



FIG 19-33 — Solder grinders wear hoods to prevent foreign matter from entering their eyes, ears, noses, or mouths. Filtered air is supplied to the hoods at 12 to 15 psig and is exhausted around the bottoms.

tions of rapidly moving abrasive particles.

The requirements for abrasive blasting respirators are the same as those for an air line respirator of the continuous flow type, with the addition that mechanical protection from the abrasive particles is needed for the head and neck (Fig 19-32). NIOSH-MESA tests and certifies such equipment.

There are two forms of abrasive blasting respirators that cover the head and neck, and even the shoulder and chest.

- One form has a full facepiece (made of rubber), and an eyepiece made of impact-resistant safety glass (or plastic covered by a metal screen). This unit is attached securely to a hood and cape made of tough, flexible rubber or rubber-covered fabric.

Air is supplied to the full facepiece and is exhausted through an exhalation valve located under the hood in order to expel the air at the edges of the hood.

- The other form uses a rigid helmet (generally made of metal) to encase the user's head. The eyepiece is of impact-resistant safety glass or of plastic covered by a metal screen. An adjustable knitted fabric collar,

covered with rubber- or plastic-coated fabric, fits over the metal helmet and down over the user's neck, shoulders, and chest in order to give additional protection. A flexible tube brings air to the helmet. Air, exhausted from the helmet, flows between the collar and the user's neck.

In both units, the eyepiece (window) and the protective screen should be easily replaceable, preferably without the use of tools.

Air supplied hoods

For some long-term operations where a completely enclosed suit is not necessary, an air supplied hood may be used. These are particularly useful in hot, dusty situations, Fig 19-33.

Respirable air under suitable pressure should be delivered to a hood at a volume of at least 6 cfm.

Air supplied suits

The most extreme condition requiring respiratory equipment is that in which rescue or emergency repair work must be done in atmospheres extremely corrosive to the skin and mucous membranes, in addition to being acutely poisonous and immediately hazardous to life, such as atmospheres containing ammonia, or hydrofluoric or hydrochloric acid vapors.

For these conditions a complete suit of impervious clothing, with a respirable air supply, is available (Fig 19-34). Complete units with self-contained breathing apparatus are discussed under "Self-contained breathing devices," which follows this section.

There are no generally accepted specifications for such suits, therefore considerable dependence must be placed upon the manufacturer. The material should have sufficient mechanical strength to resist rough handling and considerable abuse without tearing.

The hose line supplying the air should be connected to the suit itself, as well as to the helmet (Fig 19-35), since it is not only extremely fatiguing but also dangerous to wear such a suit for a long period unless it is well ventilated.

Personal air conditioning devices utilizing a vortex tube are available for air supplied suits or hoods. These cooling devices are desirable to reduce fatigue where high am-