Troubleshooting & Performance Guide

Durafil Heat Soluble Yarn

150 Denier | Approx. 70°C Melting Point | Natural Colour

1. Purpose

This guide helps users optimise processing performance, temporary separation function, and final heat removal results when using Durafil Heat Soluble Yarn.

The product is designed as a temporary functional yarn for knitting, weaving, hosiery, and technical textile applications where sections are temporarily joined, spaced, supported, or separated during manufacture and later released through controlled heat.

Because final performance depends on yarn handling, construction design, heat conditions, and operator discipline, controlled trials are strongly recommended before bulk production.

2. Common Performance Issues and Corrective Actions

Issue	Likely Cause	Corrective Action
Yarn breaks during knitting / weaving	Excess tension, friction, or rough guides	Reduce tension, improve yarn path, clean guides

Uneven temporary joining	Variable yarn feed or poor placement	Review construction design and machine settings
Yarn remains after heating	Insufficient temperature or dwell time	Increase heat exposure gradually
Partial separation	Uneven heat distribution	Improve contact or airflow consistency
Slow melting / removal	Dense structure or excess yarn quantity	Review design and increase heat efficiency
Surrounding fabric damaged	Excessive heat	Reduce temperature and retest
Distortion after separation	Weak structure after removable yarn loss	Review base construction support
Package running problems	Poor package build or damaged cone	Replace package and review handling

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3. Yarn Running Performance Guidance

Best practice:

- Maintain stable running tension.
- Avoid excessive friction points.
- Use clean yarn guides and feeders.
- Confirm package unwind quality.

- Check startup performance before bulk production.
- Monitor break frequency during runs.

The yarn is a specialty temporary process yarn, not a general-purpose permanent yarn.

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4. Temporary Function Performance

For best results:

- Use yarn only in designed separation or support zones.
- Balance temporary hold with ease of later removal.
- Avoid unnecessary multiple ends if one end is sufficient.
- Confirm structure remains stable after yarn removal.

The yarn should assist production, not create unnecessary removal burden.

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5. Heat Removal Performance Guidance

Separation performance depends on:

- Temperature achieved in yarn zone
- Exposure time
- Air / steam flow
- Number of yarn ends used
- Fabric density
- Accessibility of yarn path

Small controlled adjustments are preferred over large uncontrolled changes.

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6. Material Compatibility Considerations

Always trial first on:

- Heat-sensitive synthetic fabrics
- Fine hosiery structures
- Dense knitted constructions
- Delicate fibres
- Coated or laminated textiles
- Multilayer engineered products

Different materials transfer heat differently.

7. Productivity Risks

Common avoidable losses:

- Manual separation rework
- Incomplete removal requiring second pass
- Damaged goods from overheating
- Excess yarn consumption
- Machine downtime from breakage
- Delays caused by poor settings

Approved standard conditions help reduce these risks.

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8. Process Discipline Checklist

Before bulk production:

- Confirm package quality
- Confirm approved construction design
- Trial production run completed
- Trial heat removal completed
- Final appearance approved
- Structural integrity approved after removal

- Standard settings recorded

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9. Performance Optimisation Principles

For highest consistency:

- Use only required yarn quantity
- Keep machine settings stable
- Train operators
- Inspect first production pieces
- Record successful conditions by article type
- Review outcomes regularly

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10. Important Note

Final performance depends on construction design, material type, heat method, machine settings, operator discipline, and process control.

Users are responsible for testing, process adjustment, and validation before production.

11. Contact for Technical Support

For technical queries:

Email: info@durafil-group.com