


How to load a PAC can:

1. Collect cans and lids. Cans are available in nominal diameters of 6, 8 and 10 mm. Lid and gasket selection depend on the experimental conditions, as noted in the table below. Consult your local contact for guidance in selecting the appropriate can and lid combination.

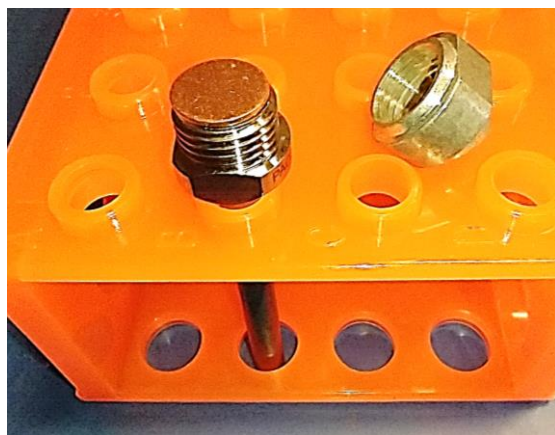
	Lid	Gasket	<300K	<973K	<1473K	<50 Bar	Interface
	Al PAC	solid	X			X	PAC bayonet
	Ti threaded	solid <300K, none >300K	X	X		X	5/16-18 stud
	Ti flow	washer	X	X		X	1/4" swage
	ZSBN ceramic	none		X	X		M8x1.25 stud

2. Cans should be received empty and clean; however, we recommend cleaning cans with alcohol and drying with compressed air.

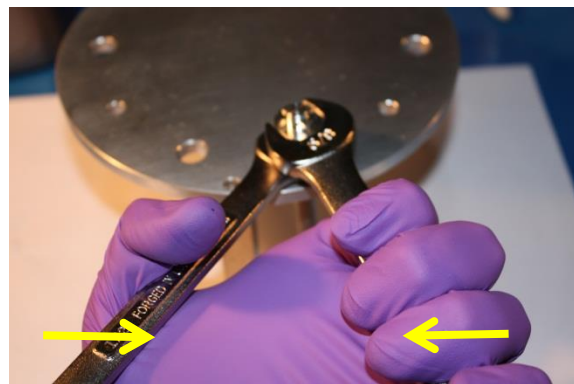
Warning: Handle these vanadium cans carefully. They are easy to bend or otherwise damage.

3. On loading sheet, record the Container ID (PACXX####) and Empty Container Weight (g), including the lid and gasket, if using.
4. Support the can upright. Note: Upside-down funnels, sockets and tube racks can work well as holders.
5. Pour sample powder into can. Note: Funnels that screw onto the cans are available in the user general chemistry lab.
6. Measure Sample Height (in mm) from the bottom of the can and log it on the loading sheet.
7. If using a gasket, place it on top of the can. Make sure to carefully center the gasket. This is necessary for a proper seal to be made. A poorly centered gasket can lead to leaks. For the washer gasket, use a small rod as a centering guide.
8. Thread lid onto the can and hand tighten, enough that the lid will not easily loosen.



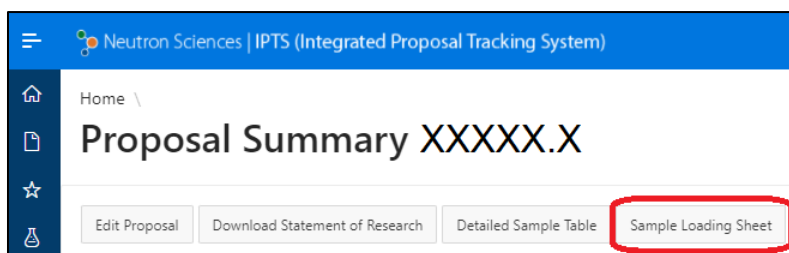


9. If using a gasket, tighten the lid using two wrenches (1/2" for the can collar and 5/8" for the lid).
 - a. Only use wrenches with flats. Using a wrench with teeth will damage the can and may compromise your experiment.
 - b. To seal the cans requires approximately 100 in-lbs / 11 N-m (or for flow lids 200 in-lbs / 23 N-m) of torque.
10. On loading sheet, record the Full Container Weight (g) and calculate the Sample Weight (g).



11. Place each sealed can into a separate bag, labeled with the sample composition, IPTS number and PI name.
 - a. Do not put any tape or stickers directly on the can or lid. Parafilm or similar is okay to use.
 - b. Cans may be sent in vacuum-sealed bags if air-exposure is a concern.

12. For mail-in and remote proposals, once all cans are filled, record the loading information (sample weight and height, etc.) in the online Sample Loading Sheet in IPTS. The online Sample Loading Sheet in IPTS must be filled out before shipping mail-in or remote samples to SNS.



- a. On proposal summary page in IPTS, click the Sample Loading Sheet button.
 - b. Select loading conditions in top box and click the grey Save button.
 - c. Enter all Sample Information in table and click the blue Save button.
 - d. Once the form is complete, click the "Complete: Send form to sample team" button at the bottom.
13. If shipping the samples to SNS, pack them carefully to protect from bending or crushing forces. Refer to <https://neutrons.ornl.gov/users/shipping-guide> for the shipping address and further instructions.
14. For low temperature measurements, cans must be backfilled with Helium to prevent the formation of ice. If you are shipping the samples, the cans will be backfilled once they arrive at SNS. If you are on-site, a backfill station is available in the user general chemistry lab. Contact sample handling staff or your local contact for assistance.