FIG 38–49 —Personal protection for a wire brush operation—the chest plate is made of aluminum

flameproofing methods can be applied, some of which are resistant to both laundering and dry cleaning

Durable flame-retardant work clothes which will withstand many launderings are available Their flame-retardant treatment, based on tetrakis phosphonium chloride (THPC), was developed by the U S Department of Agriculture Research Laboratories

Flameproofed clothing should be marked or otherwise made distinctive to reduce the chance that untreated garments may be used by mistake

Protection against impact and cuts

It is necessary to protect the body from cuts, bruises, and abrasions on most jobs where heavy, sharp, or rough material is handled Special protectors have been devised for almost all parts of the body and are available from suppliers of safety equipment

Pads of cushioned or padded duck will protect the shoulders and back from bruises when men carry heavy loads or objects with rough edges

Aprons of padded leather, fabric, plastic, hard fiber, or metal (Fig 38–49) will protect the abdomen against blows Similar devices of metal hard fiber, or leather with metal reinforcements provide protection against sharp blows with edged tools For jobs requiring ease of movement, aprons may be split and equipped with fasteners to draw them snugly around the legs

Guards of hard fiber or metal are also widely used to protect the shins against impact

Knee pads should be worn by mold loftsmen and others whose task requires continual kneeling

Gloves The material to be used for gloves depends largely upon what is being handled (Fig 38–50) For most light work, a canvas glove is both satisfactory and cheap For rough or abrasive material, leather or leather reinforced with metal stitching will be required 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 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 Some are disposable (Fig 38–51)

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

Hand leathers and arm protectors 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