

PERSONAL PROTECTIVE EQUIPMENT

Leather reinforced by metal stitching or metal mesh also provides good protection from edged tools, as in butchering and similar occupations

There are many plastic and plastic-coated gloves available (Fig 36-31). They are designed to give protection from a variety of hazards. Some surpass leather in wearing ability. Others have granules or rough materials incorporated in the plastic for better gripping ability.

Where the use of a complete glove is not necessary, finger stalls may be used. These are available in combinations of one or more fingers. Some of the more common materials used are asbestos, rubber, duck, leather, plastics, and metal mesh. The construction of the stall depends on the degree or type of hazard to be confronted.

For protection against heat, hand and arm protectors should be of asbestos cloth or wool. Leather can be used, too, but will not stand a temperature over 150 F.

Wristlets or arm protectors may be obtained in any of the materials of which gloves are made.

Where the problem is protection from heat or from extremely abrasive or splintery material, such as rough lumber, hand leathers or hand pads are likely to be more satisfactory than gloves since they can be made heavier and less flexible without discomfort.

Since hand leathers or pads are primarily for heavy materials handling, they should not be used around moving machinery. They should at all times be sufficiently loose to release the hands and fingers if caught on a rough edge or nail.

Impervious clothing

For protection against dusts, vapors, moisture, and corrosive liquids, there are many types of impervious materials available. These are fabricated into clothing of all descriptions, depending on the hazards involved. They range from aprons and bibs of sheet plastic, to garments which completely enclose the body from head to foot and contain their own air supply.

Materials used include natural rubber, synthetic rubber, neoprene, vinyl, polypropylene, and polyethylene films and fabrics coated with them. Natural rubber is not suited for use with oils, greases, and many

organic solvents and chemicals. Make sure that the clothing selected will protect against the hazards involved.

Various synthetic fabrics such as Dynel and Orlon are used for regular work clothing in chemical plants, where daily contact with acids and caustic solutions would cause rapid deterioration of regular cotton clothes. These materials are not impervious and should not be used where impervious materials are indicated.

Gloves of these kinds of materials offer protection against all types of petroleum products, caustic soda, tannic acid, mureatic and hydrochloric acid. They are also recommended in the handling of sulfuric acid, less deterioration taking place than with natural rubber. These gloves are available in varying degrees of strength to meet individual conditions.

Gloves should be long enough to come well above the wrists, leaving no gaps between the glove and the coat or shirt sleeve. Long, flaring gauntlets should be avoided unless they are equipped with locking devices to assure a snug fit about the wrist. Such gauntlets are especially desirable when acids and other chemicals are being poured.

In this operation, the chemicals may splash, and unless precautions are taken, harmful results may occur. When caustic substances and harmful solvents are being poured from large to small containers, sleeves should be worn outside gauntlets.

In many operations, rubber gloves with extra long cuffs have been used to advantage. The cuffs of these gloves are made with a heavy ridge near the top edge, which, when turned back, forms a trough to catch liquids running down the wrist or forearm.

Gloves or mittens having metal parts or reinforcements should never be used around electrical apparatus.

Work by such persons as linemen (Fig 36-32) and electricians on energized or high-voltage electric equipment requires specially made and tested rubber gloves.*

*The requirements for electrician's rubber gloves are detailed in the American Society for Testing Materials' *Tentative Specifications for Rubber Insulating Gloves* D-120-52T, 1952.