

## *Wilmad – Your One Stop NMR Shop*

100% Inspected Precision Tools  
Because Nothing is More  
Important Than Your Results



## Wilmad 5mm OD Thin Walled Economy NMR Tubes

Designed for routine use in modern NMR spectrometers, Wilmad Economy NMR Tubes are guaranteed to fit 100% in any spinner turbine and yield zero NMR background.

- Best OD tolerance in the industry; 30% thicker wall than competitive products
- 100% visual and physical inspection ensures quality, including dimensions and surface defects
- For experiments with small organic molecules (Molecular Weight ~500) at ambient temperatures only



VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
82005-344	WG-1206-7	100	7"	4.947 ±0.019	51	50	4.1	0.43
82005-346	WG-1206-8	100	8"	4.947 ±0.019	51	50	4.1	0.43
82005-336	WG-1226-7	300	7"	4.947 ±0.019	51	13	4.1	0.43
82005-338	WG-1226-8	300	8"	4.947 ±0.019	51	13	4.1	0.43
82005-332	WG-1228-7	400	7"	4.947 ±0.019	13	13	4.1	0.43
82005-334	WG-1228-8	400	8"	4.947 ±0.019	13	13	4.1	0.43
82005-328	WG-1235-7	500	7"	4.947 ±0.019	6	6	4.1	0.43
82005-330	WG-1235-8	500	8"	4.947 ±0.019	6	6	4.1	0.43
82005-324	WG-1241-7	600	7"	4.947 ±0.019	3.8	3.8	4.1	0.43
82005-326	WG-1241-8	600	8"	4.947 ±0.019	3.8	3.8	4.1	0.43
82005-320	WG-1242-7	700	7"	4.947 ±0.019	2.5	3.8	4.1	0.43
82005-322	WG-1242-8	700	8"	4.947 ±0.019	2.5	3.8	4.1	0.43
82005-340	WG-1208-7	200	7"	4.947 ±0.019	51	25	4.1	0.43
82005-342	WG-1208-8	200	8"	4.947 ±0.019	51	25	4.1	0.43

## Wilmad Thin Walled High Throughput NMR Tubes

Wilmad Thin Walled High Throughput NMR Tubes have an average camber of 60 microns to guarantee the SNR of the spectrum for small molecule (MW<250) samples up to 600 MHz.

- Best OD tolerances in the industry
- Guaranteed to fit tightly in the spinner turbine
- Designed for routine use in most low to mid field NMR spectrometers



VWR Catalog Number	Supplier No.	MHz RATING	O.D. (mm)	LENGTH (mm)	WALL THICKNESS (mm)	CAMBER (μm)
14219-032	WG-1000-7	High-Throughput	4.94665 ± 0.01905	178	0.43	60
89041-318	WG-1000-8	High-Throughput	4.94665 ± 0.01905	203	0.43	60

## Precision NMR Tubes

To maximize SNR, Precision NMR Tubes have minimal paramagnetic impurities that would impact shimming. Tight ID and OD tolerance as small as 0.0065mm accommodates Wilmad inserts.



Precision

- 10% more filling factor than economy tubes
- For temperatures up to 230°C, and within a temperature step of 120°C
- Ideal for experiments requiring critical shimming quality (high/ultrahigh field, non-spinning, multi-dimensional, multi-nuclei, DNP experiments and studies involving biological samples)

