



**MOKSHA**





***Our Family Business  
since 6 decades  
& 3 generations***

# *Company Timeline*

1954: The company was founded

1980: Introduction of the Moksha Specialty and Conditioning Yarn carriers.

1992: The production facility in Dantali, Kalol was setup.

1993: The JST specialty range was first introduced.

1994/95: Single & Multiple use Dye Cheeses: Import substitutes were introduced

1997: TANDEM Yarn Carriers were introduced.

1998: Auto Doffing tubes for Toyoda Machines and LMW machines introduced.

2004: Specialty PBTP/M92 tubes for Rieter Machines were introduced.

2011: Production facility was given an automation makeover.

2014: Moksha M 84 tubes introduced for Centrifugal Clutch Spindles.

2015: Posi-Loc tubes for Centrifugal Clutch Spindles introduced.

2016: Moksha SLIM LINE Series introduced.

2019: "Zebra" segmented 2-colour Cones for Additional Yarn segregation introduced.

2020: Over 9.5 Million SLIM LINE tubes for all Ring spinning machines  
supplied  
& successfully running in the industry



# ***Our Product Range***

Speed Frame / Simplex Bobbins

Ring tubes for Manual/Auto-doffing

SLIM LINE Ring tubes for Additional Yarn Content/Energy Saving

'JST' for High Temperature Steam Conditioning

'Tandem' Multi-Colour Cones & Cheese

'Zebra' Multi-Colour Cones

Cheese and Cones for Winding, Twisting & Texturising

Perforated Yarn carriers for Sale Yarn

Perforated Yarn carriers for Multiple Use Dyeing / Conditioning

***The Moksha  
Advantage***

# *Core Competencies*

- **Largest** yarn carrier manufacturers.
- **Innovative** raw material options for all applications.
- **Unparalleled** raw material quality.
- **Uncompromised** end product quality.
- **Accurate** design of surface geometry using 3D cad software.
- **Automated** manufacturing plant giving consistent quality.
- **Upmost quality** delivered by in-house mould manufacturing unit using top of the line machining equipment.
- **Recommended** and Patronized by all OEM's.

# *Manufacturing & Testing*

- **Newest** state-of-the-art Injection Moulding Machines.
- **Sophisticated** Automation and Ancillary Equipment.
- **In-house** product designing and mould manufacturing facilities.
- **Stringent** Quality Check norms.

Break tests

50x  
Magnification

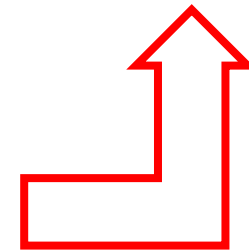
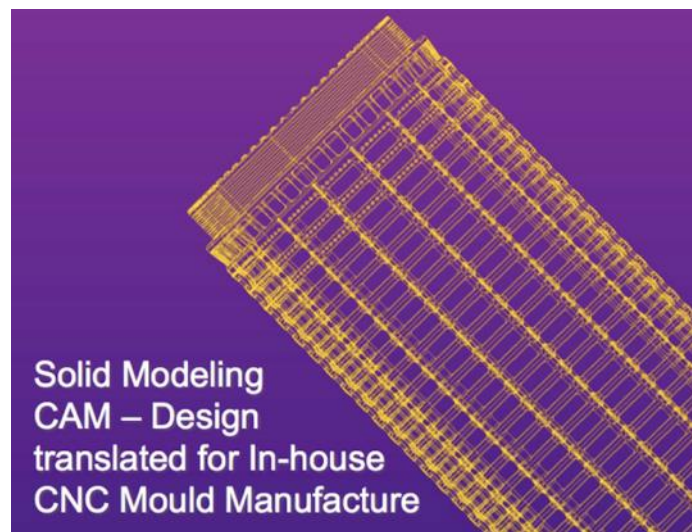
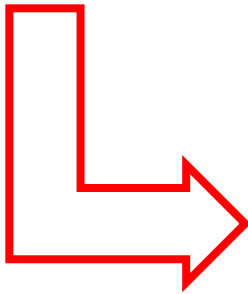
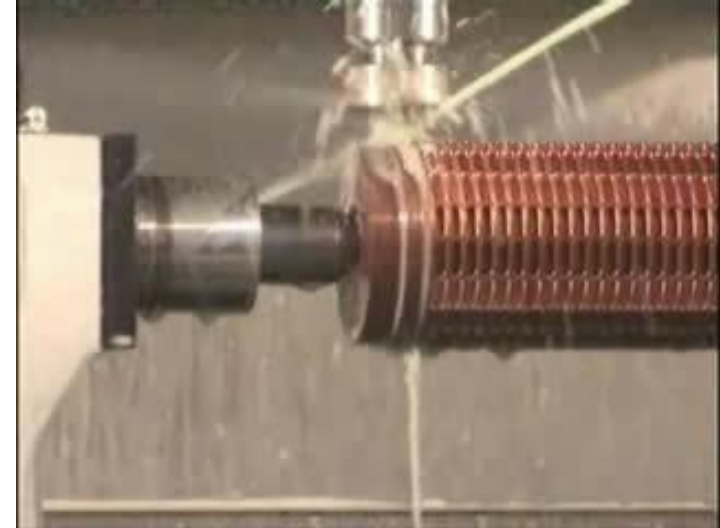
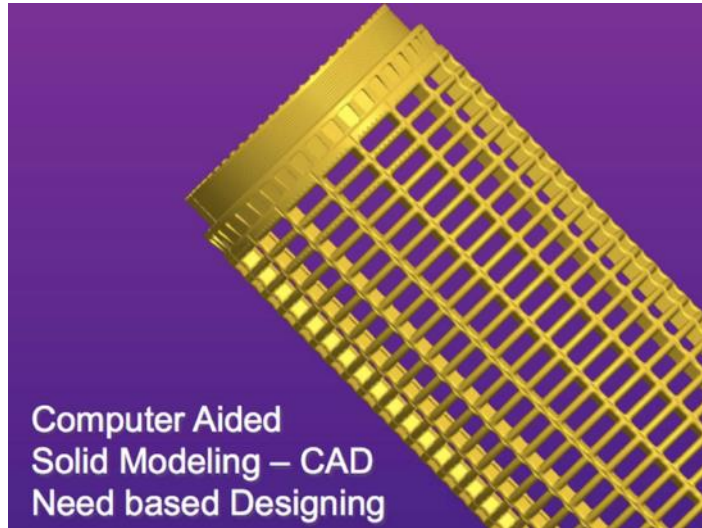
Flexural Strength  
checks

Dimensional  
Stability checks

Go No-Go Gauge  
checks

Run out  
checks

# *Mould Making Expertise*





# *Mould Making Expertise*



# Speed Frame



**Zinser**



**RIETER**



# Speed Frame



Ancient

- Wood
- Paper
- HDPE
- PP

Conventional

- ABS

Engineered

- *Impact Modified ABS with added functional enhancements*

**Simplex bobbins** demand:

- Dimensional Stability
- Wear Resistance
- Impact Resistance
- Surface Finish
- Perfect Concentricity
- Precision throughout lifetime

With the use of these added Multi Functional Enhancements...

