

Case Study

Customised ring frame drafting upgrade

One of India's pioneering textile groups, known for its premium shirting and denims has an installed capacity of approx. 200,000 spindles and was facing productivity and quality issues with its compact yarn production on its ring frames equipped with pneumatic drafting. A.T.E., owing to its decades long relationship with the group, was called to see if TeraSpin could help improve the productivity and quality of fine compact yarn for its shirting division.

After a complete analysis and study of the existing pneumatic drafting and compact yarn system, based on TeraSpin's recommendation, the group went for a drafting upgradation with TeraSpin's up-gradation kit consisting of the standard PK 2025 weighting arm but with some tailor-made compact yarn extension pieces.

Raw material details

100% cotton

Drafting:

Technical details	Before up-gradation	After up-gradation
Drafting type	Pneumatic with compact yarn device	TeraSpin PK 2025 with compact yarn device
Cradle	Short	OH 62-1275254

Process parameters

Parameters	Before up-gradation	After up-gradation
Bottom roller setting	42.5/65 mm	42.5/65 mm
Top roller setting	49.5/63 mm	49.5/63 mm
Spacer	3 mm pin spacer	3 mm pin spacer
Break draft	1.22	1.22
Top roller loading (Front/middle/back)		14(Green)/10/12
Spindle speed	17500 rpm	18500 rpm



Upgrade kits

Yarn quality parameters

Quality parameters	Before up-gradation	After up-gradation	% improvement
Yarn count	Ne 60s C	Ne 60s C	–
U%	10.31	9.88	4%
Cvm	12.9	12.46	3%
Hairiness	2.95	3.02	-2%
Thin places (-50%)	3	1	67%
Thick places (+50%)	33	20	39%
Neps (+200%)	84.1	52.7	37%
Total IPI	120.1	73.7	39%

Conclusion

Yarn imperfections have been significantly reduced since.