



European Committee for Standardization

Webinar

'Hearing for life – How can hearing protection support?'

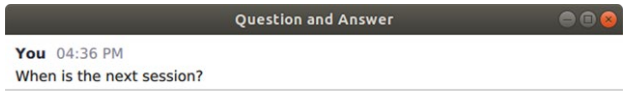
We start at 10:00 CET

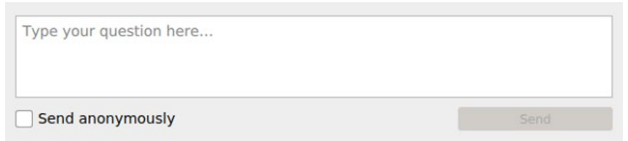
Webinar moderator

Els SOMERS
Project Manager
Policy & Partnerships
CEN-CENELEC
esomers@cencenelec.eu

Get the most out of the webinar today

- You are muted
- Use the Q&A panel to submit your questions





- Talk about us on Twitter #training4standards @Standards4EU

Todays speakers

- **Jennifer Ogbonna** – Project Manager – Energy & Living - Healthcare standards
  Introduction to CEN-CENELEC
- **Giovanna Longo** – Chair of CEN/TC 159
  Introduction to the work of TC 159
- **Magnus Johansson** – Convenor of CEN/TC 159/WG2
  ‘Electronic & amplitude-sensitive hearing protectors’
- **Peter Sickert** – Convenor of CEN/TC 159/WG5
  ‘Hearing protectors - Selection and use’
- **Sandra Dantscher** - Convenor of CEN/TC 159/WG6
  ‘Hearing protectors - General requirements and test methods’

Introduction to CEN and CENELEC

CEN and CENELEC

Two public standardization organizations with a common secretariat and common system of rules, to serve the interest of their members

Members:

- Standardization organization of the 27 Member States of the EU

+

- United Kingdom, North Macedonia, Serbia, Turkey

+

- Iceland, Switzerland, Norway (EFTA)

Introduction to CEN and CENELEC

Austria
Belgium
Bulgaria
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Iceland
Ireland
Italy
Latvia
Lithuania
Luxembourg
Malta
Netherlands
Norway
Poland
Portugal
Republic of North Macedonia
Romania
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Turkey
United Kingdom

Standardization happens at different levels..

National

European

International

Recognised also in Art. 2 (8) and Annex I of EU Regulation 1025/2012!

Recognised also in Art. 2 (9) of EU Regulation 1025/2012!

A tool for competitiveness of European business

1 European Standard

⬇

34 identical national standards

All conflicting standards removed

⬇

Access to a market of 600 million consumers

Introduction to CEN and CENELEC

CEN

- Partner organizations 10
- Liaison organisations 288
- European Agencies 5

CENELEC

- Partner organizations 13
- Liaison organisations 28
- European Agencies 5

Actors in standardization

National Delegations

Industry, including
SMEs
Professionals
Academia
Certification bodies
Laboratories
Public authorities
Consumers
etc.

NSBs send experts

TC - Standards development

European organizations

Partner Organization,
Liaison Organizations,
European stakeholder organizations,
etc.

Observers send experts

[CEN-CENELEC Guide 25]

Policy needs

MARKET NEEDS

CEN and CENELEC involved Committees PPE

- CEN/TC 79 ‘Respiratory protective devices’
- CEN/TC 85 ‘Eye protective equipment’
- CEN/TC 122 ‘Ergonomics’
- CEN/TC 136 ‘Sports, playground and other recreational facilities and equipment’
- CEN/TC 158 ‘Head protection’
- CEN/TC 159 ‘Hearing protectors’
- CEN/TC 160 ‘Protection against falls from height including working belts’
- CEN/TC 161 ‘Foot and leg protectors’
- CEN/TC 162 ‘Protective clothing including hand and arm protection and life jackets’
- CLC/TC 78 ‘Equipment and tools for live working’
- CEN/TC 231 ‘Mechanical vibration and shock’

CEN and CENELEC PPE Sector Forum

- Coordinates European standardisation activities on PPE
- Chaired by Sector Rapporteur
- Meets twice a year
- Commission’s presence is welcomed by CEN and CENELEC
- Current activities:
  - Day to day guidance on the impact of the PPE Regulation on standards
  - Discussion on circularity and sustainability for PPE

Liaison possibility

- CEN/TC 159 ‘Hearing protectors’ CEN-CENELEC Guide 25 ’The concept of Cooperation with European Organizations and other stakeholders’ details conditions to become a liaison → Mail to partners partners@cencenelec.eu
- The CEN-CENELEC Sector Forum on Personal Protective Equipment
  - The applicant organization duly fulfils an ad-hoc **application form** - Application form to become member in a Joint advisory or coordination group
  - PPE Sector Forum to **evaluates the request** and provides an advice to the (Technical) Boards who then takes a final decision

Speakers

Giovanna LONGO
Chairperson of CEN/TC 159 ‘Hearing protection’
glongo@mmm.com

- Introduction to the work of CEN/TC 159

A question for you

Why do we need hearing protection?

Noise Directive 2003/10/EC

Minimum requirements on noise exposure to workers

Why do we need hearing protection?

Framework Directive 89/391/EEC

Measures to improve OH&S

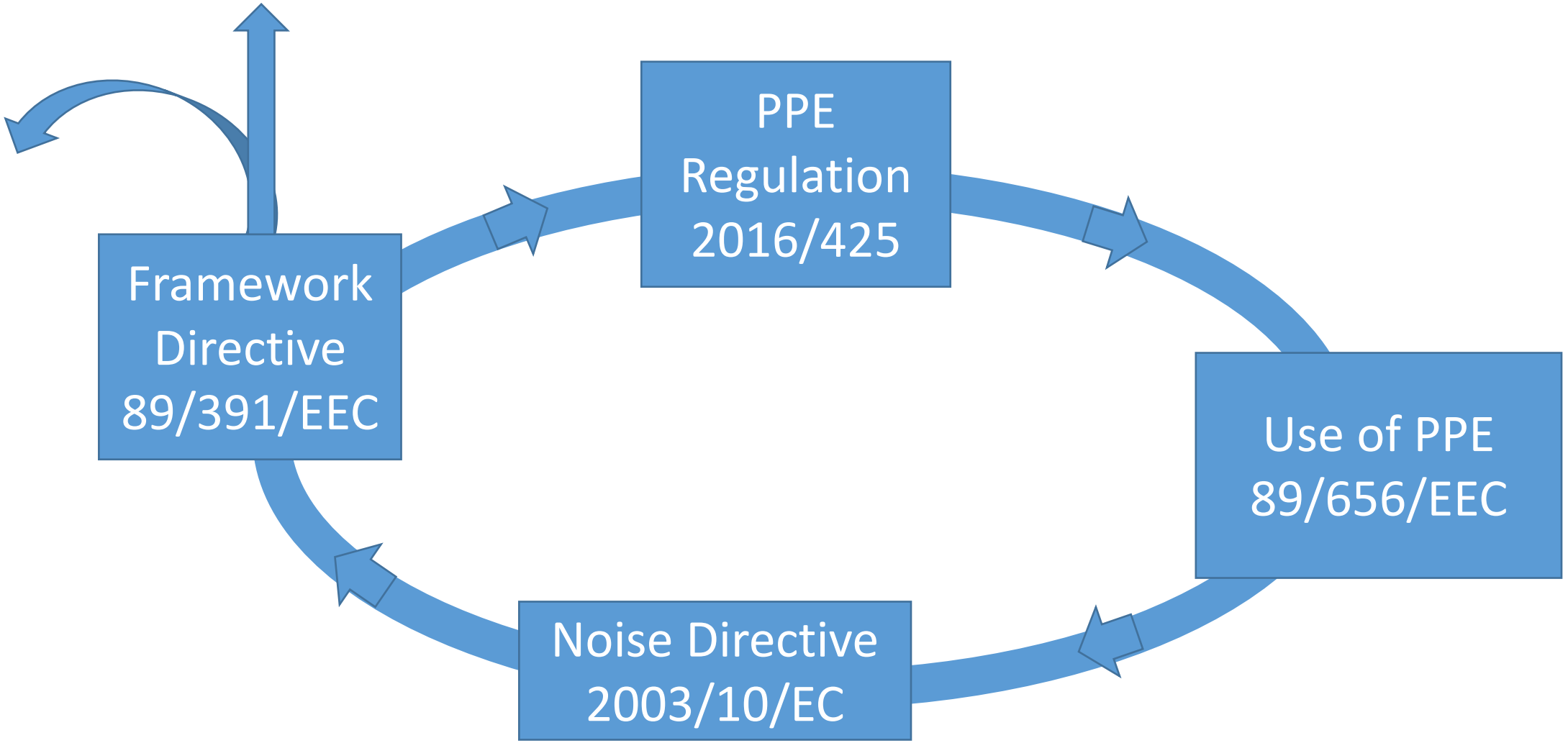
Why do we need hearing protection?