## Wilmad 3mm OD Thin Walled Precision NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14218-630	305-PS-7	200	7"	2.9935±0.0065	76	51	2.413±0.13	0.29
14218-632	305-PS-8	200	8"	2.9935±0.0065	76	51	2.413±0.13	0.29
14218-634	305-PS-9	200	9"	2.9935±0.0065	76	51	2.413±0.13	0.29
13501-544	307-PP-7	300	7"	2.9935±0.0065	51	25	2.4195±0.0065	0.29
13501-546	307-PP-8	300	8"	2.9935±0.0065	51	25	2.4195±0.0065	0.29
14218-640	307-PP-9	300	9"	2.9935±0.0065	51	25	2.4195±0.0065	0.29
13501-540	327-PP-7	400	7"	2.9935±0.0065	25	25	2.4195±0.0065	0.29
13501-542	327-PP-8	400	8"	2.9935±0.0065	25	25	2.4195±0.0065	0.29
14218-652	327-PP-9	400	9"	2.9935±0.0065	25	25	2.4195±0.0065	0.29
13501-536	328-PP-7	500	7"	2.9935±0.0065	25	13	2.4195±0.0065	0.29
14218-658	328-PP-9	500	9"	2.9935±0.0065	25	13	2.4195±0.0065	0.29
13501-532	335-PP-7	600	7"	2.9935±0.0065	13	6	2.4195±0.0065	0.29
13501-534	335-PP-8	600	8"	2.9935±0.0065	13	6	2.4195±0.0065	0.29
14218-664	335-PP-9	600	9"	2.9935±0.0065	13	6	2.4195±0.0065	0.29

## Wilmad 4mm OD Thin Walled Precision NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14218-668	405-PS-7	100	7"	3.9835±0.0065	152	51	3.2	0.4
14218-670	405-PS-8	100	8"	3.9835±0.0065	152	51	3.2	0.4
14218-672	405-PS-9	100	9"	3.9835±0.0065	152	51	3.2	0.4
14218-676	406-PP-7	300	7"	3.9835±0.0065	76	51	3.240±0.013	0.38
14218-678	406-PP-8	300	8"	3.9835±0.0065	76	51	3.240±0.013	0.38
14218-682	427-PP-7	400	7"	3.9835±0.0065	25	25	3.240±0.013	0.38
14218-684	427-PP-8	400	8"	3.9835±0.0065	25	25	3.240±0.013	0.38
14218-686	427-PP-9	400	9"	3.9835±0.0065	25	25	3.240±0.013	0.38

## Wilmad 5mm OD Ultra-Thin Walled Precision NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14218-988	537-PPT-7	300	7"	4.9635±0.0065	51	25	4.4965±0.0065	0.24
14218-990	537-PPT-8	300	8"	4.9635±0.0065	51	25	4.4965±0.0065	0.24
14218-992	537-PPT-9	300	9"	4.9635±0.0065	51	25	4.4965±0.0065	0.24
14218-994	540-PPT-7	400	7"	4.9635±0.0065	25	13	4.4965±0.0065	0.24
14218-996	540-PPT-8	400	8"	4.9635±0.0065	25	13	4.4965±0.0065	0.24
14218-998	540-PPT-9	400	9"	4.9635±0.0065	25	13	4.4965±0.0065	0.24
14219-008	545-PPT-7	600	7"	4.9635±0.0065	13	6	4.4965±0.0065	0.24
14219-010	545-PPT-8	600	8"	4.9635±0.0065	13	6	4.4965±0.0065	0.24
14219-012	545-PPT-9	600	9"	4.9635±0.0065	13	6	4.4965±0.0065	0.24

