# **Acetylene FAQs**

## Q. What is acetylene?

Acetylene  $(C_2H_2)$  is a highly flammable gas that is supplied in a claret-coloured cylinder. The cylinder is filled with a porous mass and acetone. The acetylene gas is dissolved in the acetone which is why it is called dissolved acetylene or 'DA'. It is commonly used in welding or cutting applications in conjunction with oxygen. The oxy-acetylene mix produces a flame at around 3100°C and is the hottest flame available.

#### Q. How do I check the contents of an acetylene cylinder?

Attach the regulator to the cylinder and tighten sufficiently to prevent leaks with a spanner. Do not use lubricants or gaskets. Check that the adjusting knobs are backed off on the regulator and then slowly open the cylinder valve. The regulator should show pressure in the cylinder. Too rapid an opening of the cylinder valve could damage the internal components of the regulator.

• While Coregas set a nominal acetylene cylinder pressure, this pressure does not determine the product's full status when viewing the cylinder supply pressure on a cylinder pressure regulator. This is due to outside temperature variations to pressure, and because this product is filled and measured by weight, not pressure.

• Acetylene cylinders should never be opened without a regulator attached, and adjustment knobs backed off. "Cracking" or "Sniffing" a valve open to check contents or to remove a dust cap should never be performed as it is extremely unsafe.

### Q. My cylinder is spitting, how do I fix this?

Spitting occurs when solvent is expelled in liquid form when gas is withdrawn from the cylinder during use. Solvent spitting is not a normal phenomenon. Its main causes may include:

- Excessive withdrawal rate during use.
- Cold ambient temperature.
- Incorrect transportation by lying the cylinder down on its side or at an angle.
- Incorrect regulator set-pressure or not being wound back before opening the cylinder valve.

If all the above causes can be ruled out, please return the cylinder to Coregas for further investigation.

#### Q. What maximum flow rates can be achieved with each size of acetylene cylinder?

The maximum draw-off rate of acetylene cylinders is 1/10th of the net content per hour (intermittent use) and 1/15th of the net content per hour (continuous use). This is to prevent liquid acetone carry-over and is a limitation of acetylene cylinders filled with a porous mass.

Size	Contents (m³)	Max.Flow Rate (L/min) Intermittent	Max.Flow Rate (L/min) Continuous
D	1.0	1.7	1.1
E	3.2	5.3	3.6
G	7.0	11.7	7.8
SG	9.3	15.5	10.3
GT	9.8	16.3	10.9
6-PACK	55.8	93	62

If a flow higher than the maximum flow of your cylinder is desired, a larger cylinder or pack is required. At temperatures below 15°C the maximum flow rate decreases.

#### Q. What gauge pressure should I set my regulator to for an acetylene cylinder?

Cutting nozzles and welding tips supplied into Australia typically recommend acetylene pressure of no more than 100kPa.

#### Q. What ratio of acetylene to oxygen should I be using?

The optimum flame mixing ratio of acetylene to oxygen is 1:1.1 Increasing the oxygen ratio increases the oxidation caused by the gas mixture.