Use of PPE
89/656/EEC

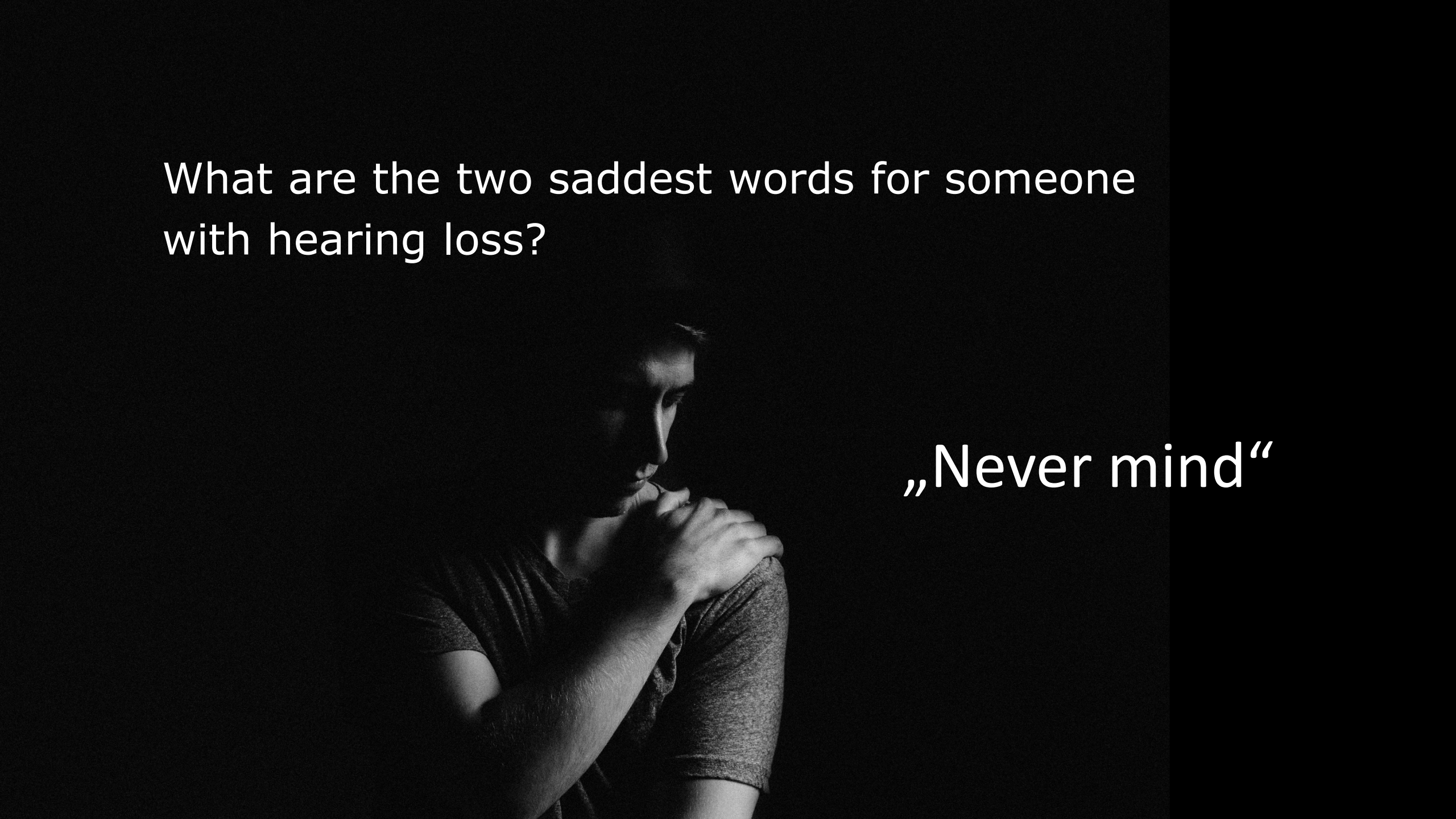
Employer‘s responsibility


PPE
Regulation
2016/425
Minimum requirements for
Hearing Protection Devices
Why do we need hearing
protection?
Name of presenter / event

Why do we need hearing protection?



What are the two saddest words for someone with hearing loss?



„Never mind“

What about you?

Structure CEN/TC 159

CEN/TC 159
Hearing protectors

(Giovanna Longo - DIN)

Electronic and amplitude -sensitive hearing protectors
(Magnus Johansson, SIS)

Guidance document for hearing protection
(Peter Sickert, DIN)

WG6
General requirements and test methods
(Sandra Dantscher, DIN)

Structure CEN/TC 159

CEN/TC 159
Hearing protectors

(Giovanna Longo - DIN)

Electronic and amplitude -sensitive hearing protectors
(Magnus Johansson, SIS)

Guidance document for hearing protection
(Peter Sickert, DIN)

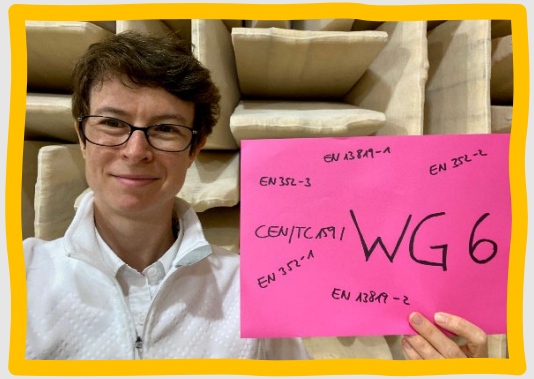
WG6
General requirements and test methods
(Sandra Dantscher, DIN)

Are you...


TC
W
E
M
A
D
E
I
T


159
WG2


1
3


EN 13849-1
EN 352-2
EN 352-3
CEN/TC 159
WG 6
EN 352-1
EN 13849-2

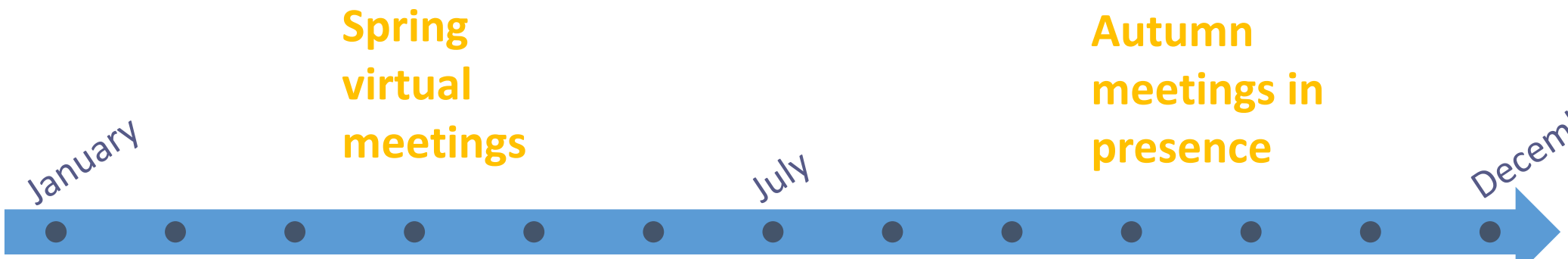

TC 159


WG5


I
N


2
O
2
0

How we work



Where?

- Berlin, Dresden
- London
- Stockholm
- Prague
- Madrid
- Helsinki
- ...

