

# Technical Tuesdays

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## Spirality in Knitted Fabrics - causes and prevention

### What is spirality?

- ✓ Change in skewness in knitted fabrics or twist in garments when subjected to repeated automatic laundering procedures commonly used in the home
- ✓ spirality is a very common inherent problem in plain knitted fabrics.
- ✓ Spirality occurs in fabric because of asymmetric loops.
- ✓ Spirality affects the aesthetic and functional performance.

### Factors Influencing Spirality

- Yarn Properties
- Fabric Properties
- Machine Parameters

### Influence Of Yarn Properties

#### Count

Finer the yarn the more will be spirality

#### Twist

Twist increases ;Spirality increases

#### Spinning Method

Ring Spun and Friction spun yarns produces more spirality,  
Rotor spun and Air Jet yarns produces less spirality

#### Blended fibres

50/50 Cotton/Polyester less spirality.

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## Influence Of Fabric Properties

### Fabric Stitch Length

Increase in length of Loop increases the spirality.

### Fabric Structure

- Single jersey have more spirality due to Non-arrest of Loops.
- Interlock and Rib having balanced structure create less spirality.

### Fabric Tightness

- Slack Fabric gives higher spirality.
- Increase in fabric tightness will decrease the spirality.

## Influence Of Machine Parameters

### Number Of Feeders

- Increase in no of feeders increases spirality (more course inclination)

### Direction Of Machine Rotation

- Clockwise rotating m/c will give more spirality (S-twist).

### Gauge

- Smaller the gauge lesser is the spirality.

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## General Measures for better prevention

### Compacting

-Compacting reduces the length and width of the fabric intern reduces the spirality.

### Resin Treatment

-Cross-linking the fibre by means of inter fibre bonding reduces spirality.

### Heat Setting

-Steam or Hot water setting reduces the problem of spirality.

### Mercerisation

-Mercerization helps reducing the spirality to a greater extent.

“Have a Happy Week Ahead”

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