

Did YOU KNOW

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Question: What is the 1/7 Acetylene Rule?

Answer:

Acetylene by nature is an unstable gas that has limitations. Acetone is added to acetylene cylinders to help stabilize the gas. If an operator exceeds recommended flow rates, the cylinder will not only withdraw gas but will also withdraw the acetone. The reduction of acetone can cause the cylinder to become unstable and dangerous.

Additionally, liquid acetone will damage equipment; torches, regulators, tips, and hoses were not designed to handle acetone. The 1/7 rule simply means it is unsafe to flow more than 1/7th of an acetylene cylinder's total contents. However, in recent years the 1/7 rule has been reduced to a 1/10 rule (see CGA G.1 5.3.3.13). The biggest challenge with acetylene is in heating situations where large flows are needed. The most common heavy duty heating tip sold in the US can require up to 80 cubic feet per hour of acetylene. The most common acetylene cylinder (#4) usually contains around 130 cubic feet of acetylene. So, if we divide to achieve the 1/10 rule: $130 / 10 = 13$. As you can see, that isn't even close to enough acetylene in most situations to safely run a heating tip.

You could get around these withdrawal issues by moving to a larger acetylene cylinder or by manifolding additional cylinders together. However, the best solution is to use Alternative fuels (i.e. Propane, Natural Gas & Propylene). These fuels are much more stable, do not require acetone, and do not suffer the same withdrawal restrictions as acetylene. The Harris Products Group manufactures a complete line of Alternative fuel equipment which can safely meet heating and cutting requirements.

ACETYLENE

SIZE	CU. FT.	HEIGHT	WEIGHT FULL
MC	8	14"	8 lbs.
B	33	23"	26 lbs.
2AWQ	55	31"	61 lbs.
NO.4	90-150	36"	113 lbs.
NO.4	151-230	37.5"	150 lbs.
NO.5WK	250-380	43.5"	200 lbs.

Data above may vary slightly because of ambient temperature, cylinder conditions, etc.



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FOR MORE INFO ABOUT FUEL GASES
Email our Customer Service group at
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or call - 1.800.733.4043.