Speakers

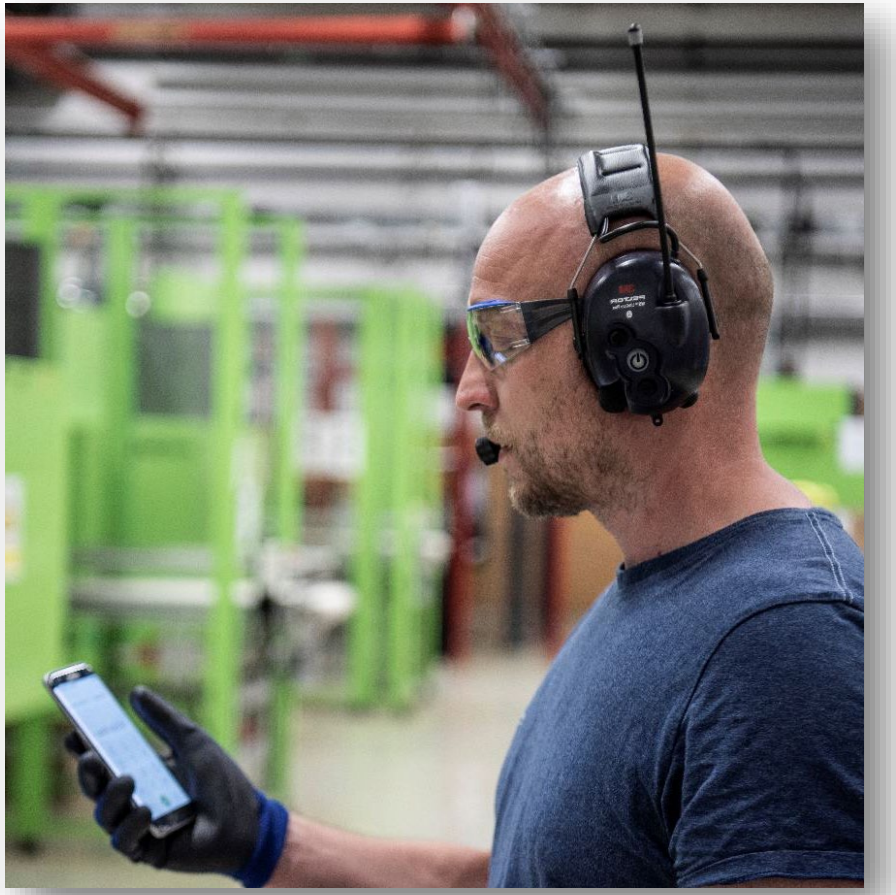
Magnus JOHANSSON

Convenor CEN/TC 159/WG 2

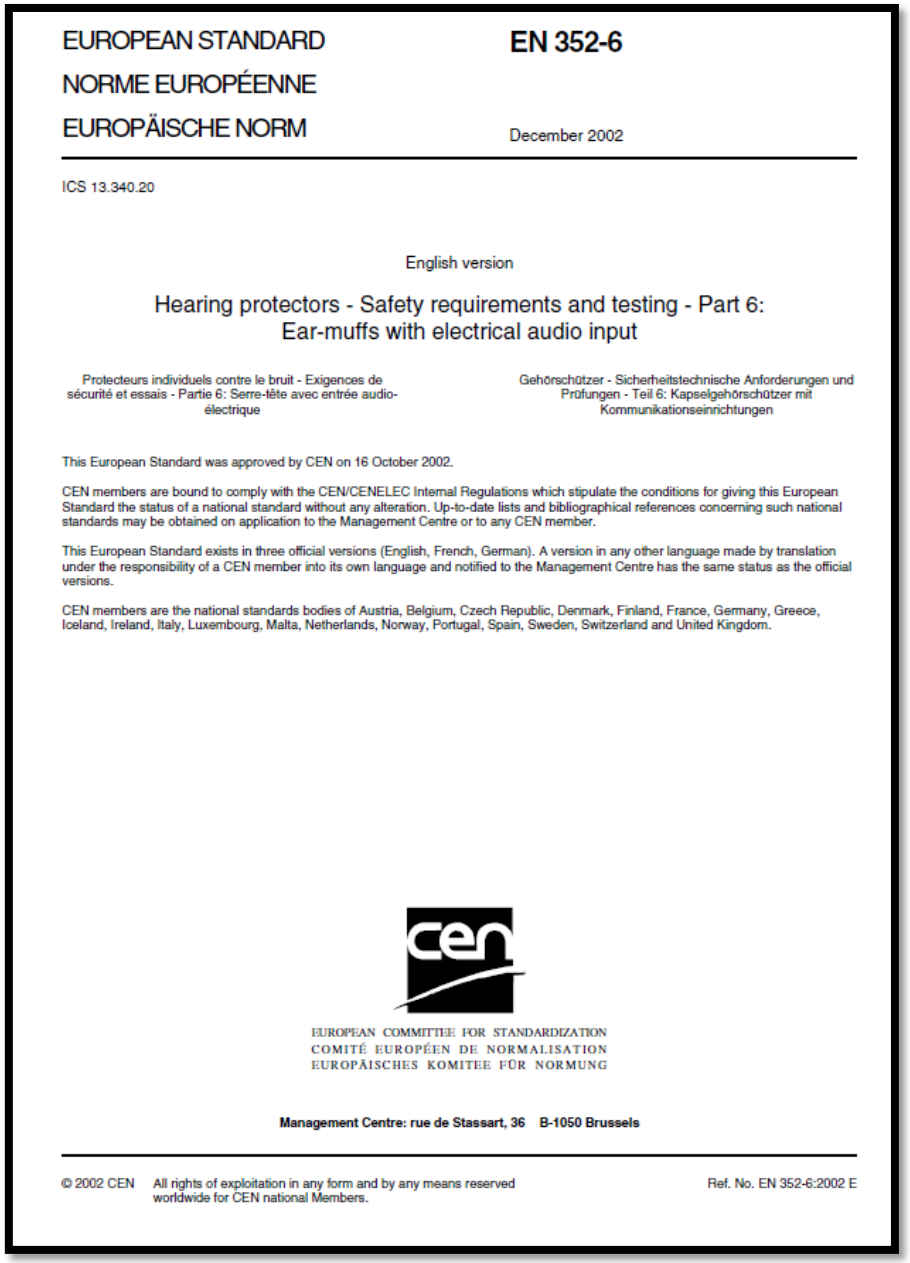
‘Electronic & amplitude-sensitive hearing protector’

magnus.johansson@mmm.com

Hearing protection devices with communication facilities - with long history



Example of product requirement standard from 2002



EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 352-6

December 2002

ICS 13.340.20

English version

Hearing protectors - Safety requirements and testing - Part 6: Ear-muffs with electrical audio input

Protecteurs individuels contre le bruit - Exigences de sécurité et essais - Partie 6: Serre-tête avec entrée audio-électrique

Gehörschützer - Sicherheitstechnische Anforderungen und Prüfungen - Teil 6: Kapselgehörschützer mit Kommunikationseinrichtungen

This European Standard was approved by CEN on 16 October 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

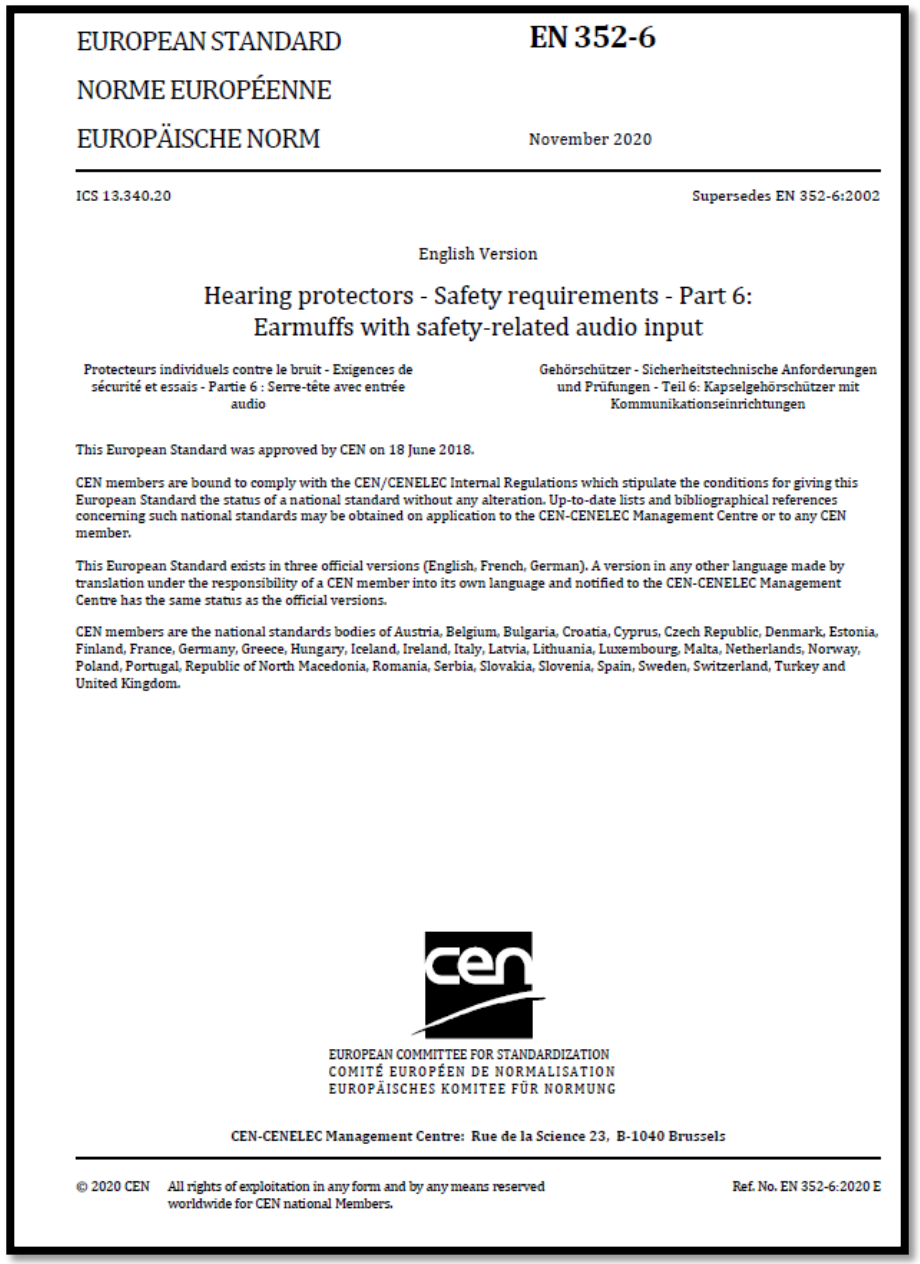
CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 352-6:2002 E