## Wilmad 5mm OD Thin Walled Precision NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
13501-524	505-PS-7	100	7"	4.9635±0.0065	76	51	4.21±0.13	0.38
13501-526	505-PS-8	100	8"	4.9635±0.0065	76	51	4.21±0.13	0.38
14218-716	505-PS-9	100	9"	4.9635±0.0065	76	51	4.21±0.13	0.38
13501-520	506-PP-7	200	7"	4.9635±0.0065	51	51	4.2065±0.0065	0.38
13501-522	506-PP-8	200	8"	4.9635±0.0065	51	51	4.2065±0.0065	0.38
14218-726	506-PP-9	200	9"	4.9635±0.0065	51	51	4.2065±0.0065	0.38
13501-516	507-PP-7	300	7"	4.9635±0.0065	51	25	4.2065±0.0065	0.38
13501-518	507-PP-8	300	8"	4.9635±0.0065	51	25	4.2065±0.0065	0.38
14218-740	507-PP-9	300	9"	4.9635±0.0065	51	25	4.2065±0.0065	0.38
13501-512	526-PP-7	350	7"	4.9635±0.0065	51	13	4.2065±0.0065	0.38
14218-956	526-PP-9	350	9"	4.9635±0.0065	51	13	4.2065±0.0065	0.38
13501-508	527-PP-7	400	7"	4.9635±0.0065	25	25	4.2065±0.0065	0.38
13501-510	527-PP-8	400	8"	4.9635±0.0065	25	25	4.2065±0.0065	0.38
14218-962	527-PP-9	400	9"	4.9635±0.0065	25	25	4.2065±0.0065	0.38
13501-504	528-PP-7	500	7"	4.9635±0.0065	25	13	4.2065±0.0065	0.38
13501-506	528-PP-8	500	8"	4.9635±0.0065	25	13	4.2065±0.0065	0.38
14218-976	528-PP-9	500	9"	4.9635±0.0065	25	13	4.2065±0.0065	0.38
13501-500	535-PP-7	600	7"	4.9635±0.0065	13	6	4.2065±0.0065	0.38
13501-502	535-PP-8	600	8"	4.9635±0.0065	13	6	4.2065±0.0065	0.38
14218-986	535-PP-9	600	9"	4.9635±0.0065	13	6	4.2065±0.0065	0.38
14219-000	541-PP-7	800	7"	4.9635±0.0065	3.8	3.8	4.2065±0.0065	0.38
14219-002	541-PP-8	800	8"	4.9635±0.0065	3.8	3.8	4.2065±0.0065	0.38
14219-004	542-PP-7	1000	7"	4.9635±0.0065	3.8	3.8	4.2065±0.0065	0.38
14219-006	542-PP-8	1000	8"	4.9635±0.0065	3.8	3.8	4.2065±0.0065	0.38

## Wilmad 5mm OD Medium Walled Precision NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14218-700	503-PS-7	100	7"	4.9635±0.0065	76	51	3.43±0.13	0.77
14218-702	503-PS-8	100	8"	4.9635±0.0065	76	51	3.43±0.13	0.77
14218-704	503-PS-9	100	9"	4.9635±0.0065	76	51	3.43±0.13	0.77
14218-706	504-PP-7	300	7"	4.9635±0.0065	152	51	3.43±0.13	0.77
14218-708	504-PP-8	300	8"	4.9635±0.0065	152	51	3.43±0.13	0.77
14218-710	504-PP-9	300	9"	4.9635±0.0065	152	51	3.43±0.13	0.77
14218-946	524-PP-7	400	7"	4.9635±0.0065	76	51	3.43±0.13	0.77
14218-948	524-PP-8	400	8"	4.9635±0.0065	76	51	3.43±0.13	0.77
14218-950	524-PP-9	400	9"	4.9635±0.0065	76	51	3.43±0.13	0.77

## Wilmad 5mm OD Heavy Walled Precision NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14218-688	501-PS-7	100	7"	4.9635±0.0065	152	51	2.16±0.13	1.4
14218-690	501-PS-8	100	8"	4.9635±0.0065	152	51	2.16±0.13	1.4
14218-692	501-PS-9	100	9"	4.9635±0.0065	152	51	2.16±0.13	1.4
14218-694	502-PP-7	300	7"	4.9635±0.0065	152	51	2.160±0.013	1.4
14218-696	502-PP-8	300	8"	4.9635±0.0065	152	51	2.160±0.013	1.4
14218-698	502-PP-9	300	9"	4.9635±0.0065	152	51	2.160±0.013	1.4
14218-940	522-PP-7	500	7"	4.9635±0.0065	51	51	2.160±0.013	1.4
14218-942	522-PP-8	500	8"	4.9635±0.0065	51	51	2.160±0.013	1.4
14218-944	522-PP-9	500	9"	4.9635±0.0065	51	51	2.160±0.013	1.4

## Wilmad 6.5mm OD Thin Walled Precision NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14219-026	6.5-PP-7	400	7"	6.5135±0.0065	51	13	5.7±0.013	0.41
14219-028	6.5-PP-8	400	8"	6.5135±0.0065	51	13	5.7±0.013	0.41
14219-030	6.5-PP-9	400	9"	6.5135±0.0065	51	13	5.7±0.013	0.41

