

DIN EN 458:2026-07 (E)

Hearing protectors - Recommendations for selection, use, care and maintenance - Guidance document

Contents		Page
European foreword		5
Introduction		6
1	Scope	7
2	Normative references	7
3	Terms and definitions	7
4	Symbols and abbreviations	9
5	Types of hearing protectors	10
5.1	Design forms	10
5.1.1	Earmuffs	10
5.1.2	Earmuffs attached to head protection and/or face protection devices	10
5.1.3	Earplugs	11
5.2	Function mode	11
5.2.1	Basic function mode	11
5.2.2	Level-dependent hearing protectors	11
5.2.3	Active noise reduction (ANR) protectors	12
5.2.4	Hearing protectors with external audio input	12
6	Selection	12
6.1	Principles	12
6.2	Selection according to sound attenuation	13
6.2.1	Guide to protection rating	13
6.2.2	Sound attenuation in practice	14
6.2.3	Acoustical selection methods	14
6.2.4	Selection of combination of earmuffs and earplugs	16
6.3	Selection according to work environment	17
6.3.1	Factors of work environment - overview	17
6.3.2	Acoustical factors	17
6.3.3	Environmental factors (non-acoustic)	19
6.4	Communication	21
6.4.1	Essential work or safety-related speech communication, especially speech intelligibility	21
6.4.2	Effects of excessive attenuation	21
6.5	Compatibility with other Personal Protective Equipment (PPE)	21
6.6	Selection according to hearing protector type and situation of use	21
6.6.1	Earmuffs - General	21
6.6.2	Earmuffs attached to head protection and/or face protection devices	22
6.6.3	Earplugs - General	22
6.6.4	Hearing protectors with additional function modes	22
6.7	Medical factors	22
6.8	Ergonomics and fitting	23
7	Use	23
7.1	General	23
7.2	Availability of hearing protectors	23
7.3	Correct fitting	24
7.3.1	General	24

7.3.2	Earmuffs	24
7.3.3	Earplugs	25
7.4	Simultaneous use of hearing protectors with other PPE	25
7.4.1	General	25
7.4.2	Protective clothing	25
7.4.3	Spectacles	25
7.4.4	Goggles	25
7.4.5	Face shields	26
7.4.6	Hoods	26
7.4.7	Head protection	26
7.4.8	Respiratory protection devices	26
7.5	Speech intelligibility and signal audibility	26
7.6	Instruction and training	26
7.6.1	General	26
7.6.2	Information	26
7.6.3	Special instructions for use including training	27
7.7	Period of use	27
7.8	Leisure activities	28
8	Care and maintenance	28
8.1	General	28
8.2	Hygiene and cleaning	29
8.3	Inspection and replacement	29
8.4	Storage	29
8.5	Disposal	29
9	Sustainability	29
Annex A (informative) Methods for estimating the level effective to the ear when selecting a hearing protector based on the national regulation level L'NR		30
A.1	General	30
A.2	Octave band method	33
A.3	HML method	34
A.4	HML check method	35
A.5	SNR method	37
Annex B (informative) Method for estimating the level effective to the ear when selecting a hearing protector based on the national peak regulation level L'NR,peak		38
B.1	General	38
B.2	Method	38
Annex C (informative) Selection method for sound-restoration level-dependent hearing protectors intended for all types of noise environment using HML-criterion values		40
C.1	General	40
C.2	Method 1: HML method	40
C.3	Method 2A: HML check method - Measurement check	41
C.4	Method 2B: HML check method - Listening method	41
Annex D (informative) Calculation method for hearing protectors with audio input		42
D.1	General	42
D.2	Method	42
Annex E (informative) Improving field performance and special instructions for use		44
E.1	Improving field performance	44
E.2	Instructions for use	45
Annex F (informative) Further guidance on individual fit testing methods		48

F.1	General information	48
F.2	Available individual fit testing methods	48
	Annex G (informative) Noise types	50
	Annex H (informative) Sustainability	53
H.1	General	53
H.2	Manufacturer evaluation (sourcing)	53
H.3	Product attributes (sourcing and safety)	54
H.4	Instruction and training (supervision)	54
H.5	Cleaning, maintenance and disposal (correct use)	55
H.6	Transportation, distribution and storage (safety and sourcing)	55
	Annex I (informative) Significant technical changes between this document and the Bibliography ...	58
	Bibliography	58