Hearing protectors - Safety requirements and testing - Part 6:Ear-muffs with electrical audio input



EUROPEAN STANDARD **EN 352-6**

NORME EUROPÉENNE

EUROPÄISCHE NORM November 2020

ICS 13.340.20 Supersedes EN 352-6:2002

English Version

Hearing protectors - Safety requirements - Part 6: Earmuffs with safety-related audio input

Protecteurs individuels contre le bruit - Exigences de sécurité et essais - Partie 6 : Serre-tête avec entrée audio

Gehörschützer - Sicherheitstechnische Anforderungen und Prüfungen - Teil 6: Kapselgehörschützer mit Kommunikationseinrichtungen

This European Standard was approved by CEN on 18 June 2018.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

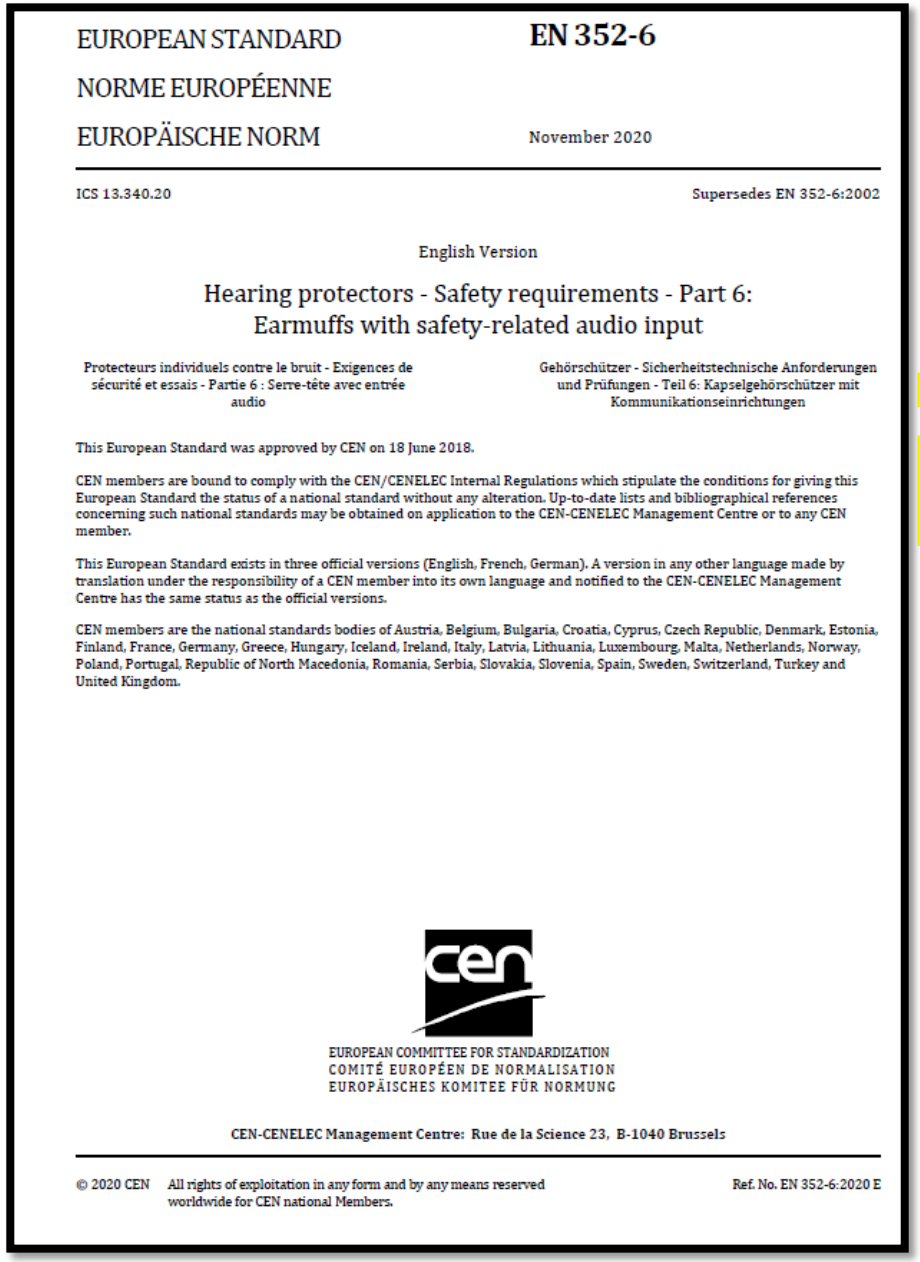
© 2020 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members. Ref. No. EN 352-6:2020 E

Current list of standards in the EN352 series - 2020

EN 352-1, Hearing protectors — General requirements — Part 1: Earmuffs
EN 352-2, Hearing protectors — General requirements — Part 2: Earplugs
EN 352-3, Hearing protectors — General requirements — Part 3: Earmuffs attached to head protection and/or face protection devices

EN 352-4, Hearing protectors — Safety requirements — Part 4: Level-dependent earmuffs
EN 352-5, Hearing protectors — Safety requirements — Part 5: Active noise reduction earmuffs
EN 352-6, Hearing protectors — Safety requirements — Part 6: Earmuffs with safety-related audio input
EN 352-7, Hearing protectors — Safety requirements — Part 7: Level-dependent earplugs
EN 352-8, Hearing protectors — Safety requirements — Part 8: Entertainment audio earmuffs
EN 352-9, Hearing protectors — Safety requirements — Part 9: Earplugs with safety-related audio input
EN 352-10, Hearing protectors — Safety requirements — Part 10: Entertainment audio earplugs

Test methods for these requirements are described in the following standards:
EN 13819-1, Hearing protectors — Testing — Part 1: Physical test methods
EN 13819-2, Hearing protectors — Testing — Part 2: Acoustic test methods
EN 13819-3, Hearing protectors — Testing — Part 3: Supplementary acoustic test methods



EUROPEAN STANDARD **EN 352-6**

NORME EUROPÉENNE

EUROPÄISCHE NORM November 2020

ICS 13.340.20 Supersedes EN 352-6:2002

English Version

Hearing protectors - Safety requirements - Part 6: Earmuffs with safety-related audio input

Protecteurs individuels contre le bruit - Exigences de sécurité et essais - Partie 6 : Serre-tête avec entrée audio

Gehörschützer - Sicherheitstechnische Anforderungen und Prüfungen - Teil 6: Kapselgehörschützer mit Kommunikationseinrichtungen

This European Standard was approved by CEN on 18 June 2018.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

© 2020 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members. Ref. No. EN 352-6:2020 E

Current list of standards in the EN352 series - 2020

EN 352-1, Hearing protectors — General requirements — Part 1: Earmuffs
EN 352-2, Hearing protectors — General requirements — Part 2: Earplugs
EN 352-3, Hearing protectors — General requirements — Part 3: Earmuffs attached to head protection and/or face protection devices

EN 352-4, Hearing protectors — Safety requirements — Part 4: Level-dependent earmuffs
EN 352-5, Hearing protectors — Safety requirements — Part 5: Active noise reduction earmuffs
EN 352-6, Hearing protectors — Safety requirements — Part 6: Earmuffs with safety-related audio input
EN 352-7, Hearing protectors — Safety requirements — Part 7: Level-dependent earplugs
EN 352-8, Hearing protectors — Safety requirements — Part 8: Entertainment audio earmuffs
EN 352-9, Hearing protectors — Safety requirements — Part 9: Earplugs with safety-related audio input
EN 352-10, Hearing protectors — Safety requirements — Part 10: Entertainment audio earplugs

Test methods for these requirements are described in the following standards:
EN 13819-1, Hearing protectors — Testing — Part 1: Physical test methods
EN 13819-2, Hearing protectors — Testing — Part 2: Acoustic test methods
EN 13819-3, Hearing protectors — Testing — Part 3: Supplementary acoustic test methods

Products with safety-related audio input

EN 352-6, Hearing protectors — Safety requirements — Part 6: Earmuffs with safety-related audio input

EN 352-9, Hearing protectors — Safety requirements — Part 9: Earplugs with safety-related audio input