## Wilmad 7.5mm OD Thin Walled Precision NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14218-846	513B-1PP-7	100	7"	7.4835±0.0065	254	51	6.480±0.013	0.51
14218-848	513B-1PP-8	100	8"	7.4835±0.0065	254	51	6.480±0.013	0.51
14218-850	513B-1PP-9	100	9"	7.4835±0.0065	254	51	6.480±0.013	0.51
14218-852	513B-3PP-7	300	7"	7.4835±0.0065	76	38	6.480±0.013	0.51
14218-854	513B-3PP-8	300	8"	7.4835±0.0065	76	38	6.480±0.013	0.51
14218-860	513B-7PP-7	400	7"	7.4835±0.0065	38	13	6.480±0.013	0.51
14218-862	513B-7PP-8	400	8"	7.4835±0.0065	38	13	6.480±0.013	0.51
14218-864	513B-7PP-9	400	9"	7.4835±0.0065	38	13	6.480±0.013	0.51

## Wilmad 10mm OD Thin Walled Precision NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14218-752	513-1PP-7	200	7"	9.9935±0.0065	254	51	9.070±0.013	0.46
14218-754	513-1PP-8	200	8"	9.9935±0.0065	254	51	9.070±0.013	0.46
14218-756	513-1PP-9	200	9"	9.9935±0.0065	254	51	9.070±0.013	0.46
14218-758	513-1PS-7	100	7"	9.9935±0.0065	254	51	8.90±0.13	0.55
14218-760	513-1PS-8	100	8"	9.9935±0.0065	254	51	8.90±0.13	0.55
14218-762	513-1PS-9	100	9"	9.9935±0.0065	254	51	8.90±0.13	0.55
14218-768	513-3PP-8	300	8"	9.9935±0.0065	76	38	9.070±0.013	0.46
14218-770	513-3PP-9	300	9"	9.9935±0.0065	76	38	9.070±0.013	0.46
13501-548	513-7PP-7	500	7"	9.9935±0.0065	38	13	9.070±0.013	0.46
14218-784	513-7PP-8	500	8"	9.9935±0.0065	38	13	9.070±0.013	0.46
14218-790	513-7PP-9	500	9"	9.9935±0.0065	38	13	9.070±0.013	0.46

## WilmaD 10mm OD Medium Walled Precision NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14218-800	513-7PPM-7	200	7"	9.9935±0.0065	38	13	8.160±0.013	0.92
14218-802	513-7PPM-8	200	8"	9.9935±0.0065	38	13	8.160±0.013	0.92
14218-804	513-7PPM-9	200	9"	9.9935±0.0065	38	13	8.160±0.013	0.92

## WilmaD 10mm OD Heavy Walled Precision NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14218-794	513-7PPH-7	450	7"	9.9935±0.0065	51	13	7.100±0.013	1.45
14218-796	513-7PPH-8	450	8"	9.9935±0.0065	51	13	7.100±0.013	1.45
14218-798	513-7PPH-9	450	9"	9.9935±0.0065	51	13	7.100±0.013	1.45

## Precision Quartz NMR Tubes

WilmaD Precision NMR Quartz Tubes have an extremely low thermal expansion rate and high tensile strength which is 14 times more robust during the cooling/heating process than precision glass tubes.

- To maximize SNR, these pure Quartz tubes have minimal paramagnetic impurities that would impact shimming
- Ideal for variable temperature experiments that have a temperature step over 120°C as well as experiments at temperatures up to 1300°C
- 100% inspection with multiple NIST traceable gauges and optical surface defect checks



## WilmaD 5mm OD Thin Walled Quartz NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14218-730	507-PP-7QTZ	300	7"	4.936±0.0065	51	25	4.2065±0.0065	0.38
14218-736	507-PP-8QTZ	300	8"	4.936±0.0065	51	25	4.2065±0.0065	0.38
14218-742	507-PP-9QTZ	300	9"	4.936±0.0065	51	25	4.2065±0.0065	0.38
14218-966	528-PP-7QTZ	500	7"	4.936±0.0065	25	13	4.2065±0.0065	0.38
14218-972	528-PP-8QTZ	500	8"	4.936±0.0065	25	13	4.2065±0.0065	0.38
14218-978	528-PP-9QTZ	500	9"	4.936±0.0065	25	13	4.2065±0.0065	0.38
14218-982	535-PP-7QTZ	600	7"	4.936±0.0065	13	6	4.2065±0.0065	0.38

