

1.7.1.2 Vibration

Tools used in the work environment and results in the machine or oscillating movement as they work best unbalanced vibration occurs during the operation of equipment (Figure 1.9)



Photo 1.9 Operating oscillatory movement of the forming tools and machines

Health and safety in terms of affecting vibration " **hand-arm vibration** " and "**Whole body vibration**" Divided into two groups, namely.

Hand arm vibration; hands, arms pose a risk to the health and safety of employees when transferred to the system and, in particular vascular, bone, joint, nerve and muscle disorders that cause refers to mechanical vibration. Hand, arm vibration exposure to metal work particularly accentuated seen in the use of the grinding machine and rotating device.



1:10 Photo of hand, causing the arm vibration machines

Whole body vibration; When transferred to the entire body and pose a risk to the safety of health workers, especially refers to the mechanical vibrations that cause discomfort in the waist and spine trauma.

Exposure of the whole body vibration; industry, it is a problem of growing importance in traffic and other industrial areas. the whole body vibration source; land, sea and air transport in vehicles, machines used in weaving looms, steel construction with road construction machinery causing vibration in buildings, machinery repair and maintenance are examples.



1:11 Photo of vehicles and machinery that lead to whole body vibration

fatigue in employees affected by vibration, carelessness, some orthopedic, physical and psychological disorders, effects such as the reduction of occupational accidents and work performance is observed.

measures to be taken against vibration exposure:

- And selecting the best job that will give you exposure to a minimum vibration tools,
 - Mode of operation and / or vibration is replaced by using the respective process tools to be lowered to the lowest possible level,
 - sharpening of tools, lubrication and engine settings, such as making the planning of necessary maintenance work,
 - Reducing the time that the employee worked with vibrating tools,
 - Reducing the number of days used in vibratory apparatus weeks
 - Arrangements to enable the use of alternate vibratory tool,
-
- mode of operation to minimize vibration stress and the regulation of the workplace according to ergonomic principles,
 - Working with vibrating tools or tool handles of the place is still in contact with the vibration-damping material support,
 - Supporting the fingers and palm portions gloves with vibration-damping material,
-
- Vibrations from the cold in a cold environment to protect the health of the body's internal temperature adversely affect the employee's exposure due to the wearing of suitable protective clothing,
-
- A medical preliminary investigation before hiring an employee to use vibrating tools,

as it can be listed.