Product requirements:

- Criterion input signal
- The relationship between sound output level and input signal in 5 dB steps from a sound output level of 70 dB(A) up to the maximum input signal
- The sound output level for maximum input signal
- The usage time for the maximum input signal that corresponds to an 8 h equivalent sound output level

Products with entertainment audio

EN 352-8, Hearing protectors — Safety requirements — Part 8: Entertainment audio earmuffs

EN 352-10, Hearing protectors — Safety requirements — Part 10: Entertainment audio earplugs

Requirements:

- The entertainment audio signal doesn’t exceed 82 dB(A) effective to the ear;
  - built-in broadcast receivers for FM radio
  - electrical audio input
  - built-in Bluetooth receivers

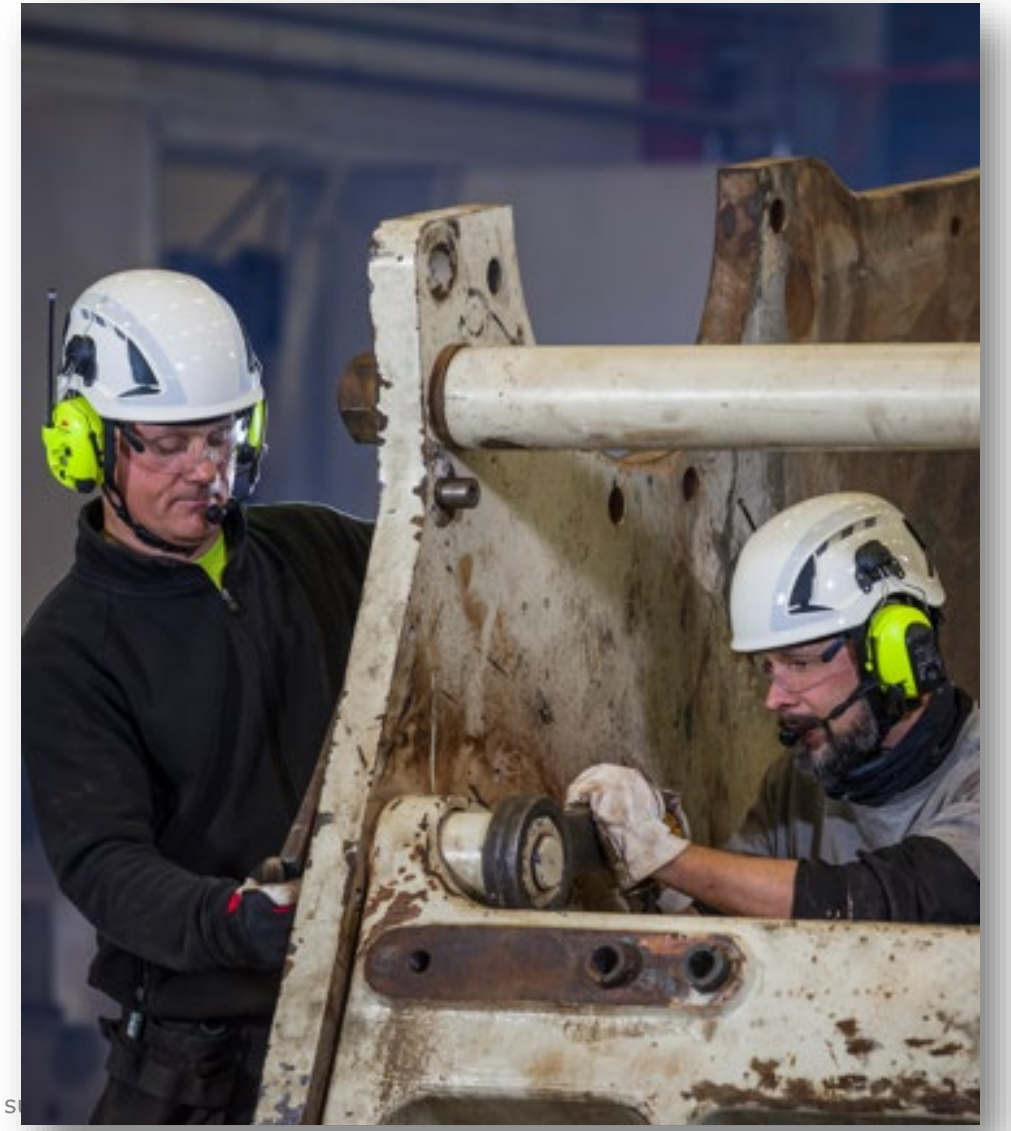
Upcoming amendments

EN352 - Part 6 and Part 9 …safety-related audio input

- The criterion input signal for hearing protection devices with analogue frequency modulated two-way radio input

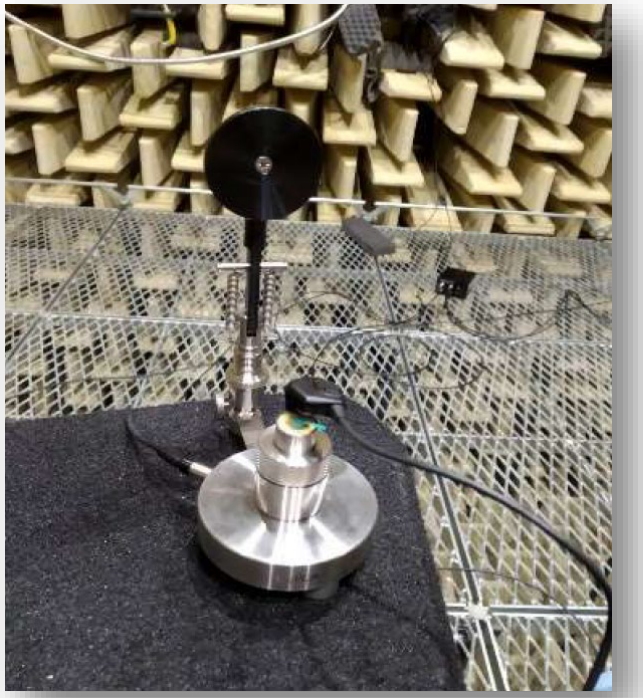
EN352 - Part 8 and Part 10 …entertainment audio

- Entertainment audio hearing protections with built-in DAB and/or DAB+ radio receivers

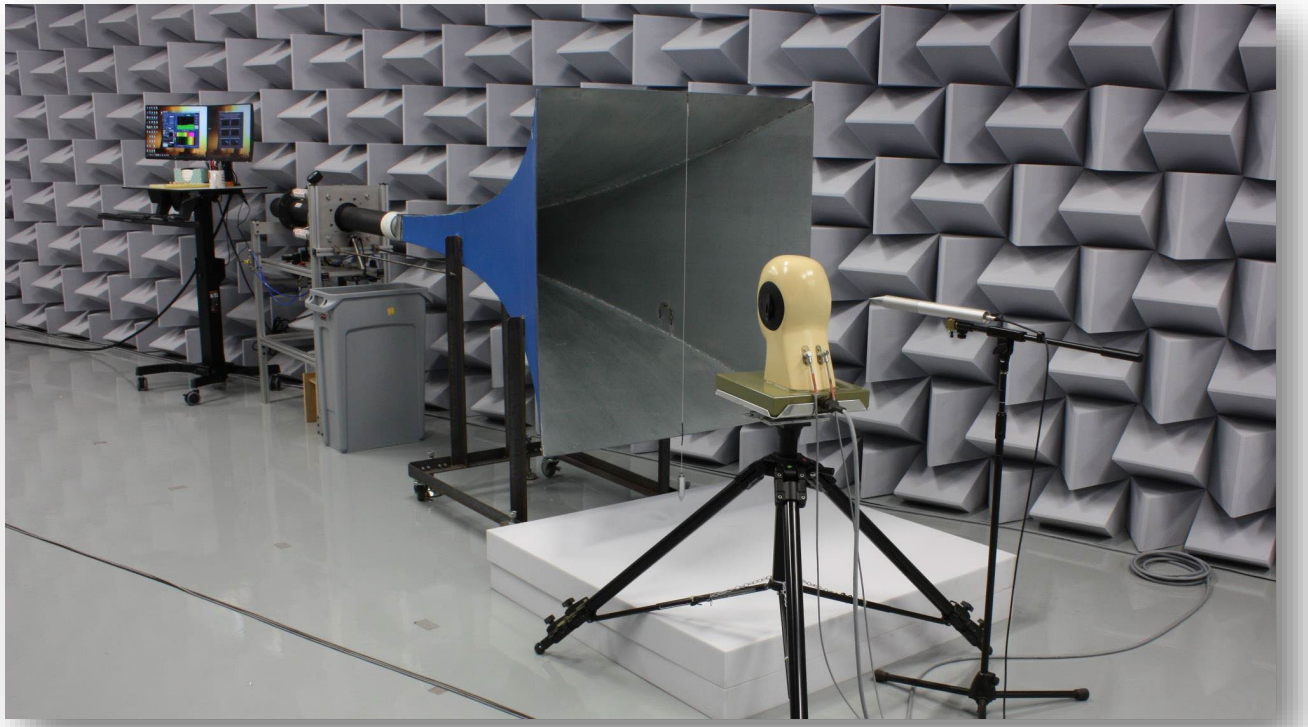


Ongoing work

How to test ANR earplugs?