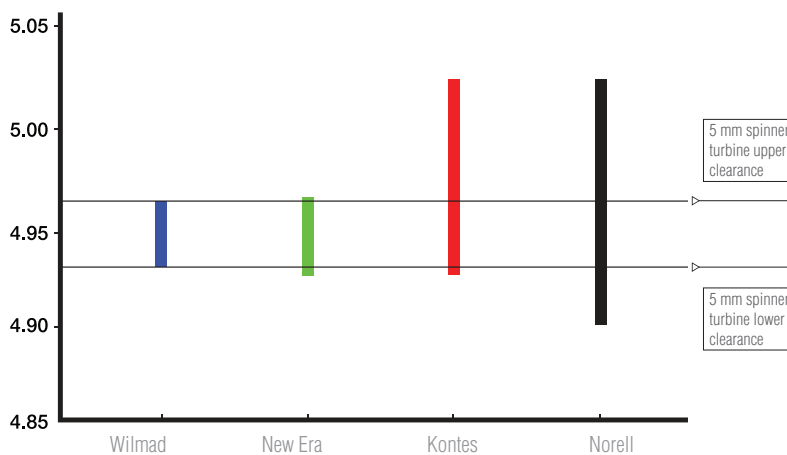
## WilmaD 10mm OD Thin Walled Quartz NMR Tubes

VWR Catalog Number	Supplier No.	MHz RATING	LENGTH	O.D. (mm)	CONCENTRICITY (μm)	CAMBER (μm)	I.D. (mm)	WALL THICKNESS (mm)
14218-780	513-7PP-7QTZ	400	7"	9.9935±0.0065	38	13	9.070±0.013	0.46
14218-786	513-7PP-8QTZ	400	8"	9.9935±0.0065	38	13	9.070±0.013	0.46
14218-792	513-7PP-9QTZ	400	9"	9.9935±0.0065	38	13	9.070±0.013	0.46

# Why Wilmad NMR Tubes?

- ISO 9001:2008 certified manufacturer
- Precision tube features unparalleled quality to maximize SNR
- Economy tube has best compatibility with all NMR instruments
- 100% tested for spinner fitting
- 100% inspected for surface defects
- Inventor of the first NMR tube
- Standard-setter for NMR tube MHz frequency rating
- 60 years of experience in serving NMR community
- Most comprehensive offering with over 1000 NMR products

5 mm Economy Tube O.D. Comparison

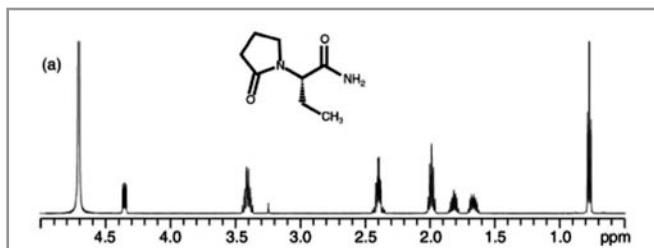


## Levetiracetam

<sup>13</sup>C, 16 scans, 600MHz

5 mm 600 MHz Economy

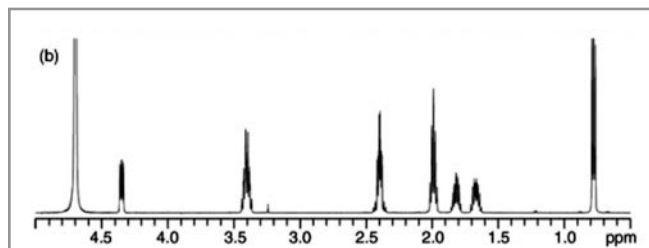
WG-1241-7



VS.

