EN17210: 2021 Accessibility and Usability of the Built Environment

EN 17210 is a new European Standard which sets out accessibility requirements for public procurement in the built environment.

About the Standard

Developed by the European Committee for Electrotechnical Standardisation (CEN-CENELEC) the Standard describes the minimal requirements needed to make public spaces safe and inclusive for a wide range of users, including people with disabilities. EN 17210 and its supporting Technical Reports were prepared under Mandate 420 from the European Union to create an EU Directive where all public funded developments must be accessible, and conformity with accessibility requirements must be assessed.

The EN17210: 2021 Standard was released on 13 January 2021.

EN 17210 applies to all CENELEC members which include the national standards bodies and national electrotechnical committees of:

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

CEN National Standardization Bodies of all above countries have 6 months to implement European Standards from their publishing date.

Use of the Standard

The European Union has directed that all developments receiving public funds must provide accessibility. EN 17210 will be the Standard against which conformance with accessibility requirements must be assessed.

The requirements cover the full spectrum of needs and life-stages – from people with physical impairments or sensory loss, people with allergies or cognitive impairments, to those with a mental health condition, age-related limitations, parents, and children.

Who should use it

The Standard is intended to assist primarily public procurers but also architects, specifiers, designers, engineers, facility managers and others, giving them a clear guidance and framework within which to specify and design accessible spaces.

Guidance on hearing enhancement systems

The EN17210 standard specifies minimum requirements and provides guidance for 'hearing enhancement' in public spaces.

Hearing enhancement technologies are defined as a direct wire system, an inductive loop, an Infrared system (IR), a Radio Frequency (RF) and Wi-Fi technology.

The standard explains that the decision of which technology to use depends on the type of application and the conditions. Some technologies will be more suitable for certain applications, others may not work in certain conditions. The standard specifies that the type and placement of hearing enhancement systems is **to be established at an early stage in the design of a premises**.

Whilst there are four listed technologies, Induction loops is the only technology that has a globally accepted installation standard (IEC 60118-4), and it is the only technology that enables sound to be delivered direct to users hearing instruments, without the need to have additional equipment or personal receivers. It is therefore mentioned numerous times in the standard as the recommended technology for a large number of applications.

The Standard lists examples for the locations where assistive listening systems should be installed. This includes **meeting rooms, lecture halls, classrooms, performances halls, spectator venues for sport or films, reception counters, service desks, PA systems, payphones**, **HAC phones and door entry systems.**

The BSI document **Accessibility and usability of the built environment — Technical performance criteria and specifications (CEN/TR 17621:2021 (E))** outlines the technical performance criteria and specifications of EN 17210. The two documents follow the same structure in terms of headings, clauses, and bullet points (a), b), c) etc. and providing solutions to meet the recommendations. They should be read alongside each other as they are both essential to fully comprehend the Standard.

Application / Location	Typical Sound Source	Type of Loop / Assistive Listening System	Appropriate level of provision
Bank counter	Staff voice (A)	Counter loop	Ideally every counter provides a loop If a glazed screen is present then a speech transfer system is needed in addition to the loop.
Supermarket checkout	Staff voice (A)	Counter loop	Ideally every checkout provides a loop
Reception desks	Staff voice (A)	Counter loop	
Customer service tills	Staff voice (A)	Counter loop	
Retail point of sale	Staff voice (A)	Counter loop	Minimum of every other counter provides a counter loop
Check in desks	Staff voice (A)	Counter loop	All check in desks
Payment window	Staff voice (A)	Counter loop and speech transfer system	All payment windows
Ticket window	Staff voice (A)	Counter loop and speech transfer system	All ticket windows such as transport. theatre etc.
Retail point of sale (self service)	Audio from self-service unit	Integrated loop	All units
Help point or information point (that provides audio)	Audio from help point	Integrated loop	All help points
Refuge point	Audio from refuge point	Integrated loop	All refuge points
Door entry systems (entrance panel)	Audio from door entry panel	Integrated loop	All door entry panels
Lift emergency intercom	Audio from intercom	Integrated loop	All emergency intercoms
TV listening (home)	TV	TV loop system	
TV listening (communal areas)	TV	Large area loop	
Announcements (airports stations)	Train PA announcement system	Large area loop or a loop that covers a designated area (which will require clear signage)	A designated area (zone) is identified that relates to the announcement and gives maximum coverage (attention is needed to ensure specific zoned areas are looped accordingly)
Conference rooms	Presenter's voice / AV system	Large area loop	
Meeting rooms	Attendees' voices (A) / AV system	Large area loop	Microphone type and coverage needs to be specified correctly
Boardroom	Attendees' voices (A) / AV system	Large area loop	Microphone type and coverage needs to be specified correctly
School classrooms	Teacher's voice (A) / AV system	Large area loop	Could be used in conjunction with a soundfield system
Lecture theatres	Tutor's voice (A) / AV system	Large area loop	Could be used in conjunction with a soundfield system
Places of worship	PA system	Large area loop	Ideally the whole area of the congregation is covered if this is unachievable a minimum of 50% is attained and clearly signed where the loop is operational
Entertainment venue	Venue sound/ AV system	Large area loop (B)	
Consultation rooms	Consultant's voice (A)	Counter loop/small area loop	Where the acoustic environment is benign and the consultant and patient are within 2 m of each other an induction loop might be unnecessary
Communal rooms	Presenter's voice/ AV system	Large area loop (B)	Nursing residential and care homes. day centres. community centre

A>   Via a microphone, B> In phased array configuration

Examples from the EN17210 Standard:

The Standard specifies and recommends suitable hearing enhancement systems being available in noisy environments where sound is transmitted to groups of people. It provides plenty of examples on where systems should be installed. Conferences, sports events, religious worship, and entertainment venues are all given examples of spaces where the quality of speech transmission is important.