How to test hearing protection devices to impulse noise?



Join the team!

Speakers

Peter SICKERT

Convenor CEN/TC 159/WG 5 ‘Hearing protectors - Selection and use’

peter.sickert@lgc-ps.de

CEN/TC 159 Working group 5 “Hearing protectors - Selection and use”

WG 5 originally deals with appropriate selection, use and maintenance of hearing protectors

Special case: User standard, no requirements on products or test methods

Overview:

- Selection and use of HPD
- Selection and use of fit testing systems
- Requirements on fit testing systems

Selection of hearing protectors according EN 458

July 2016

DIN EN 458

DIN

ICS 13.340.20

Supersedes
DIN EN 458:2005-02

Hearing protectors –
Recommendations for selection, use, care and maintenance –
Guidance document;
English version EN 458:2016,
English translation of DIN EN 458:2016-07

Example of the content - important aspect: Selection of HPD according to sound attenuation

Methods for assessing the sound attenuation of a passive hearing protector :

— Octave band method;
— HML method;
— HML check method;
— SNR method.

Mostly used: calculation method "HML Check":

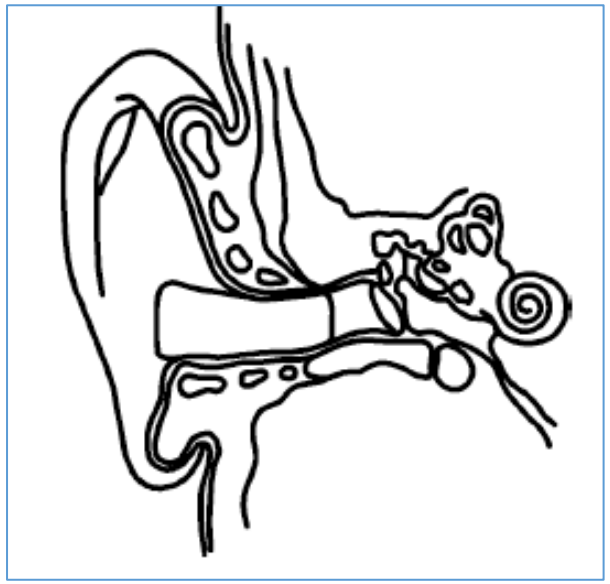
Subtract the **laboratory** determined sound attenuation values (M or L-value) (type examination) from the A-weighted sound pressure level ($L'_{p,A} = L_{p,A} - M/L$)

if $L'_{p,A} > L'_{NR}$ the protection is insufficient → try another hearing protector with higher attenuation;
if $L'_{p,A} \leq L'_{NR}$ the sound attenuation of the hearing protector is sufficient;
if $L'_{p,A} > L'_{NR} - 15$ dB the sound attenuation is "acceptable" or "good".

L'_{NR} National regulation level, L'_{pA} residual level at the ear

But: Sound attenuation in practice (Real-world attenuation) is mostly lower!

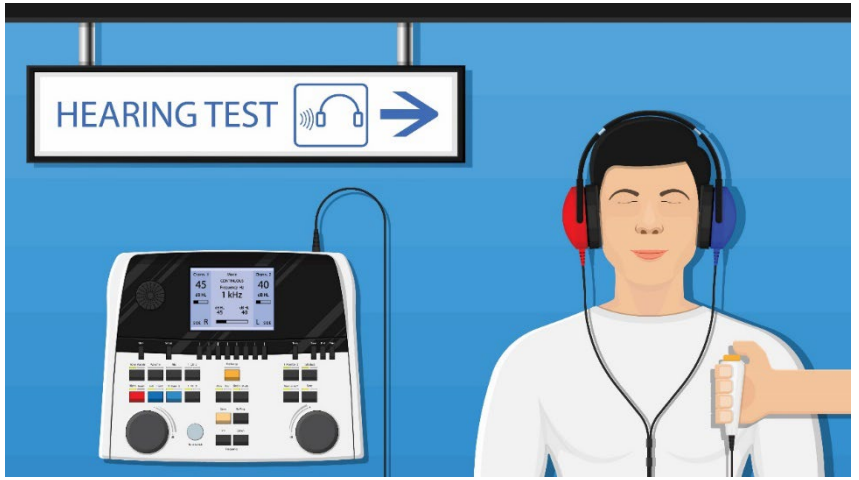
The attenuation afforded by a hearing protector when used under normal working conditions may differ from that indicated on the device packaging or in the user information from different reasons.
Possible causes: Ear anatomy, wrong use, poor maintenance.



Not appropriate use of earplugs

→ Different derating methods within the member states
→ Example: Germany for disposable earplugs → use the M-Value – 9 dB

Second WG 5 Topic: fit testing methods



EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 17479

November 2021

ICS 13.340.20

English Version

Hearing protectors - Guidance on selection of individual fit testing methods

Protecteurs individuels contre le bruit - Recommandations relatives au choix des méthodes individuelles de contrôle de l'ajustement

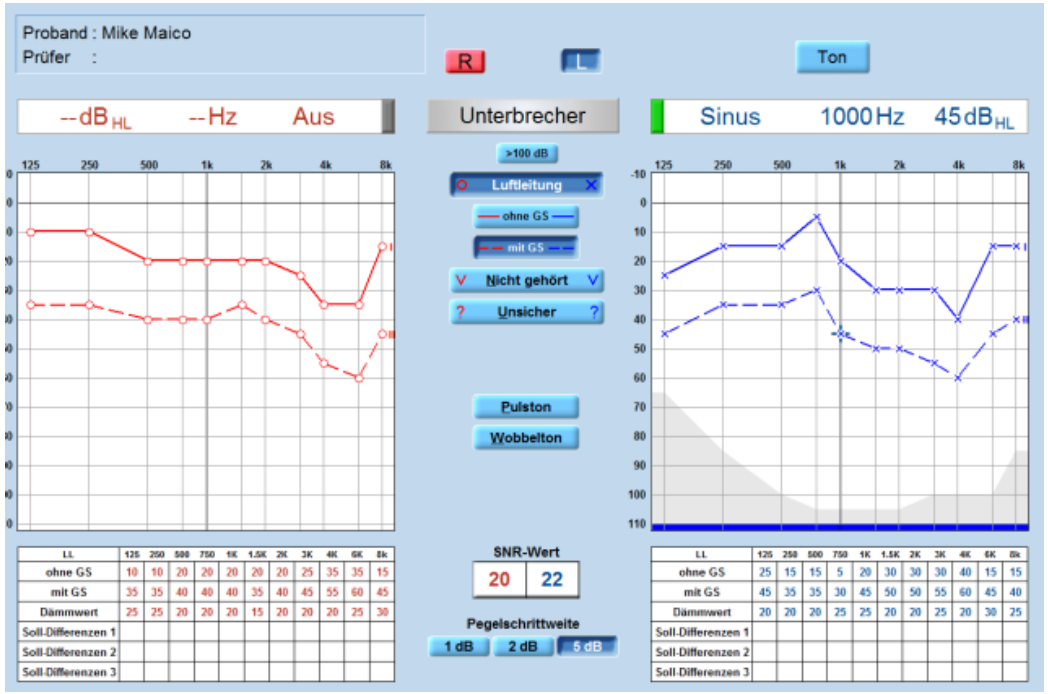
Gehörschützer - Leitfaden zur Auswahl von Prüfverfahren für den individuellen Sitz

This European Standard was approved by CEN on 13 September 2021.

4.2 Test methods (objective and subjective)

- Method 1: Sound-level measurements with microphone in real ear (MIRE)
- Method 2: Audiometric method (determination of the threshold of hearing with and without hearing protector)

Method 2



Audiometric method: „Maico MA 33“

- Method 3: Audiometric-based method (determination of the threshold of hearing with and without hearing protector)
- Method 4: Loudness balancing method
- Method 5: Acoustic leakage test
- Method 6: Air leakage test

Method 3

Phonak „SafetyMeter“Source: Weiss/BGHM

Honeywell „VeriPro“

Method 4

Table 2: Application field of the different fit testing methods

Health surveillance

Training for trainers and supervisors

Method	Sound-level measurement with microphone in real ear (MIRE)		Audiometric method		Audiometric-based method		Loudness balancing	Acoustic leakage test	Air leakage test
Sub method	with headset	with loud-speaker	with headset	with loud-speaker	with headset	with loudspeaker			
Select an appropriate hearing protector	X	X	X	X	X	X	–	X	X
End user training	X	X	X	X	X	X	X	X	X
Training for trainers and supervisors	X	X	X	X	X	X	X	X	X
Health surveillance	X	X	X	X	X	X	–	X	X
Verify adequacy of attenuation to noise level at work place	X	X	X[b]	X[b]	X[b]	X[b]	–	–	–
Fit for custom moulded earplugs	X[a]	X[a]	X	X	X	X	X	X	X
Awareness increase	X	X	X	X	X	X	X	X	X

a Some MIRE systems can be used only on custom moulded earplugs.

b Suitable only when tested at all frequencies.