5 mm 600 MHz Precision

535-PP-7

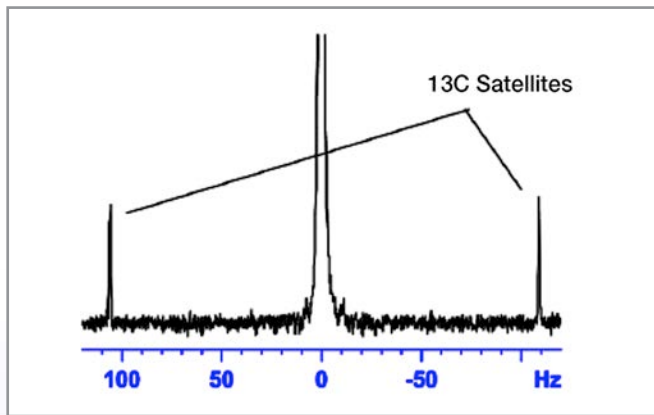


## TMS

<sup>1</sup>H, 16 scans, 600MHz

5 mm 600 MHz Economy

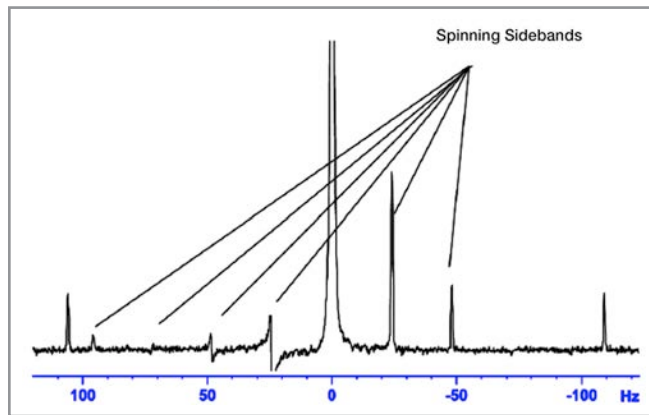
WG-1241-7



VS.

5 mm High Throughput

High Throughput tube with selected max 12 micron camber



## Wilmad-LabGlass at a Glance

With over 60 years of experience in development, engineering and manufacturing, Wilmad-LabGlass is a leading supplier of NMR and EPR consumables and laboratory glassware for academia, industry and healthcare. Our innovative laboratory solutions are manufactured using state of the art processing and inspection equipment, providing you with the highest quality and tolerances available. 7000+ standard items as well as custom fabrication capabilities and technical expertise make us a valuable member of your team for years to come.

- **ISO 9001:2008 Registered**
- **Class A Calibrated Lab Glassware**
- **Broadest Line of NMR Products in the Industry**
- **Precision Engineered Glass**
- **OEM Quartz Components and assemblies**
- **Custom Glass Fabrication**
- **Glass Repair Services Maximize Life of Precious Laboratory Tools**

# Wilmad-LabGlass

## NMR Sample Tubes

### Economy

- Best OD tolerance in the industry; 30% thicker wall than competitive products
- 100% visual and physical inspection ensures quality, including dimensions and surface defects
- For experiments with small organic molecules (Molecular Weight, ~500) at ambient temperatures only



### High Throughput

- One of the best OD tolerances in the industry
- Guaranteed to fit tightly in the spinner turbine
- Designed for routine use in most low to mid field NMR spectrometers



### Precision

- For temperatures up to 230°C, and within a temperature step of 120°C
- Ideal for experiments requiring critical shimming quality (high/ultrahigh field, non-spinning, multi-dimensional, multi-nuclei, DNP experiments and studies involving biological samples)



### Precision Quartz

- To maximize SNR, these pure Quartz tubes have minimal paramagnetic impurities that would impact shimming
- Ideal for variable temperature experiments that have a temperature step over 120°C as well as experiments at temperatures up to 1300°C
- 100% inspection with multiple NIST traceable gauges and optical surface defect checks



### Precision Suprasil®

- Transmission rate from 190nm to 2600nm is well over 95% (10mm thickness) excluding reflection
- Similar thermal expansion rate and tensile strength as natural quartz which is 14 times more robust during the cooling/heating process than Type 1 Class A glass
- Safe for experiments at temperatures up to 1300°C



**Manufactured in  
an ISO 9001:2008 USA facility**

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