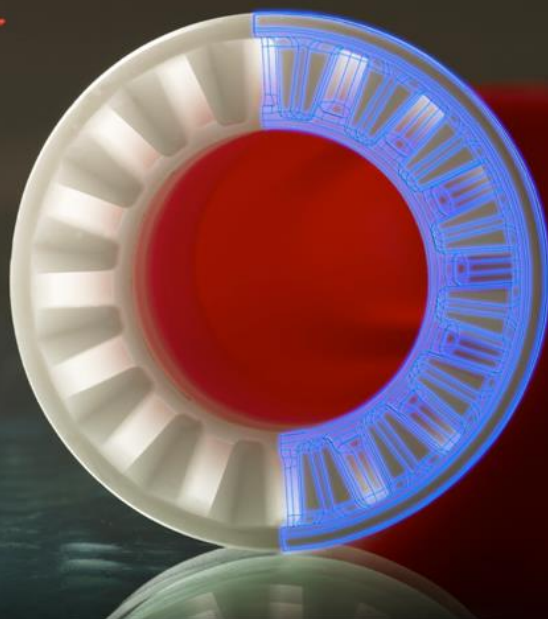
**The expected lifetime of these bobbins is 7-10 years.**

# *Speed Frame*

## **Electrojet** Speed Frame Bobbins



# Speed Frame

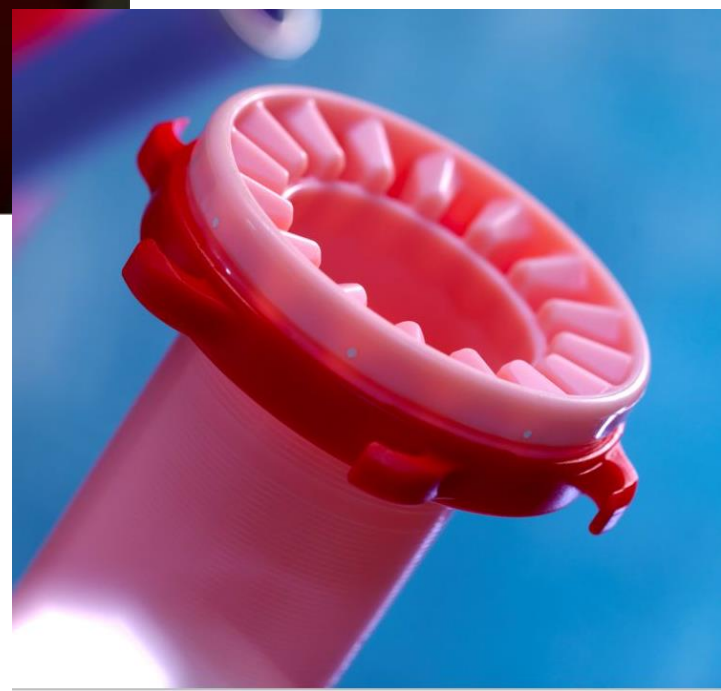


← Standard Rieter/Marzoli  
Bottom Bush



← Rieter/Marzoli Special M88  
Unbreakable Bottom Bush

New Generation  $\varnothing$ 48mm  
One piece Construction  
Bobbin for Marzoli / Rieter →



# *Speed Frame*

**Zinser** bobbins  
for 5M (668)  
and ZTS 68i  
& ZTS M51

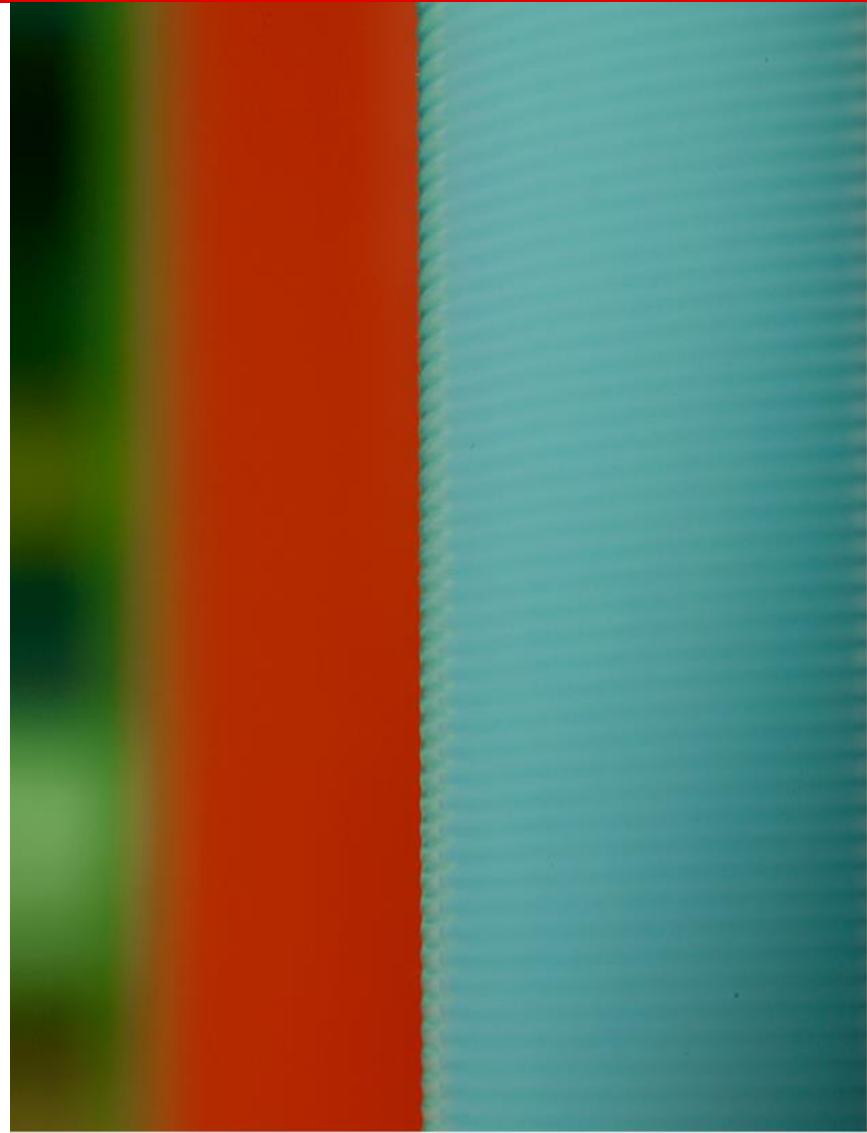
& 5A (670) Auto Doffing  
New generation  
Auto-creel Bobbins



# *Speed Frame*

Highly detailed surface finishes achieved due to CNC machines used in mold making.

Keeps to the OEM standards  
AND STILL  
maintains a soft grip with the  
Roving



# *Speed Frame*





# *Speed Frame*



 **TOYOTA** Bobbins for

FL-16

FL-100

FL-200

# *Speed Frame*



↑ Identification Rings  
(for additional colour identification)

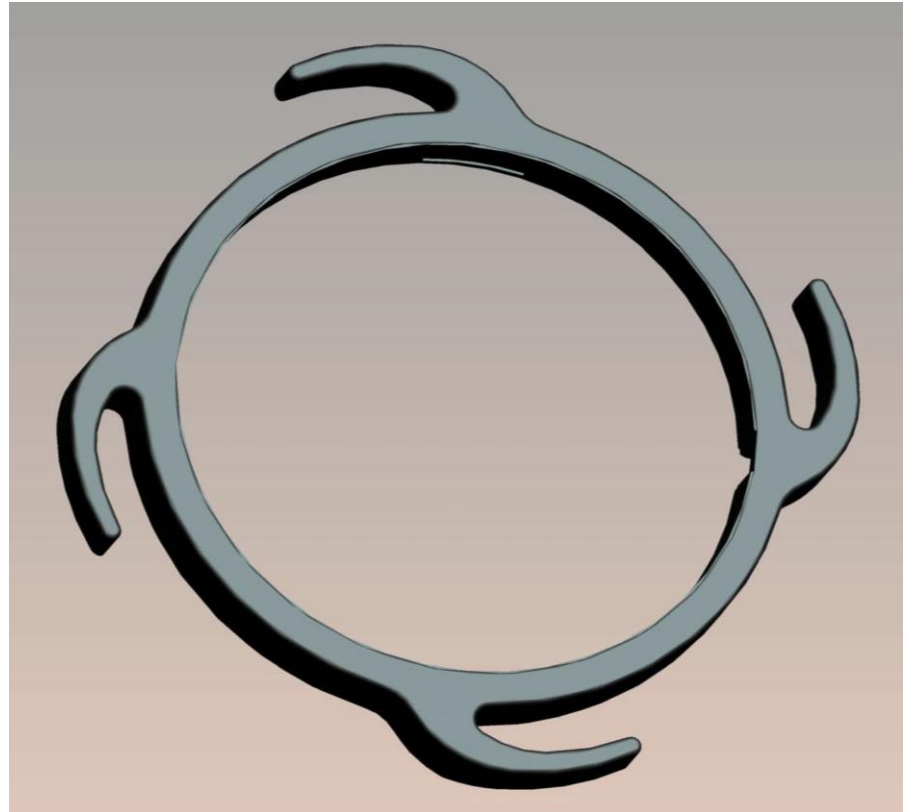
Hook Rings ↓  
(for fully automated bobbin transport systems with various colour options)



# *Speed Frame*



Hook Rings ↓  
(for bobbin transport systems with Hook rings to prevent Roving wastages and prevent hard waste.)