2019: new scope of WG05

2019: New scope of WG 5

1. **To be responsible for preparing European standards on guidance on correct selection, use, care and maintenance of hearing protectors.**

+

2. **Additionally, to be responsible for the development of performance requirements and test methods for fit testing systems for determination of the individual hearing protection performance.**

First draft of a new standard on fit testing system requirements (PWI)

CEN/TC 159/WG 5 **N 396**

CEN/TC 159/WG 5 "Hearing protectors - Selection and use"
WG Secretariat: **DIN**
Convenor: **Sickert Peter Mr Dipl.-Phys.**

Draft PWI - Performance criteria for fit testing systems - 2022-08-23

Possible: partly use of American standard: ANSI/ASA S12.71-2018
"Performance Criteria for Systems that Estimate the Attenuation of Passive Hearing Protectors for Individual Users"

Content - preliminary draft

Summary and Outlook

- Appropriate selection of HPD
- Correct use of hearing protectors
- Individual fit of hearing protectors
- Derating of sound attenuation in practise
- Guidance on selection of individual fit testing methods

→ Performance criteria for fit testing systems

Future of WG 5:

- From 2023 no convener and no secretary available.
- Every kind of support is welcome.

Thank you for your attention!

Speakers

Sandra DANTSCHER

Convenor CEN/TC 159/WG 6 ‘Hearing protectors - General requirements and test methods’

Sandra.Dantscher@dguv.de

Challenges

Hearing protectors for children – challenges for TC 159

Scope of WG 6

Testing the passive functionality
- applicable to all products

To be responsible for the basic European standards for earmuffs, earplugs and earmuffs attached to head protection and/or face protection devices to include requirements, testing, marking and user information.

Also to be responsible for harmonising, where possible, all of CEN/TC 159 hearing protector product standards.

Here: EN 352-1 to -3

EN 352 and EN 13819 series

Series EN 352: product standards specifying requirements
→ In WG 6: EN 352-1, -2 and -3

Series EN 13819: testing standards specifying procedures
→ In WG 6: EN 13819-1 and -2

EN 352-1: earmuffs

EN 352-2: earplugs

EN 352-3: mounted earmuffs

PPE for children - examples

- Respirator masks, face masks
- Helmets for sports (equestrian, biking and skiing)
- Hearing protectors (earmuffs and earplugs)
- Life jackets
- Climbing harness

Hearing protectors for children

Fields of application:

- Leisure and sports (e.g. music, car racing)
- But also schools etc. (for enhancing concentration)

To be noted:

- The PPE Regulation addresses also private use (not only work environment).
- So far, this field has not been in the focus of TC 159.

Testing and certification so far

- Application of existing standards (EN 352-1 and -2) where possible
- Application of Recommendation for Use sheets of the Notified Bodies for further aspects
  - RfU: Agreement between NB on technical questions, also approved by member states representatives
  - Example: Additional instructions and warnings for parents as part of user information
- Application of bespoke test procedures adapted to certain products (e.g. for babies and toddlers)

Approach of TC 159 standards for adults

Examples:

- Size ranges (adjustability)
- Measurement of sound attenuation (subjective procedure with test subjects)

Test procedures and requirements are affected by the reduced sizes of the products and the target group of users.

Earmuffs: sizing

Specification of test width and test height for three different size ranges (S, M, L) in EN 13819-1

Values cover the adult population (males and females).

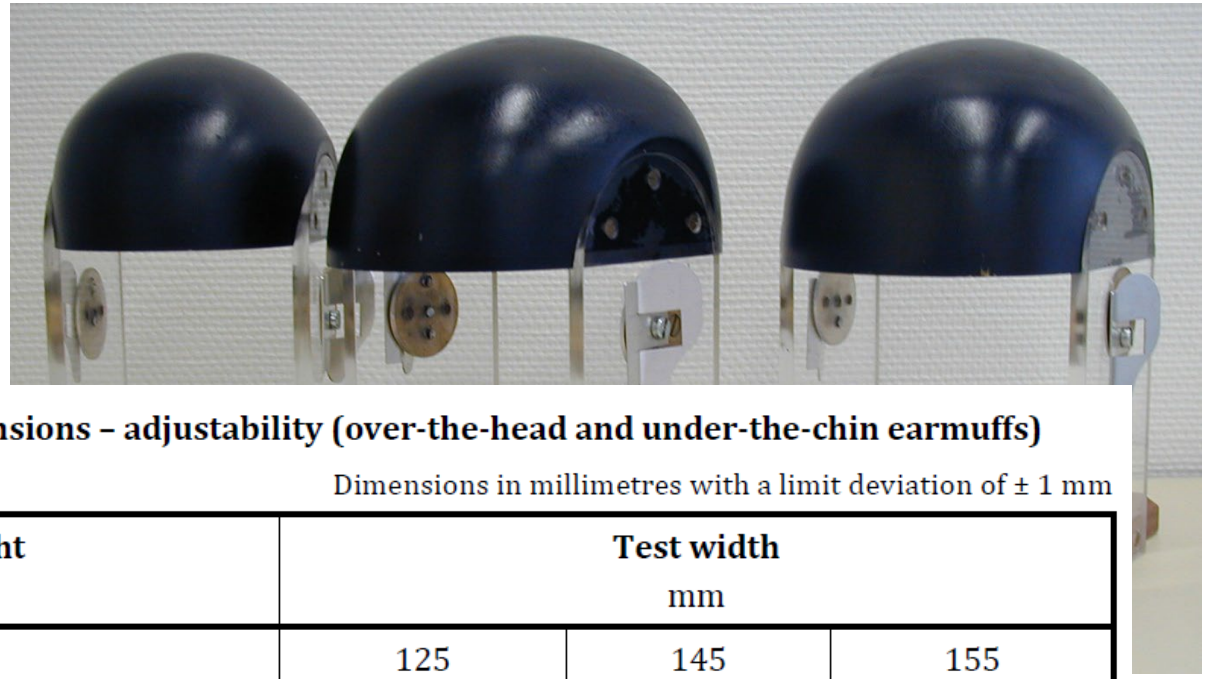


Table 1 — Test dimensions – adjustability (over-the-head and under-the-chin earmuffs)

Dimensions in millimetres with a limit deviation of ± 1 mm

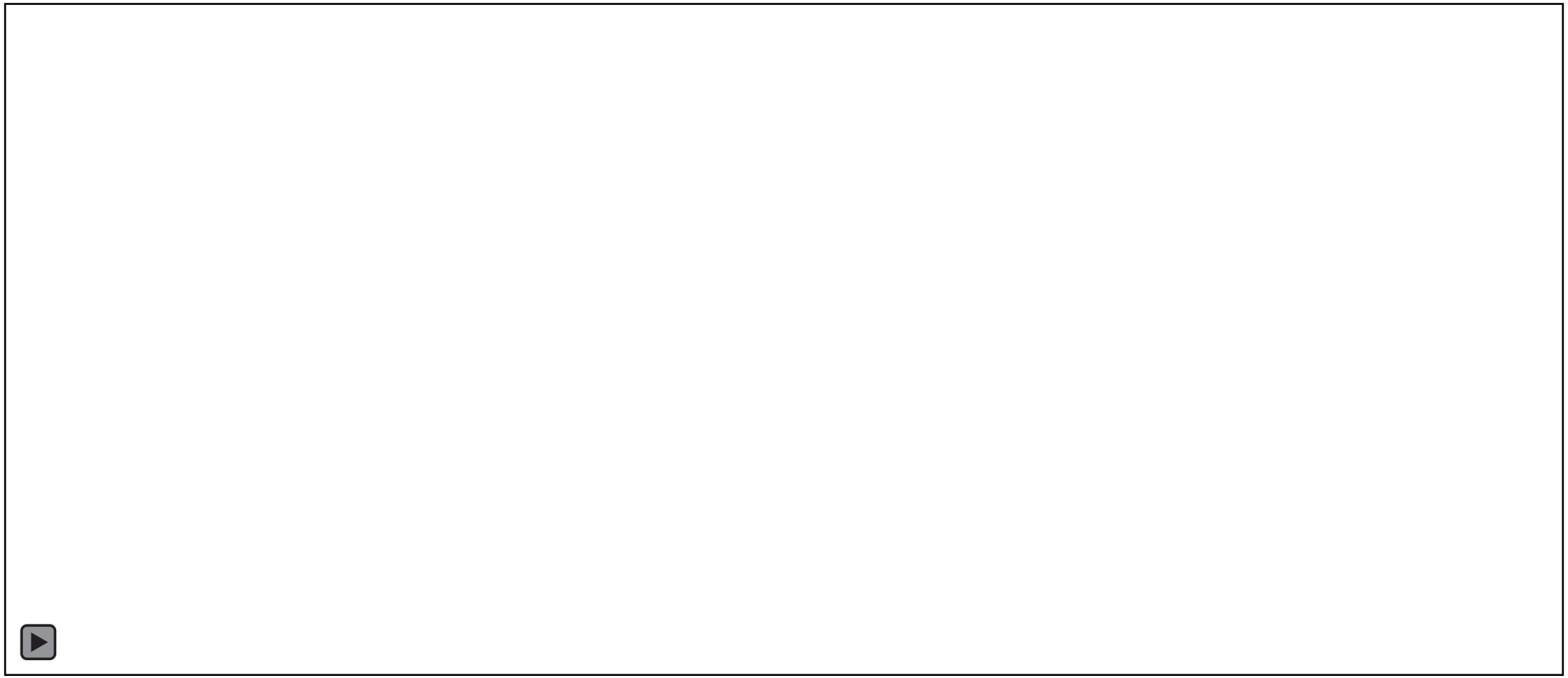
Test height mm	Test width mm		
	125	145	155
115	S	S/M	—
130	S/M	S/M/L	M/L
140	—	M/L	L

