of the areas tested were above the minimum suggested criteria.

In November, 1965, a third plant analysis was completed. Three hundred and thirty-four noise measurements were made using this equipment. The results showed that 0.6 per cent of the measurements were above the suggested minimum criteria. From this, we know that we have made a tremendous accomplishment in reducing the noise level within the plant, and with continuing efforts further achievements are possible.

In November, 1966, further noise analyses were completed and another reduction was noted.

We hope this program on noise abatement is only a beginning. A concerted effort on these problems by all industry will contribute a great deal toward making our plants safer and healthier places in which to work.

HAND AND ARM PERSONAL PROTECTIVE EQUIPMENT FOR SHEET METAL OPERATORS

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Manual material handling is the number one source of disabling occupational injuries in the United States. It accounts for more than one out of every five workmen's compensation claims. While the greatest number of these claims are for torso injuries, a great many of them result from injuries to the hands and arms. In some states, the claimant may collect compensation for loss of use of a part of the hand or arm, and for disfigurement of the same appendages. This monetary loss and the desire for elimination of the accompanying personal suffering are the basis for every safety engineer's efforts to assure safe material handling techniques and equipment.

Elimination of hand and arm injuries is one of the top objectives of the sheet metal industry. In some locations, they account for more than 50 per cent of all occupational injuries.

Three problem areas face the Safety Engineer in his effort to eliminate this type of injury through utilization of the most effective type of personal protective equipment. These areas are need, selection, and use of the equipment.

Need for the equipment. As in any industry, mechanical handling aids or efficient hand operated tools are preferred to manual handling of materials, because they greatly diminish the potential of personal injury. A thorough review and evaluation may be made of all types of material handling operations contemplated, in order to plan handling the material in any way other than manually. If mechanical handling is not feasible, the need for personal protective equipment becomes apparent and the type needed must then be determined.

It is better to eliminate the need for manual handling, if at all possible, through engineering revisions, guarding, and changes of procedures and methods on established operations as well as those in the planning stage. With the human element minimized, the potential of injury is greatly diminished.

Selection of equipment. When the determination is made that hand and arm protection is necessary, there are two criteria to be used: the degree of protection needed, and ease and comfort in use.

Some studies have revealed that employes handling sheet metal with a dimension of more than 12 inches in any direction have incurred lacerations at various locations on their arms; more particularly, on the forearm. This observation indicates the need for a gauntlet type glove that will extend to a point about 9½ inches above the wrist. However, the flare of the gauntlet must not be great enough to permit it to fall down inadvertently or to be easily rolled down, thus leaving the arm exposed.

It was also disclosed that with proper handling practices the use of terry cloth material