# *Speed Frame*



NEW

← TANDEM

Identification Rings  
(for a secondary level  
of sliver segregation  
based on cotton type)

Developed for the  
modern age Spinning  
Mills having more and  
more no. of different  
lots running in the  
unit.

# Ring Frame



**RIETER**

**Zinser**



# Ring Frame

(Manual Doffing)

Ancient

- Wood
- Paper
- HDPE
- PP
- ABS

Conventional

- PC
- PCG
- PC w Bush
- PCG w Bush

Engineered

- *SST-PC*
- *SST-PCG*
- *M52*

**Important considerations** for Ring tubes:

Dimensional Stability

Excellent Concentricity

Very High Impact Strength

Precision Surface geometry & finish

The expected life span of these tubes is:  
7-10 years in SST-PC for Cotton Spinning.

Whereas,  
Spin Finish Oils in Synthetic Yarns adversely  
affects the PC polymer chain thus tube  
breakages are higher.

# *Ring Frame*

(Manual Doffing)



# Ring Frame

(Auto Doffing)

Ancient

- PC
- ABS

Conventional

- PCG
- PCG w Bush
- SST-PC
- SST-PCG
- PBT-GF

Engineered

- *M92 (PBTP)*
- *M52/M53*
- *M84*
- *M56*

**Important considerations** for Ring tubes:

- Dimensional Stability
- Excellent Concentricity
- Superior Sliding Properties
- Non-telescopic design
- Precision Surface geometry & finish



# *Ring Frame*

(Auto Doffing)



# Ring Frame

(Auto Doffing with Spring & Button Spindles)

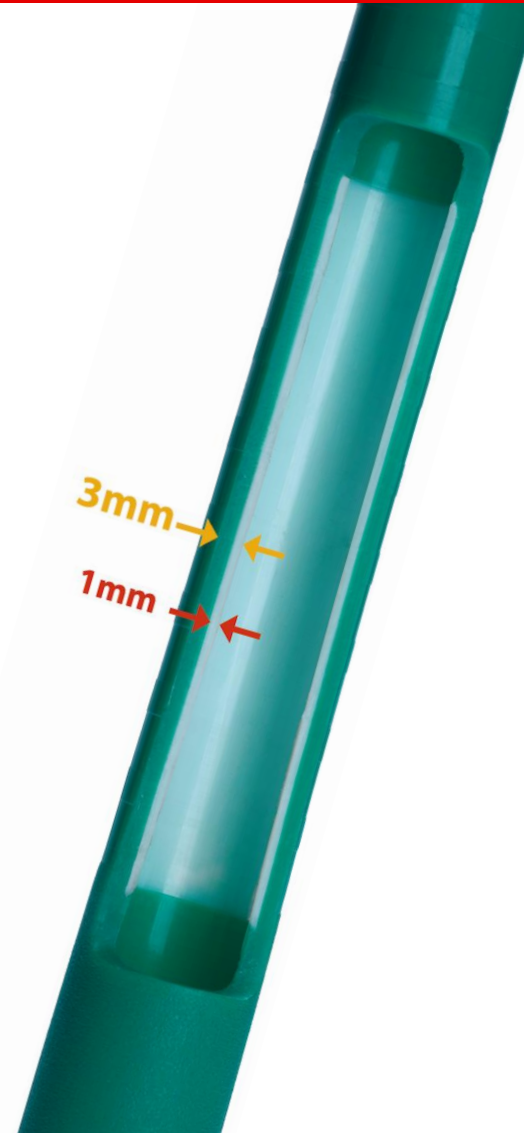
## Reiteration of the XB Tube

The **Moksha XB Tubes**  
are designed to have a  
Sliding Insert in the tube I.D.

Used for Spring and Button Spindles in  
Polycarbonate/PCG material

When the tubes need to be pushed  
into place by the Doffer.

This is to maintain the Spindle  
Insertion force between the stipulated  
7-15N over the lifetime of the tube.



# Ring Frame

(Auto Doffing)

## Advantage: Thickness of 2.6mm

2.6mm Thickness of the tubes leads to:

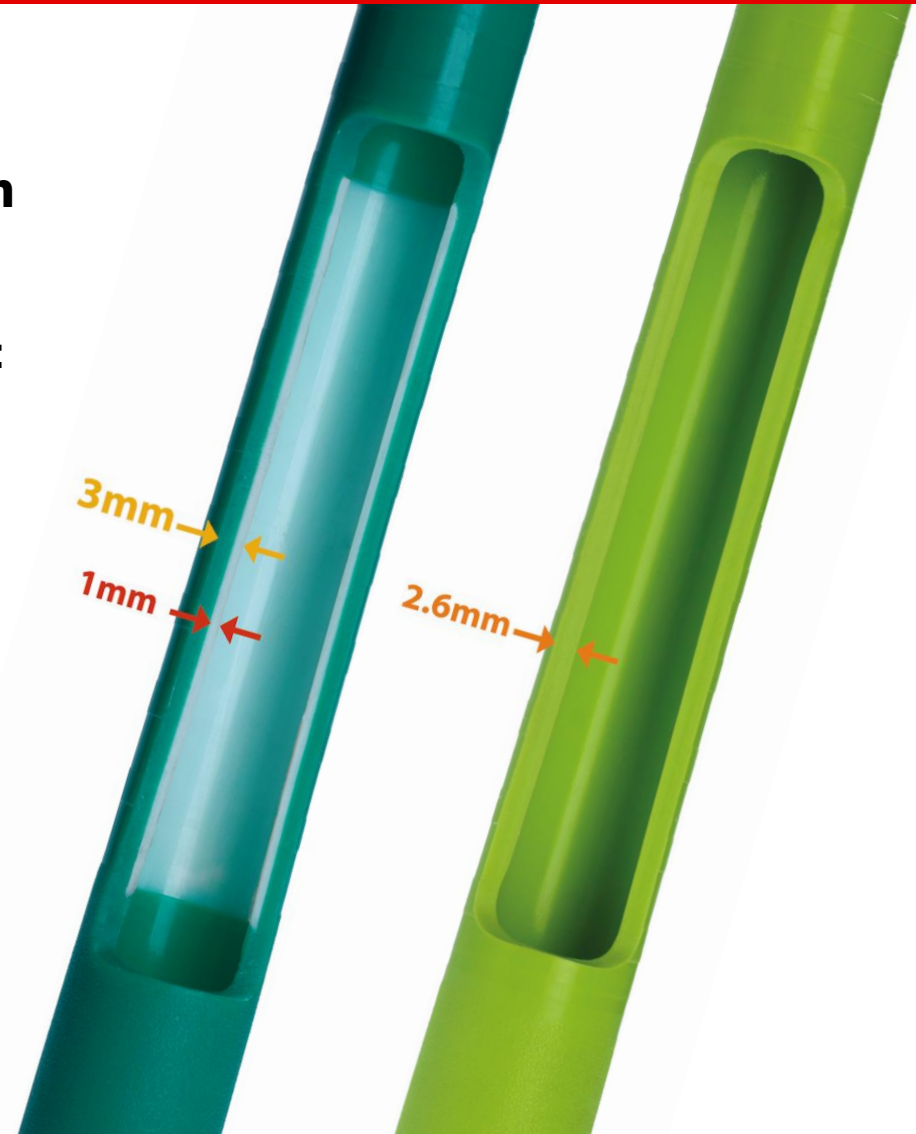
Higher yarn content (5.5-9%  
depending on ring size)

