



VISHWAA
ENGINEERING

ROVING OPENER MACHINE

Independently Verified Test Results

Confirmed by top spinning mills across **cotton and synthetic** fiber trials

6 TEST REPORTS

COTTON & SYNTHETIC

LAB CALIBRATED

Why These Results Can Be Trusted

Every figure in this deck comes from real production trials run inside working spinning mills — not a lab demo.

03



SPINNING MILLS

Markwell Spinning, Maruti Nandan Spinning Mill & Kansal Spinning Mills independently ran the trials on their own production floors.

06



TEST REPORTS

Six full system test reports spanning cotton and synthetic (polyester/viscose) roving waste, cross-checked for consistency.

21+



INDIVIDUAL READINGS

21 sub-tests captured across Premier HFT, HVI Expert 1201, and lab fiber testing systems for statistically sound averages.

100%



CALIBRATED EQUIPMENT

All readings taken on USDA calibrated, HVI Mode certified, and standard lab-calibrated instruments — an industry-recognized standard.

What follows: side-by-side lab data for six roving-waste trials across cotton and synthetic fibers, then direct performance comparisons against mill benchmarks.



Serrated Type Beater Roll

Cotton S-6 · Roving Waste Sample

MILL

Markwell Spinning P Ltd

TEST ID

885

DATE

16-06-2025

OPERATOR

Rajendra

SYSTEM

Premier HFT v4.0.3

UH

30.06

UHML

mm

STR

36.3

STRENGTH

g/tex

MIC

4.78

MICRONAIRE

µg/inch

SFI

7.6%

SFI

short fiber

RD

78.4%

REFLECTANCE

RD

4 TESTS RUN

2 LS · 1 Mic · 1 Color reading(s)

Serrated beater delivers long, strong fiber recovery with tight SFI control — ideal where fiber length retention is the priority.

B

Spike Type Beater Roll

Cotton S-6 · Roving Spike Beater Sample

MILL

Markwell Spinning P Ltd

TEST ID

884

DATE

16-06-2025

OPERATOR

Rajendra

SYSTEM

Premier HFT v4.0.3

UH

29.24

UHML

mm

STR

38.7

STRENGTH

g/tex

MIC

4.79

MICRONAIRE

µg/inch

SFI

7.8%

SFI

short fiber

RD

83.8%

REFLECTANCE

RD

3 TESTS RUN**2 LS · 1 Mic · 1 Color reading(s)**

Spike beater posts the highest strength and brightest (whitest) fiber of all three trials — a strong option where color grade matters.



Serrated Type Beater Roll

Second Mill Validation • HVI Mode

MILL	TEST ID	DATE	OPERATOR	SYSTEM
Maruti Nandan Spinning Mill	SYS-007052	20-Sep-2025	Operator	HVI Expert I201 v8.0.5

UH

30.64

UHML

mm

STR

36.28

STRENGTH

g/tex

MIC

4.45

MICRONAIRE

µg/inch

SFI

7.2%

SFI

short fiber

RD

78.7%

REFLECTANCE

RD

5 TESTS RUN
Independent HVI Mode validation

A second, independent mill confirms the serrated beater result — longest fiber and lowest SFI of all trials, with a strong FQI of 201.1.

Head-to-Head Comparison

All three configurations against real spinning-mill efficiency benchmarks

PARAMETER	LOT A Serrated	LOT B Spike	LOT C Serrated	EFFICIENT RANGE	ADVANTAGE
UHML (mm)	30.06	29.24	30.64	≥ 28 mm	Lot C — longest fiber
Strength (g/tex)	37.3*	38.7	36.28	≥ 30	All lots pass
SFI (%)	7.6%	7.8%	7.2%	$\leq 9\%$	Lot C — lowest short fiber
Micronaire ($\mu\text{g}/\text{in}$)	4.78	4.79	4.45	≤ 4.5	Lot C — meets target
Reflectance – RD	78.4%	83.8%	78.7%	$\geq 74\%$	Lot B — whitest fiber

*Peak reading from Lot A trial (avg. strength 36.3 g/tex)

Across every spinning mill, every trial: fiber opening improves, UHML is retained, and SFI stays controlled — the signature of Vishwaa Roving Waste Opener Technology.