M indicates earmuffs of 'medium' size range.
S indicates earmuffs of 'small' size range.
L indicates earmuffs of 'large' size range.
– not applicable.

All types: sound attenuation

- Measurement method: EN ISO 4869-1, Real-ear attenuation at threshold (REAT)
  - Hearing threshold with and without hearing protector
  - Test subjects needed for realistic results
- 16 subjects per product → representative anthropometric range of target group
- Necessary precondition: stable threshold measurements

Sound attenuation measurement



Current project of CEN/TC 159/WG 6

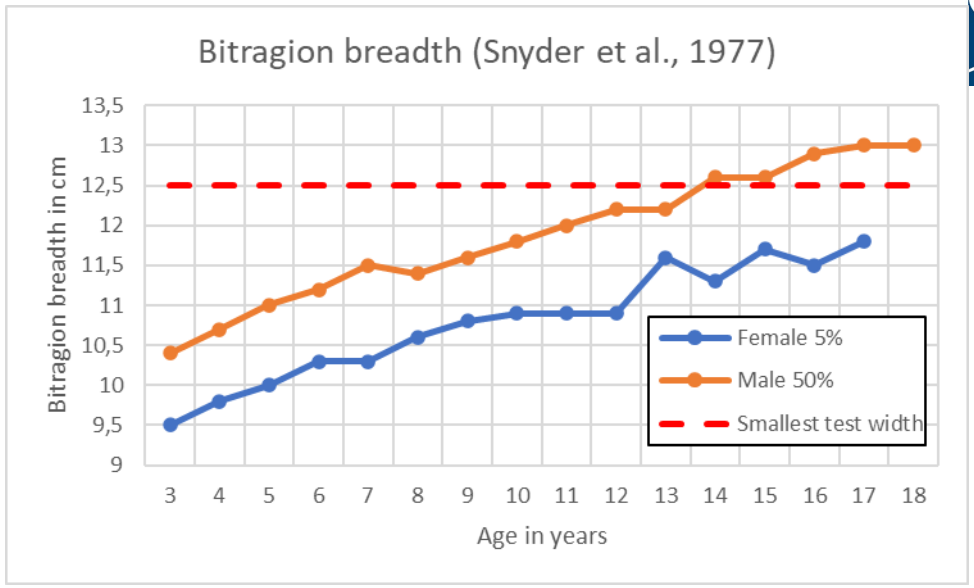
Testing and certification of earmuffs for children under the age of five years

Identified open questions:

- Sizing: smaller test headforms for adjustability
- Test equipment: smaller versions (e.g. headband force, variation of insertion loss)
- Sound attenuation: measurements with adults or children (or artificial heads)

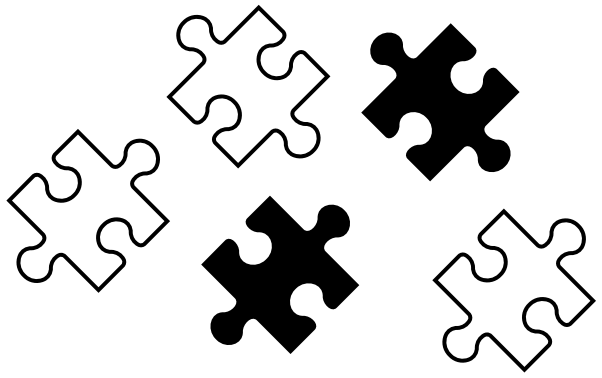
Approaches

- As a first step: address age range from 2 to 5 years
- Anthropometric measures: contact to CEN/TC 122/WG 1, analyse existing data sets (webinar in November 2021 and technical report CEN/TR 17698)
- Ergonomic criteria (e.g. headband force): investigate other products for children
- Involve NBs (with and without previous experience in testing of such products)



Summary and outlook

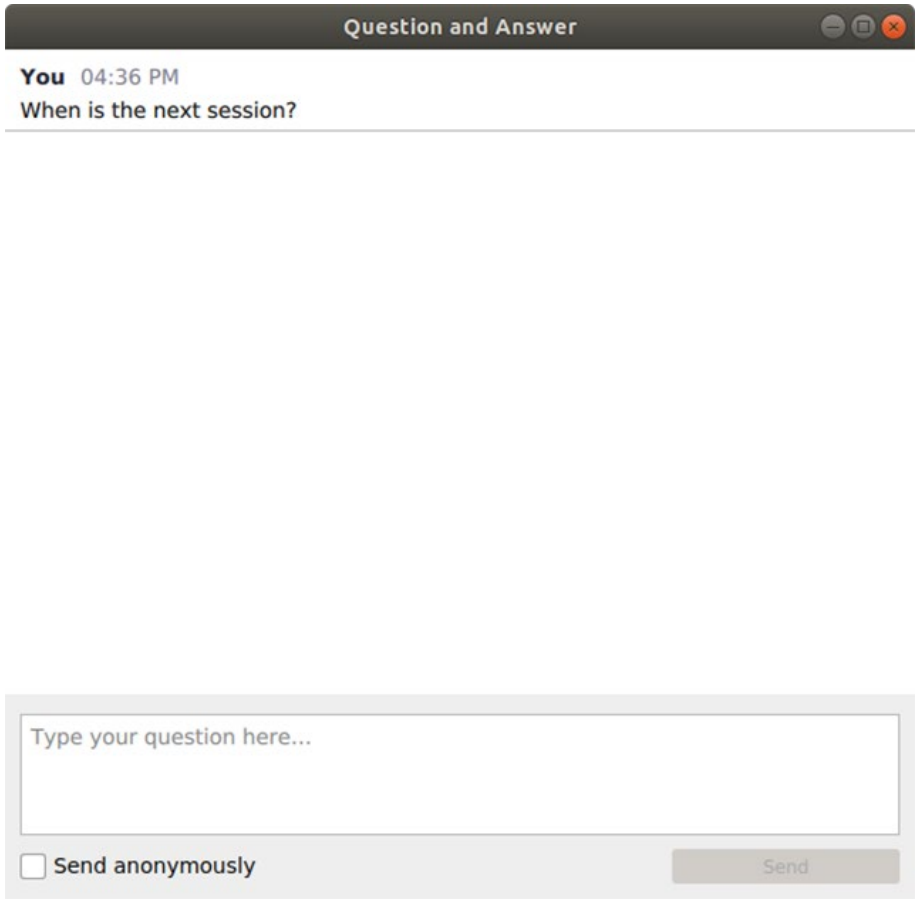
- Goal: Protect the whole population exposed to noise
  - A relevant part of the exposure can lie on the leisure side (for all age groups).
- Take into account
  - the needs of children as primary target group
  - the needs of parents as secondary target group (information and instruction)
- Change or adapt established procedures
  - E.g. determination of sound attenuation
- Can you help us? Experts for experience exchange
  - Audiology, medicine
  - Anthropometry
  - Test labs, notified bodies



Do you ...

Question time

- Use the Q&A panel to submit your questions







European Committee for Standardization

Thank you for your participation!

Next events & webinars

2022-12-02 – Hybrid event ‘Trusted Chips: The Standardization Landscape & Opportunities for Europe’

2022-12-12 – Training for newly appointed Technical Body Officers