Increased doff time

Increased ring frame efficiency

Increased auto-coner efficiency

Reduced splicing



# Ring Frame

(Auto Doffing)



← M92 (PBTP)  
Ring Tubes

## Compared to PC/PCG Conventional Tubes

+ Higher Flexural Strength

(hence 2.6mm thick compared to 3mm PC

5.5 – 8% more yarn content due to reduced thickness)

+ Much more Dimensionally Stable  
(better performance, lifetime of product increases)

+ Excellent Concentricity Standards  
(higher speeds achieved)

+ Excellent Sliding Properties  
(less load on the doffer in Spring button spindles)

+ Better Surface Finishes  
(gentle on the yarn)

+ Superior Creep Resistance

M52 Ring →  
Tubes



# Ring Frame

(Auto Doffing)



← M92 (PBTP)  
Ring Tubes

Moderate to fair Impact strength.

Highly recommended for  
**Link Coner systems.**

Licensed by Rieter for optimal  
performance on its machines.

M52 Ring →  
Tubes



Very high Impact strength.

Long life, even on Manual  
Doffing machines

Recommended for **Non-Link Winding**  
**OR Retrofit Doffer machines.**

# Ring Frame

(Auto Doffing)



← M92 (PBTP)  
Ring Tubes

**M92 PBTP** is a Polymer modified PBT during Polymerisation for Superlative Stiffness & Excellent Sliding Properties

As compared to Conventional PBT-GF Tubes

+ Higher Rigidity & Stiffness

+ Much Much Better Shape Stability  
& Excellent Concentricity Standards  
(speeds of 25000rpm can be achieved)

+ Much Better Sliding Properties  
(less load on the doffer in Spring button spindles)

+ Precision Life Performance of the tubes  
(life of 7-8 years compared to 3-4 years of PBT-GF)

**THAT IS WHY RIETER RECOMMENDS PBTP IN ITS SPECIFICATION SHEET**

# *Ring Frame*

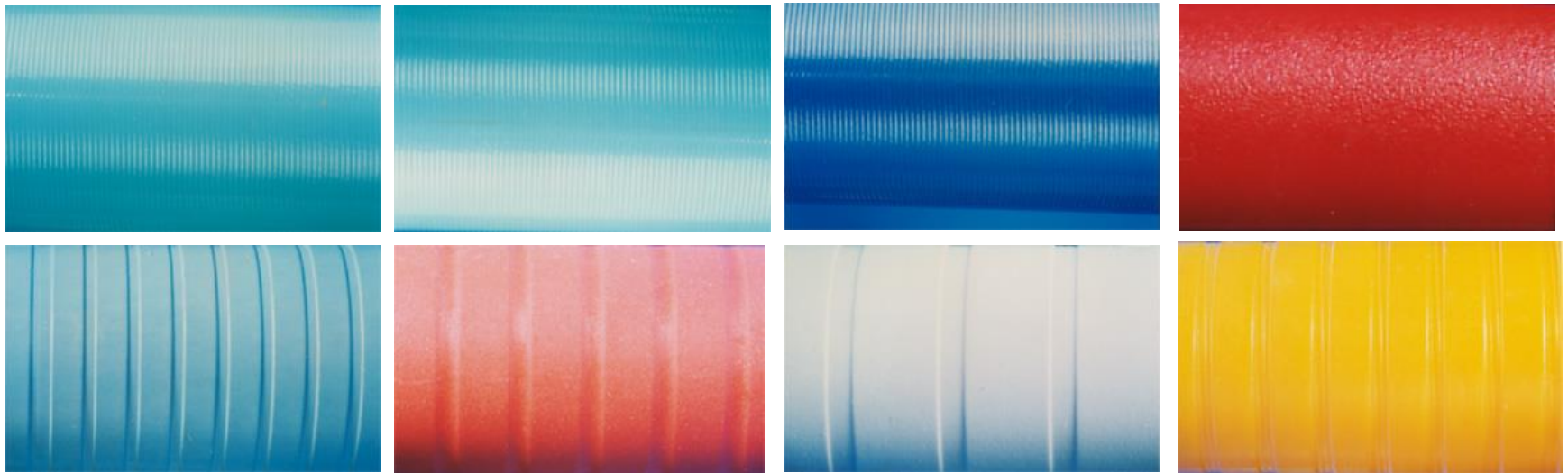
(Auto Doffing)



# Ring Frame

(Surface Grooves)

Types of Ring Tube Surface Geometry:



**The grooves should be selected depending upon the yarn blend and the average counts.**

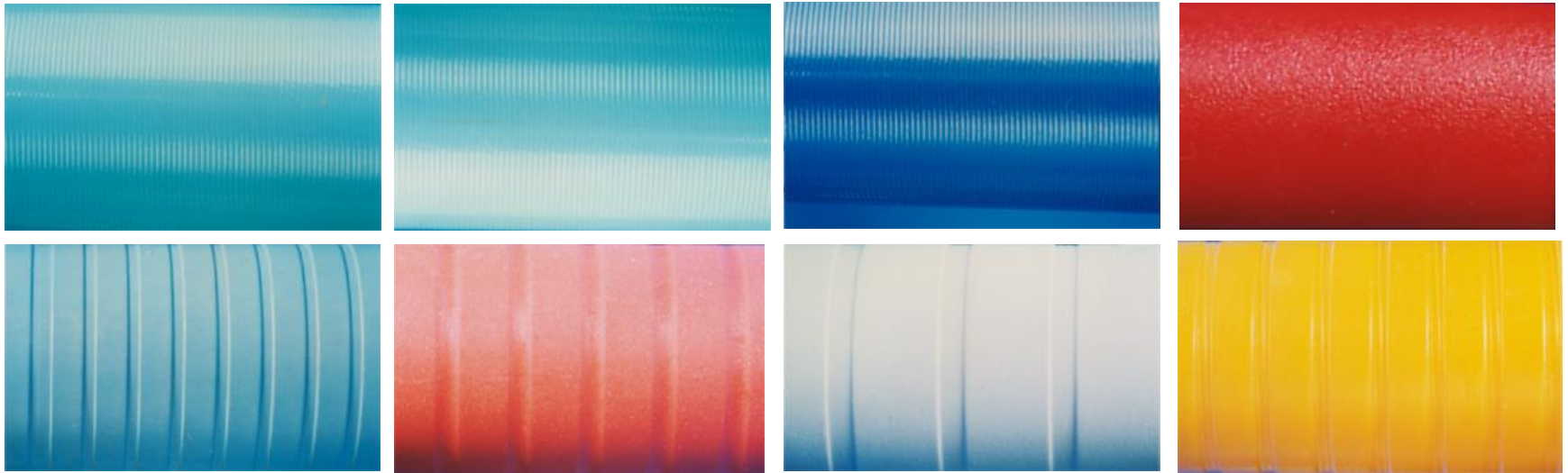
- Type of Yarn blend,
- Type of Ring Frames,
- The working conditions and the work practice in the individual mills.
- Post spinning conditions - Winding Machines.
- Other post spinning processes - viz Steam-conditioning etc.



# Ring Frame

(Surface Grooves)

Types of Ring Tube Surface Geometry:



## (1) For non-steaming application

- Matt finish tubes
- Record line grooves
- Micro grooves
- Shallow ring grooves
- Wide ring grooves
- Spiral grooves

## (2) For steaming application

- Grooved grooves
- Spiral ring grooves
- Mini Macro Grooves
- Macro grooves
- Expanded Macro grooves

# Ring Frame

(For Conditioning)

Ancient

- Paper
- PP
- PPG

Conventional

- PC/PCG
- RST
- HST

Engineered

- *JST*
- *JST+*
- *M93*

## Conditioning ring spinning tubes demand:

1) Dimensional Stability

(despite yarn contraction hoop pressure at high temp.)