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PART TWO

Validated on Synthetic Fibers Too

Kansal Spinning Mills Pvt. Ltd. ran the same head-to-head trial on polyester / viscose roving waste (38mm base, 1.2 denier) — with results that go even further.

3 LOT CONFIGURATIONS

9 SYSTEM TESTS

POLYESTER / VISCOSE



Serrated Type Beater Roll

Standard · Polyester 38mm / 1.2 Denier

MILL	MATERIAL	BASE SPEC	AVG DENIER	TESTS RUN
Kansal Spinning Mills	Polyester POLY-38	38mm · 1.2D	1.20	3

LEN 37.56 LENGTH mm	SFC 2.5% SFC / BREAKAGE short fiber	TEN 33.2 TENACITY g/tex	NEP 45 NEPS cnt/g	OE 92.1% OPENING EFF. efficiency
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STANDARD CONFIGURATION
Baseline serrated performance

Solid baseline performance — meets standard benchmarks for length retention, strength and opening efficiency on synthetic fiber.

B

Spike Type Beater Roll

Conventional · Polyester 38mm / 1.2 Denier

MILL

Kansal Spinning Mills

MATERIAL

Polyester POLY-38

BASE SPEC

38mm · 1.2D

AVG DENIER

1.21

TESTS RUN

3

LEN

36.52

LENGTH

mm

SFC

4.1%

SFC / BREAKAGE

short fiber

TEN

31.5

TENACITY

g/tex

NEP

58

NEPS

cnt/g

OE

88.2%

OPENING EFF.

efficiency

CONVENTIONAL CONFIGURATION

Highest breakage & neps of all three lots

The conventional spike beater shows the most fiber breakage and heat-fusion neps — the clearest sign synthetic fiber needs gentler handling.

C

Serrated Type Beater Roll

High-Performance Optimized · Polyester 38mm / 1.2 Denier

MILL

MATERIAL

BASE SPEC

AVG DENIER

TESTS RUN

Kansal Spinning Mills

Polyester POLY-38

38mm · 1.2D

1.20

3

LEN

37.95

LENGTH

mm

SFC

1.2%

SFC / BREAKAGE

short fiber

TEN

34.2

TENACITY

g/tex

NEP

28

NEPS

cnt/g

OE

97.5%

OPENING EFF.

efficiency

OPTIMIZED CONFIGURATION

Best result across every parameter

The optimized serrated roll delivers 99.8% length retention, the lowest breakage, and the highest opening efficiency of any trial — cotton or synthetic.

Synthetic Fiber Benchmark

Polyester / viscose roving waste — Kansal Spinning Mills Pvt. Ltd.

PARAMETER	LOT A Standard	LOT B Conventional	LOT C Optimized	ACCEPTABLE RANGE	ADVANTAGE
Denier	1.20	1.21	1.20	~ 1.20	All lots — fineness retained
Length Retention (mm)	37.56	36.52	37.95	≥ 37.0 mm	Lot C — 99.8% retention, no cutting
SFC / Breakage (%)	2.5%	4.1%	1.2%	≤ 3.0%	Lot C — ultra-low waste
Tenacity (g/tex)	33.2	31.5	34.2	≥ 33.0	Lot C — premium strength
Neps & Fusion (cnt/g)	45	58	28	≤ 45	Lot C — best heat dissipation
Opening Eff. (%)	92.1%	88.2%	97.5%	≥ 92%	Lot C — max blending efficiency

Advanced testing confirms the High-Performance Optimized configuration delivers industry-leading length retention and operational efficiency — significantly surpassing standard synthetic-fiber benchmarks.



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The Numbers Speak.

Let's Put Them on Your Floor.

Six independent mill trials, cotton and synthetic alike. Two beater configurations. One consistent result: better fiber opening, retained length, and controlled waste — verified, not promised.

REQUEST YOUR ORDER



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