Sample Tube Quality

Why use QUALITY NMR sample tubes?

THE QUALITY….

"Collecting the highest quality data in the least amount of time." It's fundamentally paramount and yet often overlooked. New Era creates sample tubes that produce consistent, high quality results to reveal all the data your spectrometer is capable of delivering. New Era quality gives accurate, reproducible answers for increased experimental efficiency and a boost in your productivity.

THE CONTRAST….

A poor quality tube* precesses within the magnetic field presenting an inhomogeneous, unstable sample to your NMR probe.

THE CONSEQUENCES with poor quality tubes

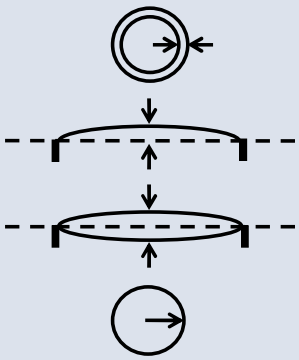
- Shimming will be time consuming, if not impossible.
- Time averaged data collection will be inefficient, resulting in lost sensitivity and productivity.
- Line broadening may obscure important minor spectral components.
- Early time points in kinetic studies may be missed with loss of meaningful peaks.
- Spinning side bands may produce spectral artifacts leading to wrong conclusions.
- Delayed research and missed instrument time slots.
- Poor spinning can cause costly damage to probe and solenoids.
- Possible loss of valuable samples.

NEW ERA NMR SAMPLE TUBES… give you high quality and consistent results.

*A poor quality tube is one that has poor camber, concentricity and/or roundness.

IMPORTANT SPECIFICATIONS

The following specifications are very important parameters to consider when choosing the best tube to use for your application. Generally, the higher the field, the better the dimensional uniformity needed. Following is a brief explanation of what these specifications represent.



CONCENTRICITY

The maximum variation in wall thickness, which represents how centered the I.D. is to the O.D.

CAMBER

Deviation from the theoretical axis of the tube, which represents the amount of bow in the tube.

CAMBER TIR

The Total Indicator Reading or runout from the theoretical axis. Both notations are used in this catalog. They may represent the same absolute straightness, i.e.: camber 0.0005"=camber TIR 0.001".

ROUNDNESS

Symmetry around the theoretical axis of the tube.

PRESSURE / VOLUME DATA

This information is presented for reference only. It is not a guarantee of performance, which will be dependent upon your applications and handling. **Static testing** is highly recommended before actual experiments are performed. The calculation for pressure includes a safety factor of four. Volume data is approximate.

Sample Tube	Wall Thickness	Pressure	Volume at Sample Height 50mm	60mm
5mm O.D. 5mm O.D. 5mm O.D.	0.38mm 0.77mm 1.4mm	154 psi 307 psi 565 psi	0.67ml 0.50ml 0.19ml	0.83ml 0.56ml 0.23ml
10mm O.D. 10mm O.D. 10mm O.D.	0.46mm 1.00mm 1.7mm	94 psi 203 psi 340 psi	3.30ml 2.50ml 1.7ml	4.00ml 3.00ml 2.0ml