2) Consistent force of insertion

(even after high temperature conditioning)

## Temperature Range:

JST upto 120°C

JST+ upto 140°C

M93 upto 120°C

(for Spring Button Spindles)

# ***JST Range***

(for Conditioning & Dyeing upto 140°C)



# *Ring Frame*

(Surface Grooves for Conditioning)



# Ring Frame

(For Conditioning)



Special **M93** tubes for  
**STEAM CONDITIONING**  
of LYCRA Yarns  
on **Spring Button**  
**Spindles**

(optional top ID teeth for link  
coners)



## *A Spinner's Dream*

*for Automated Doffing Ring spinning tubes are:-*

- ✓ *Low Weight,*
- ✓ *Save Energy,*
- ✓ *Achieve higher spinning speeds,*
  - ✓ *Increase yarn content*
- ✓ *NO compromise on the Spinning OR Winding efficiencies.*

*MOKSHA has 3 decades of experience in satisfying the customer with the best, most innovative yarn carrier range in order to help attain their dreams, or what we like to call*  
***"The Ultimate Attainment"***

***MOKSHA***  
***introduces...***

**SLIM-LINE  
SERIES**

*Slim-line Series...*

*Slim-line Series...*

*Slim-line Series...*

*Slim-line Series...*

*m-line Series...*

*Slim-line Series...*

*Slim-line Series...*

*Slim-line*

*Slim-line Series...*

*Slim-line Series...*

*Slim-line Series...*

# RIETER



## SLIM-LINE

Specialty Slim tubes for Ring Spinning



**S**aving Energy,  
Time & Man-power



**L**ean & Light-weight  
Structural Design



**I**ncreased Yarn Content  
& Spindle Speed



**M**ighty Rigidity &  
Dimensional Stability



# LMW



## SLIM-LINE

Specialty Slim tubes for Ring Spinning



**S**aving Energy,  
Time & Man-power



**L**ean & Light-weight  
Structural Design



**I**ncreased Yarn Content  
& Spindle Speed



**M**ighty Rigidity &  
Dimensional Stability



# SLIM-LINE

Specialty Slim tubes for Ring Spinning



Saving Energy,  
Time & Man-power



Lean & Light-weight  
Structural Design



Increased Yarn Content  
& Spindle Speed



Mighty Rigidity &  
Dimensional Stability

**SAURER.**  
Zinser



# SLIM-LINE

Specialty Slim tubes for Ring Spinning



**S**aving Energy,  
Time & Man-power



**L**ean & Light-weight  
Structural Design



**I**ncreased Yarn Content  
& Spindle Speed



**M**ighty Rigidity &  
Dimensional Stability

# *Moksha Slim Line Series*

## Impact in Ring Frame Department

- ✓ 10 – 22% Additional cop content (Depending on Dui & Ring size, taper, Ring machine & the winding arrangement.)
- ✓ Increase in Avg. spindle speed 100-300 rpm while maintaining the same Max speed & Speed pattern.
- ✓ Improved machine utilization & productivity
- ✓ 10 – 22% Reduction in number of doffs.
- ✓ Increase machine utilisation, Reduced number of cops transferred from ring frame to winding.
- ✓ Enhanced life of Auto - doffer, conveyor tray and spindles due to reduced no. of usage.
- ✓ Compressed air savings with reduced doffing cycles.
- ✓ Increase in Power consumed per doff is offset by increased production – hence UKG will surely reduce or remain same.

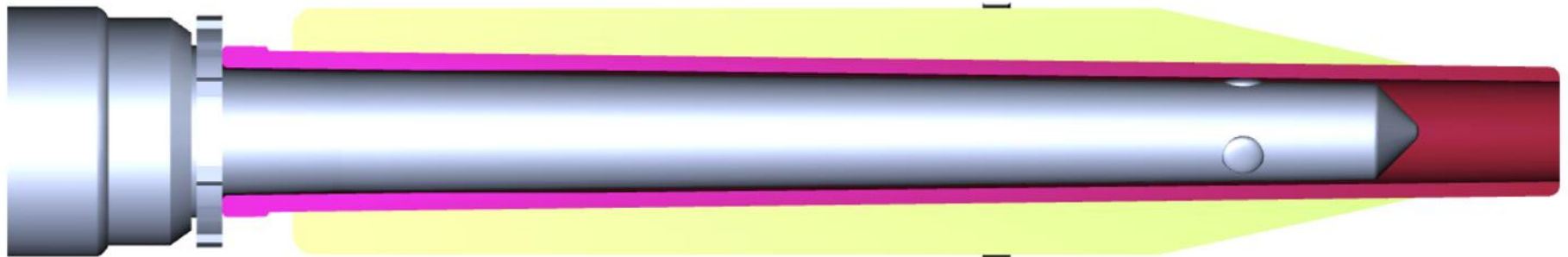
## Impact in Winding Department

- ✓ Increased winder efficiency by reduced cop change/package.
- ✓ Slim tubes are functional for changes from Fine to Coarse counts where normal tubes would give Doff Waiting/Doffing losses on Link winding.
- ✓ Slim tubes can save cost of 1-2 winding drums during project planning stage.

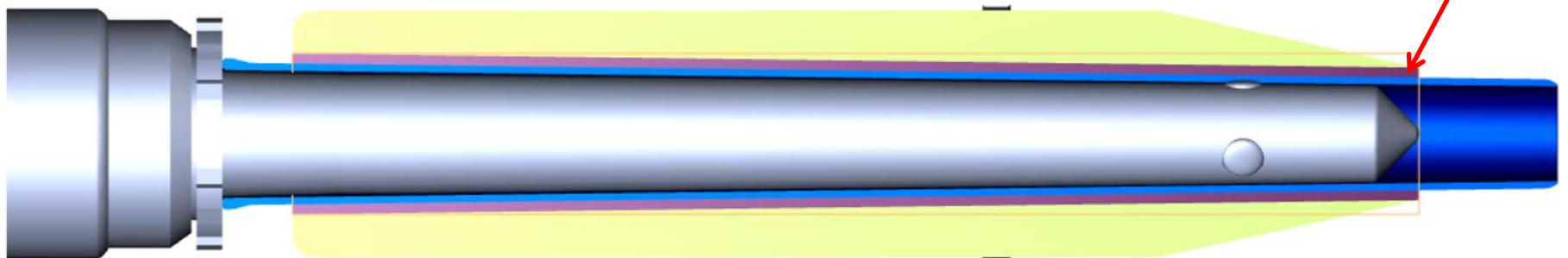
# *Moksha Slim Line Series*

(Productivity Gains)

## Achieving Better Productivity



Additional Yarn Content of **9-22%**  
(\*Depending on Ring/Cop Size)



# *Moksha Slim Line Series*

## Additional Possibilities



- ✓ Slim tube provides additional flexibility to produce coarse counts.
- ✓ Customers have also introduced Slim tubes & higher lift combinations for further enhancement/ increased cop content.
- ✓ Makes it possible to reduce work load on manpower also possible to reduce manpower required for doffing & transfer tubes from ring frame to winding in case of Non linked machines.

## Limitations



- ✓ Slim tubes are not recommended for use - where knife is being used to remove yarn remnants from tube.
- ✓ Slim tubes generally not suitable for STL type tube loaders (piston type feeding), where tubes get forced mechanically and prone to damages.
- ✓ Slim tubes are not recommended for use for yarn conditioning/steaming @ tubes is required.

