



This safety belt and lifeline setup permits the worker to move up and down. The anchoring mechanism will lock instantly in case of fall. (Photo: Research and Trading Corp.)

stresses that rarely exceed the static weight of the user. Emergency use means stopping a man when he falls—every part of the belt may be subjected to an impact loading many times the weight of the wearer.

A window cleaner's belt, for example, is subject to a moderate load most of the time it is used. It is subjected to a severe loading, however, if the man falls and only one terminal of the belt is attached. A belt for a person who leans back as he works should, therefore, have two D-rings, one on each side of the belt, to which a throw rope or lanyard can be attached. The rope then is connected to an anchorage.

A harness-type safety belt distributes the shock of an arrested fall. The harness permits a fallen person to be lifted with his back straight, rather than bent over a waist strap. This makes rescue easier if the victim is unconscious, buried, or must be taken out through a manhole.

If long falls are possible, the harness should be designed to distribute the impact force over the legs and chest as well as the waist, and, where possible, a shock absorber or decelerating device can be used. To prevent a long fall, the line should be tied off overhead and should be as short as movements of the worker will permit.

Inspection and care

Belts and lifelines should be checked each time they are to be used. At least once every three months, belts should be examined by a trained inspector.

They should be maintained according to manufacturer's instructions.

Belts—Leather belts must be carefully checked for cuts and scratches on either side. Any deep vertical cut (crosswise to the belt) justifies discarding the belt. Lengthwise cuts should be viewed critically, and unless they are small, the belt should be discarded. Web belts should be examined for worn and torn fibers. When a number of the outer fibers are worn or cut through, the belt should be discarded. Belt hardware should be examined, and worn parts replaced. If the belt is riveted, each rivet should be carefully inspected for wear around the rivet hole.

Lifelines—The outer surface of manila rope should be examined for cuts and for worn or broken fibers. Rope should be discarded when it has become smaller in diameter or has acquired a smooth look. Inner fibers of manila rope should be examined for breaks, discoloration, and deterioration. If it shows any of these signs, the rope should be discarded.

A steel wire rope should be examined for broken strands, rust, and kinks that may weaken it. Ropes must be kept clean, dry, and rust free. They should be lubricated frequently, especially before use in acid atmospheres or before exposure to salt water. After such use, wire rope should be carefully cleaned and again coated with oil.

Special Clothing

Impervious clothing

This type of clothing is used for protection against dusts, vapors, moisture, and corrosive liquids. There are many types of impervious materials that are fabricated into clothing of all descriptions, depending on the hazards. The types of clothing range from aprons and bibs of sheet plastic to garments that

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. Special impervious type clothing is required to be worn by employees whose work exposes them to carcinogens.

Cold weather clothing

In recent years thermal insulating underwear has become popular among outdoor workers because of its light weight. Two types are generally available. One is a thermal knit cotton patterned after regular underwear; the other consists of quilted materials, such as polyester fiber quilted between nylon. While this material does not catch fire any easier than cotton, once it starts burning, the nylon and polyester melt, forming a hot plastic mess not unlike hot pitch, which can adhere to skin and cause serious burns. Quilted insulating underwear is now



High-visibility vests and mitts worn by a traffic man signal his presence to on-coming traffic. Simple design permits wear with other apparel. (Photo: Aquadur Plastics, Inc.)