



## Industrial Hygiene Technical Bulletin

NO. 84-1

Date: 1984 March 12

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PATRICK R. ATKINS

RE: 3M AIRLINE RESPIRATOR ELECTRICAL HAZARDS - POTROOMS

Some time ago, Ken Karsten shared with us a problem he faced and the solution he found. While it was a highly unusual maintenance requirement in a potroom, there may be other rare instances where airline respirators might also be required in an electrical field.

His report was as follows:

"The need exists, albeit rare, for mechanical maintenance personnel to work on the centerline of an active pot. Vortex cooled supplied air respiratory protection is indicated. A routine check for conductivity of a 3M high-pressure airline (3M-W-9435XX) borrowed from another department showed a near dead short from end coupling to end coupling through the hose. As an alternative, a specially ordered 3M extruded recoil hose was tried. This airline was satisfactory from an electrical hazards standpoint, but was rejected because of its tendency to crimp.

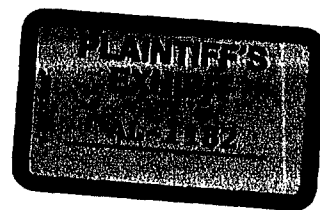
Our needs were finally met with Scott High-Pressure Airline (manufactured by Aeroquip) thermally insulated by a Kevlar sleeve. Users of airlines for supplied breathing air should be aware that manufacturers may market "nonconductive" hose unaware of the high current densities used in smelting. Wire reinforced hose is potentially hazardous as is carbon black impregnated hose like the 3M product. Although 3M could not provide us materials that met our needs, their Technical Service Department and field representatives were very helpful."

E. E. RUMBERGER

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