# Moksha Slim Line Series

(Raw Material Comparison)

## **M8X Raw Material (1.8mm)**

Recommended for Manual Doffing / Tube-Loader applications

Best suited to be used with Cotton Yarns

NOT RECOMMENDED for Blended/Synthetic Yarns

## **M5X Excellent Class Material (1.5mm)**

Recommended for only cotton yarns

Best suited for Tube Loader & Link coner applications

Benchmarked to surpass the strength of M84 Polycarbonate tubes

## **M102 Superior Class Material (1.5mm)**

Recommended for all kinds of yarns

Best suited for Link coner applications

Benchmarked to surpass the strength of M92 PBTP tubes  
and the PCGF 3mm tubes

## **M103 Supreme Class Material**

Recommended for **Steam Conditioning** for all kinds of yarns

For a guaranteed long-term performance

Best cost-to-advantage ratio



# *Cones & Cheeses*

(for Winding)



Open End Cheeses

Winding & Texturizing machine Cheese and Cones

Filament Twisting machine Cheese and Cones

Internal use High Strength Cones



# *Cones & Cheeses*

(for Winding)

Demands made  
On the Plastic  
Cones by  
Automatic  
Palletizer units.

High Rigidity &  
Strength, Stiffness.  
Low Weight &  
Consistent  
Dimensions.

**High Strength Cones  
For Automatic Palletizer**



# *Cone Surface*

NEW

Cross Contoured Surface  
(for superior grip and  
consecutively release of  
yarn on subsequent  
high speed unwinding)



# *Tandem Range*



When the mill has an extensive count range and additional colour segregation becomes mandatory

# Zebra Range



NEW

'Zebra'

Enhanced Palette for Yarn Identity

# *Cones & Cheeses*

(for Dyeing)



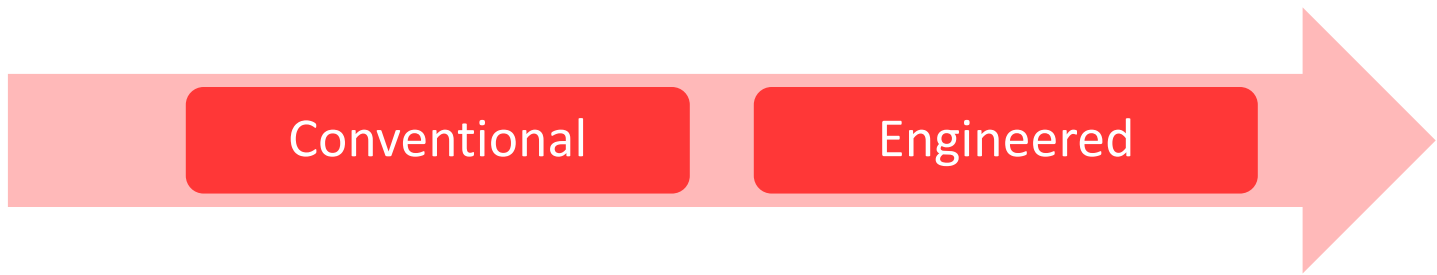
## **Cones**

- Single Use for Sale Yarn
- Multiple Use
- EM press bi-conical

## **Cheeses**

- Single Use for Sale Yarn
  - Compressible type
  - Non-compressible type
- Multiple Use

# *Single Use Dye Cheeses*

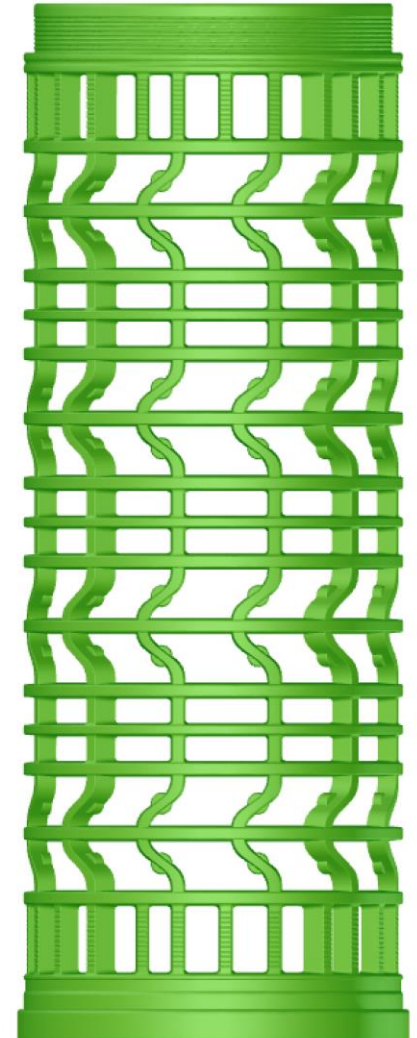
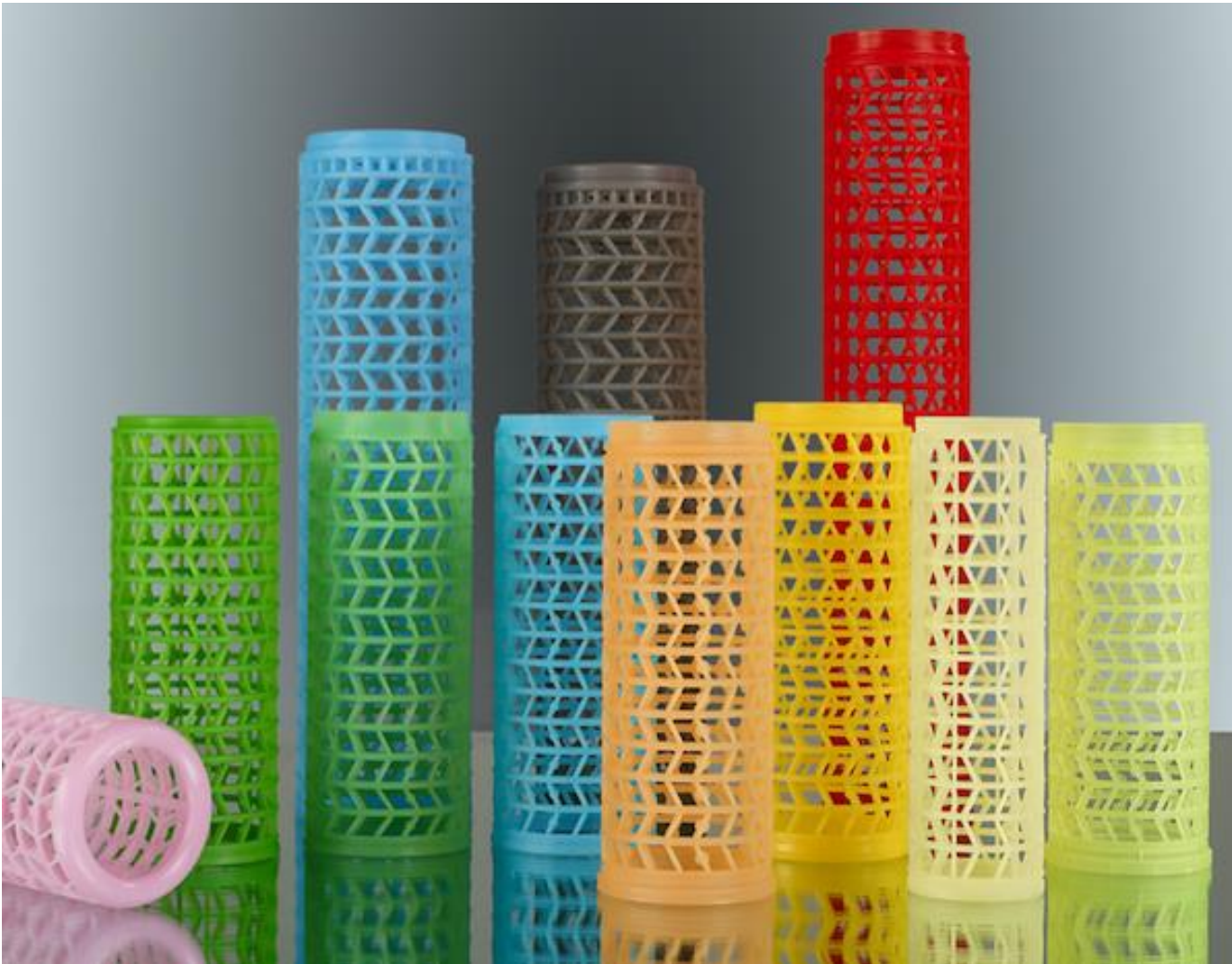


