





**Title: Compressed Inert Gas Cylinders for Welding**  
CENTRAL OFFICE USE ONLY

Issue Date: May 2016  
Last Reviewed: May 2016  
Next Review Date: May 2018

**Page Number: 1 of 2**

**DO NOT TRANSPORT, ADJUST OR USE COMPRESSED GAS CYLINDERS OF ANY KIND UNTIL YOU HAVE BEEN TRAINED. THIS COVERS INERT GASSES ONLY!**

<b>Description of Work:</b>		Transporting and replacing compressed inert gas cylinders for welding machines	
		<b>Potential Hazards:</b> <ul style="list-style-type: none"> <li>• Extreme pressure – potential for explosion due to pressure release</li> <li>• Pinch hazard due to heavy cylinders</li> <li>• Suffocation due to high volume of inert gas.</li> </ul>	
<b>Personal Protective Equipment (PPE) Required:</b>			
 Eye Protection	 CSA Approved Footwear	 Protective Clothing if required	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Risk and Hazard prevention:</b>			
<ul style="list-style-type: none"> <li>• Always have cylinder cap in place to protect valve assembly during any kind of transport</li> <li>• Never transport a cylinder without a cap, even empty cylinders have significant potential for pressure</li> <li>• Use only approved cylinder carts to transport cylinders</li> <li>• All cylinders must be chained to remain upright at all times. Never leave any compressed gas cylinder unsupported and/or unattended during transport</li> </ul>			
<b>Safe Work Procedure Checklist:</b>			
<p>1. PRE-Operation:</p> <ul style="list-style-type: none"> <li>▪ Always begin by setting-up your work area safely to avoid the following:             <ul style="list-style-type: none"> <li>○ Trip hazard, uncomfortable working conditions, electrical hazards, crowded work spaces (other students) and other dangerous situations</li> </ul> </li> <li>▪ Scout intended route for obstacles that may inhibit safe transport.</li> <li>▪ Acquire approved cylinder cart from EFS stores TEB 50 while checking availability of replacement cylinder of required gas (TIG= Argon, MIG = CO2/Argon(25/75))</li> <li>▪ Ensure end location has all necessary safety requirements like chains in place</li> </ul>			

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**2. Operation:**

- Close valve on empty cylinder
- Remove regulator and be sure to protect fitting threads and sealing surfaces
- Put safety cap on empty cylinder
- Pull welding machine away from wall and unchain cylinder
- Remove cylinder from welding machine and immediately place in cart with safety strap/chain
- Tip cart onto all wheel and go immediately to get a new cylinder. Avoid bumps and construction zones.
- Ensure new cylinder has a safety cap
- Load new cylinder into cart and transport to lab
- Place new cylinder in welding machine and secure using safety chain
- Check welding machine regulator for damage especially around seat/sealing area. If damaged stop and notify technician. Do not use if damaged.
- Remove cylinder safety cap and inspect valve seat/sealing area. If damaged stop and return cart to EFS Stores and notify stores keeper. Do not use if damaged. Get new cylinder if possible
- Insert regulator into valve and tighten with proper fitting wrench to moderate torque. Do not over-tighten
- Slowly open cylinder valve. Close immediately if there are any signs of leakage
- Once satisfied, test connection with a few drops soapy water

**3. POST-Operation:**

- Return cart to EFS stores
- Dry soapy water from fitting
- Maintain awareness of work area while compressed gas cylinders are in use

**4. Additional Information**

- Full compressed gas cylinders contain up to 2400 PSI.
- Inert Gas Cylinder Valves have standard "*Right Hand Threads*". Only flammable gas cylinder valves use non-standard, "*Left Hand Threads*" (reverse thread)

**Competent Persons** (The following persons are authorised to operate, supervise and test students on the equipment/process).

<b>Name:</b>	<b>Title:</b>	<b>Contact Details:</b>
Chris Vandelaar	Student Shop Manager	CMLP 1301 x 80281
UMS Technicians	UMS Technicians	TEB Rm. 50 x 88836

This SOP does not necessarily cover all possible hazards associated with the machine and should be used in conjunction with other references It is designed to be used as an adjunct to teaching Safety Procedures and to act as a reminder to users prior to machine use

**Date of last review:**

**Signature:**