

1943
MANUAL OF
INDUSTRIAL HYGIENE

AND
MEDICAL SERVICE IN WAR INDUSTRIES

*Issued under the Auspices of the Committee on
Industrial Medicine of the Division of Med-
ical Sciences of the National Research Council*

PREPARED BY THE DIVISION OF INDUSTRIAL
HYGIENE, NATIONAL INSTITUTE OF HEALTH,
UNITED STATES PUBLIC HEALTH SERVICE

WILLIAM M. GAFAFER, D.Sc.

Editor

W. B. SAUNDERS COMPANY
PHILADELPHIA AND LONDON
1943

CONTRIBUTORS

ANDERSON, OTIS L., M.D., F.A.C.P.
BLOOMFIELD, J. J., B.S.Eng.
BRANDT, ALLEN D., D.Sc.
BRINTON, HUGH P., Ph.D.
DREESSEN, W. C., M.D.
FLINN, ROBERT H., M.D.
GAFAFER, WILLIAM M., D.Sc.
GIBERSON, LYDIA G., M.D.
HEACOCK, LYMAN D., D.D.S., M.P.H.
HEDLEY, O. F., M.D., F.A.C.P.
PAGE, RICHARD T., S.M.
PRITCHARD, ELIZABETH G., A.B.
SCHWARTZ, LOUIS, M.D.
SEIFERT, HARRY E., C.E., M.S.P.H.
SIEVERS, R. F., M.D., Ph.D.
WHITLOCK, OLIVE M., B.S., R.N.

RECEIVED TINGEAL 11 11 1943

water-closet bowl should be set free and open from all enclosing walls so that space around fixture may be cleaned easily. If the water-closet seat is of absorbent material, it should be finished with light-colored varnish or other substance impervious to moisture.

Personal Services

1. In all places of employment where it is necessary for male employees to change clothes or where females are employed, separate dressing rooms with lockers should be provided and maintained in sanitary condition.
2. Dressing rooms should be provided for men whenever the type of work performed involves exposure to excessive dust, dirt, heat, fumes, vapor, or moisture of such degree as is declared by the enforcing authority to require the same. Two-compartment lockers, or preferably two individual lockers, should be provided in dressing rooms for employees whose clothes are exposed to contamination with poisonous, infectious, or irritating material. Workers exposed to toxic substances, such as TNT and tetryl, should be required to change clothes completely and to take a shower bath at the end of each shift. The work clothes should be provided and laundered by the employer.
3. A retiring room should be provided in all work places where 10 or more women are employed. Where less than 10 women are employed and a retiring room is not furnished, some equivalent space should be provided which can be screened properly and made suitable for use of women employees. The minimum space provided for a retiring room for 10 women should be 60 square feet. For each additional female employee there should be at least 2 square feet of floor space. At least one couch or bed should be provided in every place where more than 10 women are employed. The number of beds or couches required follows:

BEDS FOR FEMALE EMPLOYEES

Number of Females Employed	Number of Beds
10 to 100	1
100 to 250	2
Over 250	1 additional bed for each 250 additional women

4. In every establishment a separate lunchroom should be maintained unless it is convenient for the employees to eat lunch away from the premises. No employees should be permitted to eat lunch at their place of work or in the workroom. At least one-half hour should be allowed each employee for lunch. The following table gives the number of square feet which are required per person, based on the maximum number of persons using the room at one time:

LUNCHROOM AREAS RECOMMENDED

Number of Persons	Square Feet Per Person
Less than 25	8
25 to 74	7
75 to 149	6
150 to 499	5
500 or more	4

Housekeeping

1. All places of employment, passageways, storerooms, and service rooms should be kept in a sanitary condition and the premises including the yards, courts, passages, areas, and alleys connected with the place of employment should be kept free from any accumulation of dirt, filth, rubbish, or garbage.
2. The floor of every workroom should be maintained in a clean, and, so far as possible, a dry condition. Where wet processes are used, reasonable drainage should be maintained and false floors, platforms, mats, or other dry standing places should be provided. The employer should, without expense to the employees, furnish proper boots or shoes for the use of the employees while at work in such places.
3. Floor and other walkway surfaces should be kept in good repair, and free from oil, water, protruding nails, splinters, holes, and loose boards.
4. So far as is practicable, sweeping and cleaning should be done outside of working hours and in such manner as to avoid the dissemination of dust. All sweepings, waste, refuse, and garbage should be removed as often as necessary to maintain the place of employment in a sanitary condition.
5. Expectoration upon the walls, floors, stairs, or equipment should be prohibited. Where cuspidors are needed, they