- PP

- *HCPP*
- *M01*
- *M78*
- *M1XX*

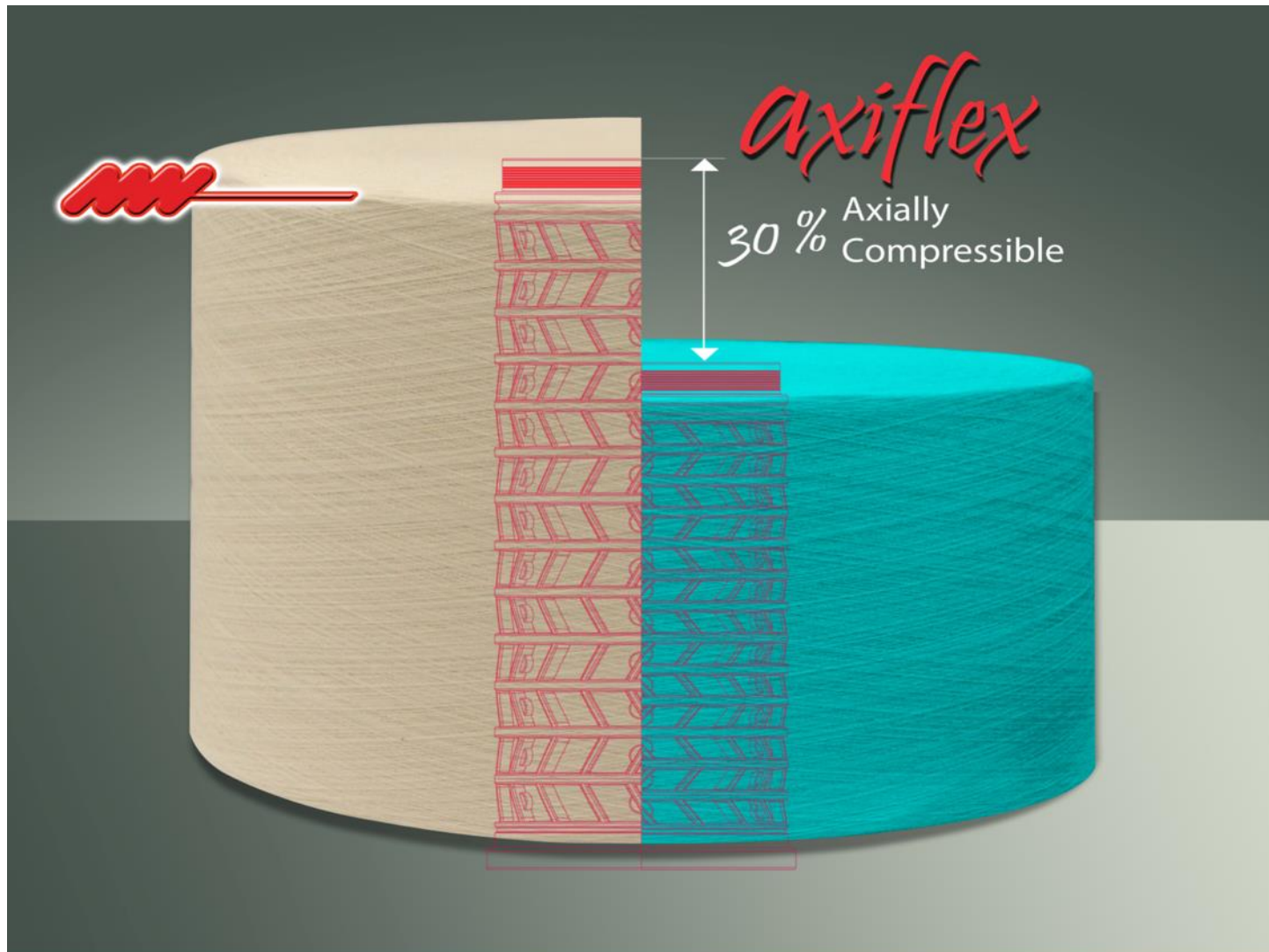
# *Compressible Cheeses*

(for Dyeing)



# Compressible Cheeses

(for Dyeing)





# Compressible Cheeses

(for Dyeing)

## New Vertiflex Cheese

20% Unswerving Axial Compression

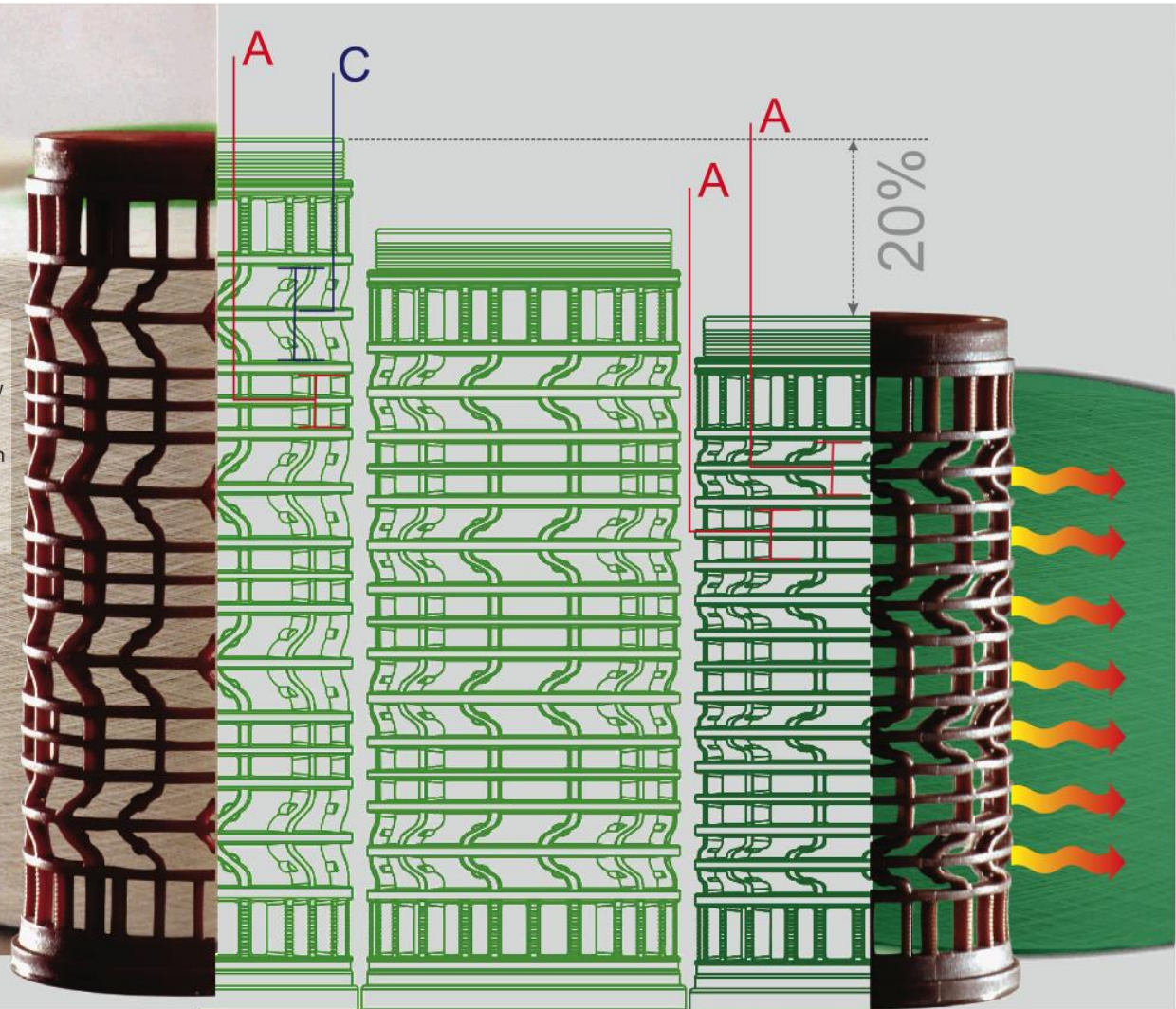
Designed to compress without 'snaking' skew

