



# **Dubai Municipality Health and Safety Department**



## **Technical Guidelines for Acetylene Generators**

**DM-HSD-GU62-AG2**

 GOVERNMENT OF DUBAI	<b>Organization Unit:</b> <b>Health &amp; Safety Department</b> الوحدة التنظيمية:		 بلدية دبي DUBAI MUNICIPALITY
	<b>Document title:</b>	<b>Technical Guidelines for Acetylene Generators</b>	
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		<b>عنوان الوثيقة:</b>	
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## 1. PURPOSE

Automobile garages and repair shops use acetylene gas for gas cutting/welding or heating of metal sheets in the body of vehicles, mufflers/silencers etc. Some of the users of acetylene gas use small gas generators with carbide instead of compressed gas cylinders. These are potentially dangerous pieces of equipment unless the following safety precautions are followed.

## 2. GUIDELINES

- The maximum weight and size of the carbide for a single charge shall not exceed the manufacturer's specification. Normally, carbide-feed generators shall be rated at 62.4 liters per hour per kg. or 1 cubic foot per hour per pound of carbide required for a single charge.
- Relief valves shall be provided for the generating chambers and set to open at a pressure not more than 1 kg/cm<sup>2</sup> (15 psi.). Appropriate pressure gauge shall be provided. The relief valve should permit testing at any time. All pipes connections must be in good order.
- Each generator shall be provided with a vent pipe from the pressure relief valve to the exterior of the workshop.
- Portable generators shall not be used within 3 meters of combustible material.
- Portable generators shall not be used in rooms having a ceiling height of less than 3 meters.
- The charging and cleaning of the generator shall be as far as practicable be done during day light, to avoid the exposure of flammable gas to a source of ignition.
- When not in use, portable generators shall not be in rooms in which open flames are used. Storage rooms shall be well ventilated.
- Portable generators shall be located at a safe distance from the welding position so that they will not be exposed to sparks or torch flame or overheating from hot materials or processes.
- Generator water chamber shall be kept filled to the recommended level.

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- Calcium carbide shall be contained in metal packages of water and air tight. The packages shall be conspicuously marked "Calcium carbide - Dangerous if wet."
- Calcium carbide in quantities not to exceed 250 kg. may be stored indoors in dry, water proof and well-ventilated locations.
- The water-carbide residue mixture drained from the generator shall not be discharged into sewer pipes.
- Steel or other ferrous tools shall not be used in distributing the charge.
- Before repairs involving welding, soldering or other hot work which produce a source of ignition, the carbide charge shall be completely removed. All acetylene shall be expelled by completely flooding the generator shell with water and the generator shall be disconnected from the tubing system.

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