OSHA Regulations (Standards - 29 CFR)
Occupational noise exposure. - 1926.52

_____

- **Standard Number:** 1926.52
- **Standard Title:** Occupational noise exposure.
- **SubPart Number:** D
- **SubPart Title:** Occupational Health and Environmental Controls
- **Applicable Standard:** 1910.95

_____

(a)
Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in Table D-2 of this section when measured on the A-scale of a standard sound level meter at slow response.

(b)
When employees are subjected to sound levels exceeding those listed in Table D-2 of this section, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of the table, personal protective equipment as required in Subpart E, shall be provided and used to reduce sound levels within the levels of the table.

(c)
If the variations in noise level involve maxima at intervals of 1 second or less, it is to be considered continuous.

(d)

(d)(1)
In all cases where the sound levels exceed the values shown herein, a continuing, effective hearing conservation program shall be administered.

TABLE D-2. PERMISSIBLE NOISE EXPOSURES	
Duration per day, Hours	Sound level, dBA, slow response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

1926.52(d)(2)

(d)(2)

(d)(2)(i)
When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. Exposure to different levels for various periods of time shall be computed according to the formula set forth in paragraph (d)(2)(ii) of this section.

(d)(2)(ii)

$$F(e) = \left[\frac{T(1)}{L(1)}\right] + \left[\frac{T(2)}{L(2)}\right] + \ldots + \left[\frac{T(n)}{L(n)}\right]$$

where:

F(e) = The equivalent noise exposure factor.
T = The period of noise exposure at any essentially constant level.
L = The duration of the permissible noise exposure at the constant level (from Table D-2).

If the value of F(e) exceeds unity (1) the exposure exceeds permissible levels.

(d)(2)(iii)

A sample computation showing an application of the formula in paragraph (d)(2)(ii) of this section is as follows. An employee is exposed at these levels for these periods:

    110 db A   1/4 hour.

    100 db A   1/2 hour.

    90 db A   1 1/2 hours.

$$F(e) = \left[\frac{1/4}{1/2}\right] + \left[\frac{1/2}{2}\right] + \left[\frac{1\,1/2}{8}\right]$$

F(e) = 0.500+0.25+0.188

F(e) = 0.938

Since the value of F(e) does not exceed unity, the exposure is within permissible limits.

(e)

Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

OSHA Regulations (Standards - 29 CFR)
Hearing protection. - 1926.101

_____

- **Standard Number:** 1926.101
- **Standard Title:** Hearing protection.
- **SubPart Number:** E
- **SubPart Title:** Personal Protective and Life Saving Equipment

_____

(a)
Wherever it is not feasible to reduce the noise levels or duration of exposures to those specified in Table D-2, Permissible Noise Exposures, in 1926.52, ear protective devices shall be provided and used.

(b)
Ear protective devices inserted in the ear shall be fitted or determined individually by competent persons.

(c)
Plain cotton is not an acceptable protective device.