Compression Zones 'C' equals  
Non compression zones 'A' post-compression

: Even Dye Liquor flow & Density Gradient  
across the column



[www.mokshabobbins.com](http://www.mokshabobbins.com)



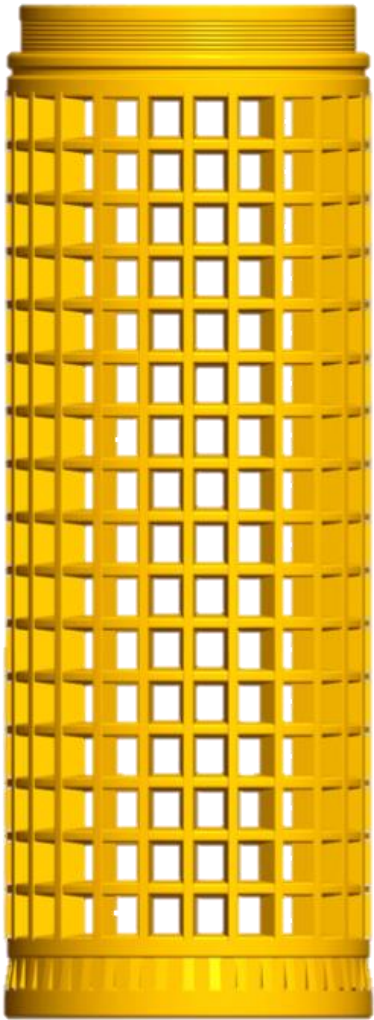
# *Single Use Rigid Cheeses*

(for Dyeing)

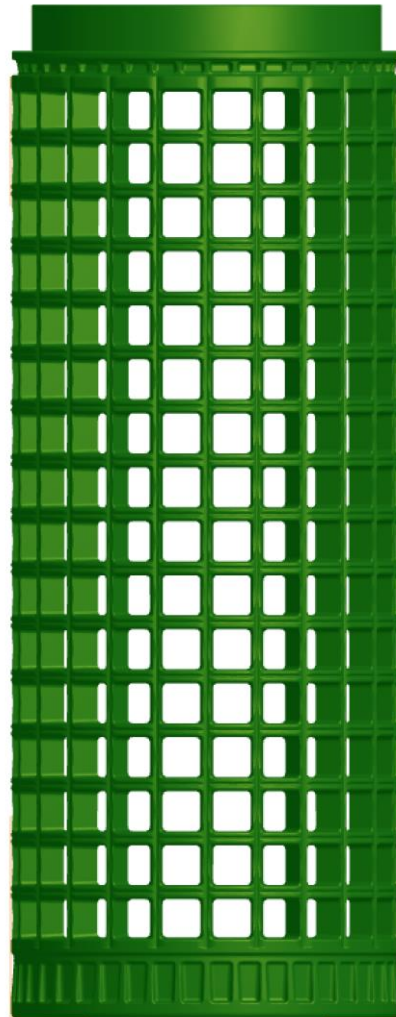


# *Single Use Rigid Cheeses*

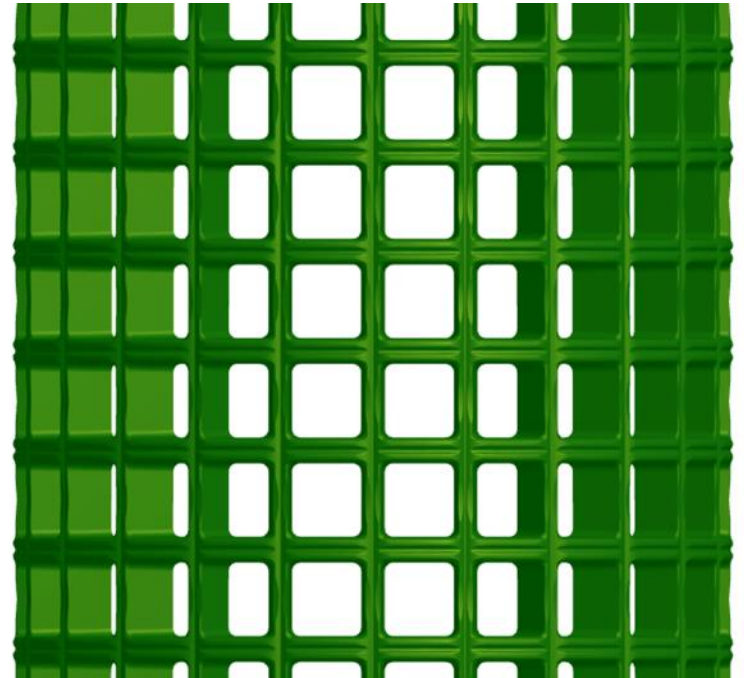
(for Dyeing)



Old Design



New Design



- 1) Radiused Corners increase strength.
- 2) Horizontal and Vertical Ridges to channel dye flow under the last layer.
- 3) Contoured surface minimalizes contact area with the yarn.

# ***Cones for Conditioning/Dyeing***

(for Sale Yarn)

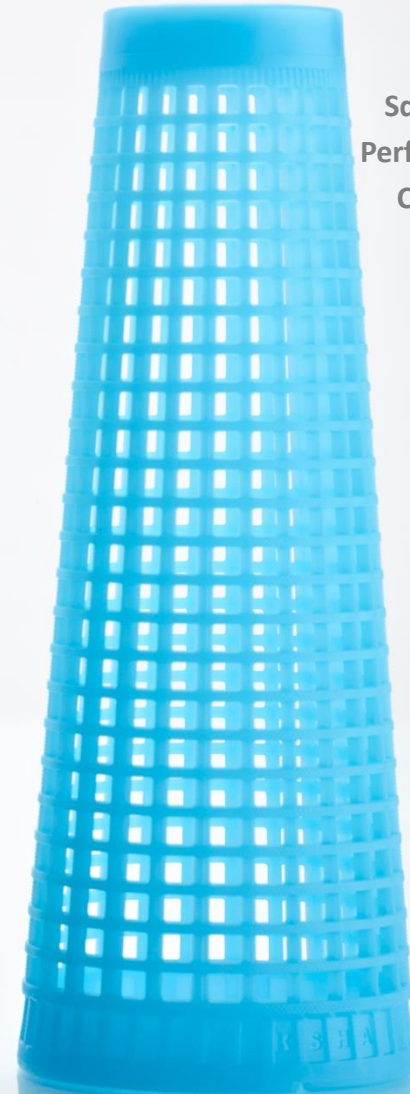
Hole  
Perforated  
Cone



Tuff  
Cone



Square  
Perforated  
Cone



# *Multiple Use Dye Cheeses*



Higher Density Package with same OD Possible.

Yarn Layers are not disturbed - better un-winding performance.

Moksha Canal Design Cheeses - No 'Peel - off' waste from Bottom layers.

Better Dyeing quality from Direct Even density wound package.

Stackable One way Dye packages

(No need for spacers, Faster Creeling)

# Multiple Use Dye Cheeses

Ancient

- S.S. Spring
- Steel Perforated

Conventional

- PPGF

Engineered

- *HDPP with nanofillers (M7X series)*
- *M4X*
- *M14X*
- *... coming soon*

Temperature Range:

M71 upto 100°C

M72 upto 120°C

M74 upto 140°C

M14X & M49 upto 140°C  
(for Polyester)

# *Multiple Use Cheeses*



# *Meet the Team*



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***Thank You***