

Ferrule Selection Guidance - HPLC Primer

Date: 25-FEBRUARY-2024 Last Updated: 28-FEBRUARY-2026

Overview

This article explains proper ferrule material selection when assembling fittings for chromatography systems. The ferrule must be softer than both the nut and the tubing so it can deform (“swage”) securely around the tubing when tightened. This ensures a leak-free, stable connection without damaging the tubing. Selecting the correct ferrule is critical for reliable HPLC and related applications, particularly when working with polymer materials.

A specific rule applies to PEEK tubing: only PEEK ferrules should be used to prevent damage and ensure chemical and mechanical compatibility.

When assembling fittings that include a nut, tubing, and ferrule, the ferrule should always be made from the softest material in the system. This allows the ferrule to properly swage onto the tubing, hold it securely in place, and form correctly under compression from the nut.

For polymer-based applications, an important compatibility rule must be followed:

Always use PEEK ferrules when working with PEEK tubing.

This prevents deformation or damage to the tubing and ensures a reliable, leak-free seal.

More information about PEEK tubing is available [HERE](#).