

## EAR PROTECTION FOR HAZARDOUS NOISE LEVEL LOCATIONS

### 1. GENERAL

1.01 This section covers hazardous noise (sound pressure) levels, their detection, and the precautions to take when they are encountered.

1.02 This section is reissued to revise the peak sound pressure level (SPL), measured in decibels (dba), that would require wearing of ear protectors.

1.03 The provisions of this section comply with the requirements in Article 55 of the Noise Control Safety Orders issued by the Department of Industrial Relations of the State of California (November, 1962).

### 2. PROTECTION REQUIREMENTS

2.01 All employees exposed to noise at or above 90 dba shall use company-provided ear protectors for the duration of such exposure. Examples of occupational noise which may reach 90 dba are: noise produced by diesel powered emergency generators, jet engines, heavy machine shop equipment, and pneumatic drills.

2.02 Local supervisors will arrange with their local plant staff for SPL measurements in any location suspected of excessively high noise levels. Approved ear protectors shall be used by employees working in suspected locations until noise measurement tests prove the locations safe.

2.03 The local plant staff shall be responsible for noise level measurement. They will:

- (a) Use measuring equipment meeting the American Standards Association requirements. Approved for this purpose are the 1AC Sound Spectrometer, Model SS375, and the General Radio 1558 Octave-Band Noise Analyzer.

(b) Measure noise levels in accordance with Part 3 and Table A. (See sample test results, Table B)

(c) Place a caution sign (Fig. 1) at company locations where the noise level reaches 90 dba. This sign has adhesive backing and may be attached to walls or any smooth surface. It is yellow with black letters and is 6 in. by 9 in. This sign may be ordered from Western Electric and is listed in the Stationery Section of the Office Supplies catalog.



Fig. 1

2.04 Local supervisors will:

- (a) Periodically inform employees of known company and customer locations where ear protection is required
  - Local conditions will determine if ear protectors are to be stored on the job or carried by the individual
- (b) Instruct employees on the use and care of ear protectors
  - Use warm soapy water for cleaning

### 3. NOISE MEASUREMENT

3.01 The accurate determination of maximum SPL depends upon:

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**SECTION 010-100-903PT**

(a) Taking noise measurements during peak noise periods. These can be determined by on-the-spot observation. Consideration should be given to the types and quantity of equipment generating the noise and the time periods during which they are used.

(b) Taking SPL measurements at several different points within the noisy location. This can best be accomplished by walking the measuring device through the noisy area and checking the indicator at regular intervals.

3.02 Table A shall be used as a guide in making noise measurements.

(a) Each frequency band (left column) shall be measured by using the preferred measuring frequency for that band (center column).

(b) If the level of any frequency band reaches 90 dba or above, ear protection is required.

3.03 Table B represents the results of a noise measurement test made in a 6 ft. by 6 ft. manhole where pneumatic drills were in use. On the basis of these test results, the local staffs (construction) have provided for at least two pairs of ear protectors plus Form P 2426 caution signs at each location using portable air compressors.

**TABLE A**

FREQUENCY BAND CYCLES PER SECOND (CPS)	AMERICAN STANDARD PREFERRED FREQUENCIES FOR ACOUSTICAL MEASUREMENTS	OCTAVE BAND DBA (SOUND PRESSURE LEVEL) DECIBELS (.0002 DYNES/SQCM)
20 - 75	63	100 *
75 - 150	125	102 *
150 - 300	250	97 *
300 - 600	500	90
600 - 1,200	1000	90
1,200 - 2,400	2000	90
2,400 - 4,800	4000	90
4,800 - 10,000	8000	90

\* For purposes of this section, this figure shall be 90 dba.

**TABLE B**

MEASURED FREQUENCY (CPS)	LARGE PNEUMATIC DRILL LEVEL (dba)	SMALL PNEUMATIC DRILL LEVEL (dba)
ALL PATHS	110	112 - 114
16,000	88	75
8,000	106	100
4,000	105	100
2,000	105	100
1,000	102	103
500	98	106
250	107	108
125	110	105
63	101	107
31.5	90	100

4. APPROVED PROTECTIVE DEVICES

4.01 The following devices have been approved for ear protection:

- (a) American Optical — AO Hear-Guard Hearing Protector, Model 1200 (Fig. 2A)

- (b) Mine Safety Appliances — “Noisefoe” Mark II, Catalog No. HB-82204 (Fig. 2B)

- (c) Wilson — “Sound Barrier”, Model 258 (Fig. 2C)

4.02 Ordering information on complete units and piece parts is in the Tool Section of the Supply Catalog.

AO HEAR-GUARD HEARING PROTECTOR  
MODEL 1200



Fig. 2A

MINE SAFETY APPLIANCES  
“NOISEFOE”  
MARK II

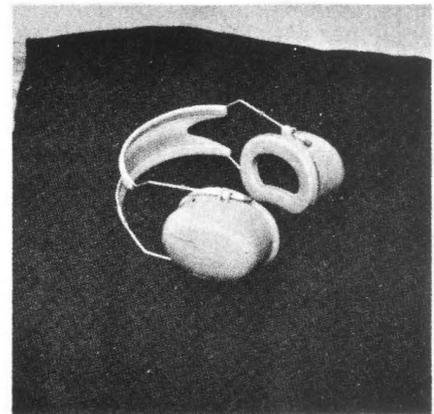


Fig. 2B

WILLSON  
“SOUND BARRIER”  
MODEL 258

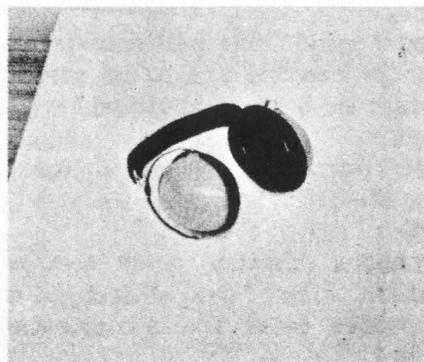


Fig. 2C