specification before judging, use anti-pilling grades for premium programmes, and heat-set with restraint — over-setting kills the loft that sells the sweater.

CHAPTER 04

Acrylic 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	ACRYLIC	WOOL	POLYESTER	COTTON	ACRYLIC / WOOL
Warmth / weight	Very good	Excellent	Moderate	Poor	Excellent
Price	Value	Premium	Lowest	Volatile	Mid
Easy care	Excellent	Demanding	Excellent	Good	Improved
Moisture comfort	Limited	Best	Poor	Good	Good
Colour brilliance	Best	Rich	Good	Good	Rich
Pilling	Watch it	Low	Low	Low	Managed
Moth / storage	Immune	Vulnerable	Immune	Immune	Improved
Biodegradable	No	Yes	No	Yes	Partial

The honest trade-off

Acrylic trades wool's moisture comfort and prestige for price, care and colour. In value knitwear that trade wins outright; in premium and performance segments, wool and blends take back the order.

The direction of travel

The fibre's future is grade-led: micro and anti-pilling acrylic upgrading the hand, producer-dyed fibre riding effluent rules, and modacrylic growing with FR protective norms.

CHAPTER 05

India's acrylic economy

Indian acrylic is a winter-wear economy with one capital — Ludhiana — supplied by domestic fibre producers and imports, and exported as knitwear across the world.

THE SUPPLY BASE

Vardhman Acrylics

VARLON

Domestic acrylic staple within one of India's largest textile groups.

Pasupati Acrylon

INDIA

A principal domestic acrylic fibre producer for the knitting trade.

Imports

THAILAND · JAPAN
· CHINA

Speciality and micro grades often land imported; duty and freight matter.

Ludhiana converters

KNITWEAR
CLUSTER

Spinners and knitters converting fibre into India's winter wardrobe.

Winter never misses

North Indian and export winter demand gives acrylic a guaranteed season.

Hand-knitting yarn endures

Retail wool-shop yarn — overwhelmingly acrylic — is a stable consumer trade.

Blends carry wool's badge

Wool-acrylic knits deliver wool marketing at acrylic economics.

FR opens a technical door

Modacrylic rides tightening flame-safety norms in protective wear.

What this means for the yarn trade. Acrylic buying is bulk-development literacy plus seasonal timing — programmes lock before winter, and quality shows after steaming. We source high-bulk, anti-pilling and blended acrylic yarns against knitters' real calendars.

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CHAPTER 06

100% acrylic yarn: bulk is the product

Acrylic yarn is judged on the sweater, not the cone — bulk development, shade brilliance and pilling behaviour decide reorders.



YARN TYPE / SYSTEM	USUAL RANGE	WHERE IT FITS
High-bulk 2/32	2/24 – 2/40 Nm	The flat-knit sweater standard
Hand knitting	By ply	Retail wool-shop yarn — a distinct, stable trade
Fine gauge	2/40 – 2/48 Nm	Lighter premium knits with micro grades
Anti-pilling	Programme based	Schoolwear and premium knitwear specification
Blended acrylic	Ne / Nm	Wool-acrylic and cotton-acrylic on demand

Specification to order

- Bulk development % after steaming — stated and sampled
- Anti-pilling grade for schoolwear and premium programmes
- Producer-dyed shades for fastness-critical orders
- Micro dtex where hand is the selling point

Processing discipline

- Steam relaxation to spec before quality judgement
- Restrained heat-setting to preserve loft
- Basic-dye discipline for shade brilliance and levelness
- Twist balance for hand-knitting yarn behaviour

CHAPTER 07

Blends: warming everything else

Acrylic is the bulk donor of the blend world — it brings warmth, lightness and price to fibres that lack them.

BLEND	COMMON RATIOS	WHAT IT DELIVERS	PRIMARY END USE
Acrylic / Wool	70:30, 50:50	Wool badge at commercial price with easy care	Sweaters, caps, school knits
Acrylic / Cotton	50:50, 60:40	Warm-touch casual knits for mild winters	Sweatshirts, joggers
Acrylic / Viscose	60:40	Softer drape in winter ethnic and shawls	Shawls, stoles
Acrylic / Nylon	90:10	Abrasion life in socks and caps	Socks, accessories
Acrylic / Polyester	50:50	Cheapest warm knit constructions	Value knitwear, blankets
Modacrylic blends	By norm	Inherent FR for protective fabric	Workwear, transport, pile



The commercial logic in one line. A 70:30 acrylic-wool sweater sells wool's story at acrylic's price with machine-wash care — the formula that has dressed Indian winters for two generations.

CHAPTER 08

Where acrylic is being used

Acrylic clusters around warmth-per-rupee — and a few technical niches where its UV and FR chemistry earn their own place.



Sweaters and knitwear

Flat-knit HB acrylic — Ludhiana's core export and domestic trade.



Caps, mufflers, socks

Winter accessories in brilliant producer-dyed shades.



Shawls and blankets

Acrylic and blended shawls, mink blankets and throws.



Thermal wear

Brushed acrylic blends in value thermal innerwear.



Sportswear knits

Warm-up knits and fleece where budget rules.



Home furnishing

Pile fabrics, upholstery and carpets in bright fast shades.



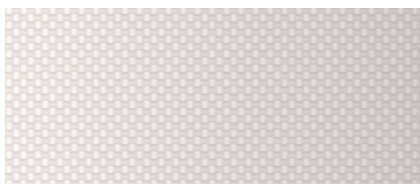
Outdoor fabric

Awnings, canopies and outdoor covers on UV endurance.



Protective (modacrylic)

Inherent-FR fabrics for industrial and transport safety.



HIGH BULK · SWEATER



ACRYLIC / WOOL · KNITWEAR



PILE · BLANKET

Segment to watch in India. Anti-pilling micro acrylic. It answers the category's oldest complaint and lets acrylic knitwear climb a full price tier.

CHAPTER 09 · OUR VIEW

Acrylic keeps winter — and upgrades its hand

Value winter-wear is a permanent Indian market, and acrylic owns it. The upside is in better grades, cleaner colour routes and FR niches.

01 The season is guaranteed

North Indian winters and export knitwear give acrylic reliable annual demand.

02 Micro grades upgrade the shelf

Cashmere-adjacent hand at acrylic price lifts the category's ceiling.

03 Producer-dyed rides effluent rules

Fibre-dyed shades bypass dyehouse constraints with better fastness.

04 Anti-pilling wins schoolwear

Institutional buyers specify it; mills that master it keep the contracts.

05 Modacrylic grows with safety norms

FR regulation in transport and industry expands a high-margin niche.

What to be realistic about

Sustainability is acrylic's open flank — no biodegradation, thin recycling; expect brand pressure at the premium end.



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 acrylic and acrylic-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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Fibre Intelligence 10
Circulated to customers & partners
Figures are indicative
industry estimates, 2026