

Spool Lengths of Tubing Notes – Tech Information

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Overview

Although ordering a single 1,000-meter **spool of polymeric lab tubing** may seem convenient, producing extremely long, uninterrupted sections introduces manufacturing challenges and significant product-quality risks. Tubing extrusion requires strict dimensional consistency, and any deviation forces large sections to be discarded.

Spooling long continuous runs also places excessive strain on the tubing, creating deformation risks that compromise performance in precision chromatography systems.

Why 1,000-Meter Spools Aren't Available

1. High Scrap Risk During Production

Tubing dimensions are monitored continuously during extrusion. If an out-of-spec deviation appears after hundreds of meters—such as at the 800-meter mark—the entire preceding length must be discarded, representing substantial material loss and cost.

2. Mechanical Stress During Winding

Attempting to spool a 1,000-meter uninterrupted length subjects the tubing to:

- Excessive tension
- Compression stress
- Risk of stretching, flattening, or kinking

These effects can compromise internal diameter consistency, flow characteristics, and overall tubing integrity.

3. Unmanageable Spool Size

A spool large enough to hold 1,000 meters of tubing becomes:

- Physically unwieldy
- Difficult to store
- Challenging to ship
- More prone to deformation during long-term storage

The combined weight and diameter make such spools impractical for laboratory environments.

Why MICROSOLV Caps Spool Lengths at 300 Meters

To preserve dimensional accuracy and protect tubing performance, MICROSOLV limits standard spool lengths to 300 meters. This length strikes the balance between efficient supply and safe, high-quality handling without risking deformation or manufacturing waste.

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