Courtrooms should have a permanently installed hearing enhancement system. Specialist advice is recommended to prevent overspill outside of the room.

Induction loop system in a conference room

1 microphone connected to amplifier system

2 amplifier system

3 inductive loop amplifiers

4 inductive loops, connected to an inductive loop amplifier paired with the amplifier system

5 person wearing hearing aid with built-in telecoil receiver

6 loudspeakers connected to amplifier system
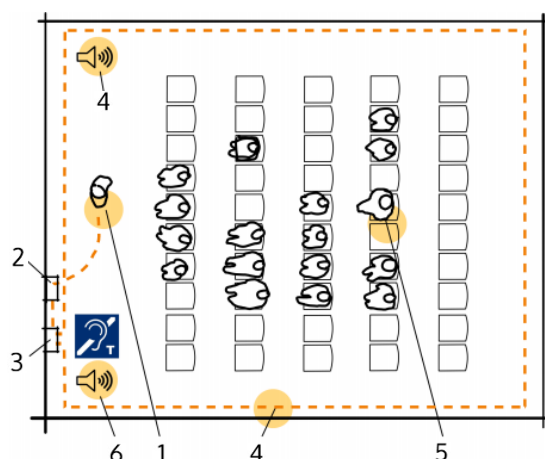
Induction loop system in lecture hall

1 microphone connected to amplifier

2 loudspeakers connected to amplifier

3 induction loop amplifiers connected to amplifier

4 induction loops connected to induction loop amplifier

5 persons using hearing aid with built in telecoil receiver

6 sound amplification system
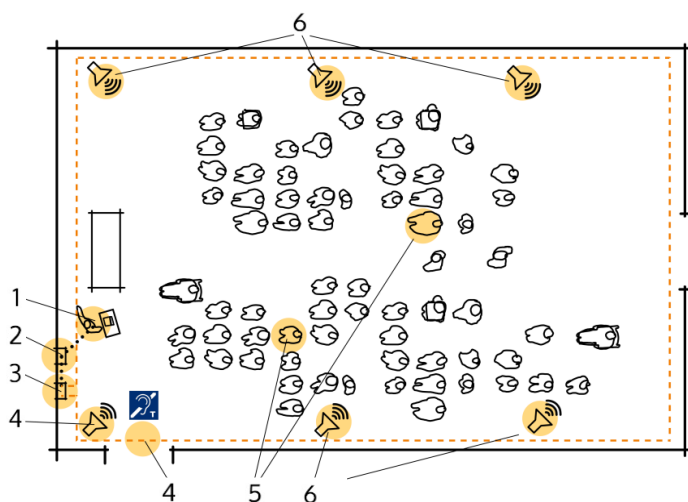
Induction loop system in ticket offices with screens and in ticket machines

1 movement direction

2 sound amplification system/microphone

3 hearing enhancement system
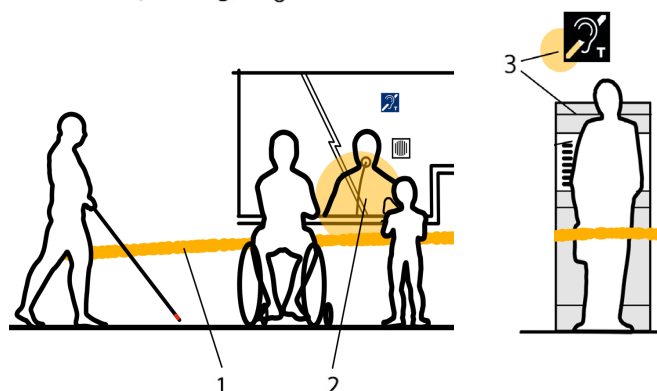
Intercom systems

The EN17210 recommends all security and entry systems on public buildings to have an intercom system with an integrated hearing enhancement for hearing aid users.

Similarly, communication systems in elevators should include hearing enhancement systems to help people with hearing loss, particularly in case of emergency. Availability should be clearly signed.

Signage

The EN17210 standard specifies that rooms or spaces with a hearing enhancement system, such as an induction loop, should clearly indicate this with appropriate signage. This should be in clearly positioned and in accordance with the specification within the EN 60118-4.

Maintenance

The Standard recommends maintenance of hearing enhancements, including checking instruments such as neck loops that support Wi-Fi, IR and RF systems. It also highlights reviewing policies that mean people with hearing loss can always access the space. For example, moving signage if the location of a hearing enhancement system changes, making sure a counter or cash desk with a loop system is always manned and staff training.

This information has been shared with permission from BSI. The standard is available in English, German and French and a full copy can be purchased from these websites:

1. https://standards.cen.eu/dyn/www/f?p=204:35:0::::FSP_SURR_WI:65077&cs=101FE50B9706BC503EBE7E34C246ED51A

2. https://shop.bsigroup.com/ProductDetail?pid=000000000030436086

3. https://standards.iteh.ai/catalog/standards/cen/458b7c84-e47b-479c-bc60-82e3e94a4057/en-17210-2021