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REQUESTED ACTION

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1st Working Draft
Accessible tourism for all

International Standard
on
Accessible Tourism for All

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Introduction

Tourism is one of the fastest growing sectors of the global economy. Today there are around 1.2 billion people travelling the world and the sector is responsible for 1 out of 11 jobs worldwide. However, for many people, including the 15% of the world population with some form of disability, and many others such as senior citizens and persons with specific access requirements, travelling can be a challenging process throughout the entire tourism value chain.

Very often, people with disabilities face serious physical, mental and cultural barriers which are still persistent within the tourism sector and in many destinations. They fail to find clear and trustworthy information on accessibility of the facilities they plan to visit and they even suffer from the direct consequences of false advertising of “accessible” tourism products. This is mostly due to the lack of application of adequate standards and the insufficient training of tourism professionals, rather than the easy profit-seeking. At times, standards may even differ between different regions within the same country, which creates doubts about accessible services that the end user is expecting to find in the destination.

There are already certain standards in place in the sphere of tourism outlining recommendations and requirements on some of the key aspects of universal accessibility in different environments and services. In addition, there are also standards which refer to universal accessibility as such without taking into account the aspects of travel and tourism. However, the existing standards also present gaps. Most of accessible tourism observatories have shown that one of the major difficulties for the application of standards is the lack of knowledge on the existing tools and possible solutions, the lack of information on where to find them and how to apply them, the contradictory information on different standards between different countries and regions, and how to proceed in situations for which no international standards have been adopted yet.

Given the aforementioned state of the art, it would be necessary to elaborate a global and transversal international standard which will feature, first of all, a systematic inventory of the already existing standards, technical criteria, recommendations and requirements. (Mapping phase)

Secondly, it will suggest both general and concrete recommendations and requirements for those segments of the value chain and the related activities, whose international standardization in relation to accessibility is still pending. (Standard setting phase)

The international standard on Accessible Tourism will take into account all Tourism related aspects. Below are described the aspect that will be further developed in the standard:

Policies and Strategies for Accessible Tourism:

This section will focus on recommendations targeting public administrations and destination management organizations with regards to accessible tourism policies and strategies. Within the aspect of tourism planning, a special attention will be dedicated to recommendations on fostering research in the field of accessible tourism and tools to assess the level of accessibility of tourism infrastructure, products and services.

Recommendations on quality standards compiled from various international documents and those applicable to destination management, especially in relation to promotion, product development, sales and marketing, will be also addressed. Likewise, recommendations for creating awareness-raising and training programmes for tourism professionals and other accessible tourism stakeholders will be also provided.

Travel planning, information and communication.

This section will map and compile the existing requirements and recommendations or suggest some new accessibility criteria for the provision of information on tourism destinations and attractions. The ultimate objective of these recommendations is to allow making direct bookings and service payments by users with disabilities, which is still a challenging issue within the tourism sector.

These recommendations will target public administrations, destinations and tourism industry stakeholders (accommodation sector, tour operators, travel agencies, etc.), as well as the developers and managers of websites and web applications, apps, and online booking engines.

The recommendations on how to provide information within specific environments (i.e. travel agencies, tourist information offices & desks) will be considered in the section 'Accessible tourism services in general'.

Use of transportation.

This section will compile the existing relevant recommendations and technical criteria applicable to vehicles and other means of transport, including taxis, urban and intercity buses, trains and trams, boats and airplanes, among others. Furthermore, the existing recommendations for different transport services will be addressed.

However, in case of detecting gaps with regards to the existing accessibility criteria in the field of transportation, only recommendations for built environments will be proposed (railway stations, bus terminals, airports, etc.). New recommendations for the different means of transportation will not be tackled.

Accessibility in urban and rural environments.

This section will focus on the recommendations and requirements which enable access to urbanized environments, whether in cities or rural areas, in particular

with regards to urban planning, characteristics of streets and urban furnishing squares, parks, urban beaches, etc.

An urban environment would be defined as the area occupied by a largely populated city, which provides infrastructure (parks, green areas, residential buildings and services, facilities, etc.) allowing its inhabitants organize themselves in their daily lives. Meanwhile, a rural environment would be the area occupied mostly by green spaces, with a lower level of urbanization and a lower population, involved in agricultural and agro-industrial activities, where residential buildings are scattered and where there are less service buildings.

Accessibility in natural environments.

This section will focus on those requirements and recommendations that enable access to natural environments. It will also encompass beaches located in these types of environments, whether in cities or rural areas, in particular with regards to urban planning, characteristics of streets and urban furnishing squares, parks, urban beaches, etc.

Accessibility with regards to cultural heritage.

This section will cover the recommendations and requirements already applicable to urban and rural environments which can also apply to cultural heritage. However, this section will focus specifically on recommendations and requirements for those buildings considered as historical and cultural heritage given that they require particular protection measures when carrying out interventions to improve their accessibility.

Accessibility with regards to built environments and equipment.

This section will collect the existing general recommendations and requirements applicable to buildings, while taking into account specific characteristics of different types of built environments depending on their current use and purpose (e.g. accommodation facilities, theatres, museums, cinemas, sports centers).

The recommendations and requirements relevant to the equipment and furnishing that are required for certain types of buildings will be also incorporated (i.e. signage, lighting, etc.). In addition, these may also be indicated in paragraph “Accessible tourism services in general”, if deemed necessary.

Accessible tourism services in general.

This section will feature recommendations and requirements that should be taken into account by accessible tourism stakeholders, so that the general services they provide are accessible to everybody. The general services may include the provision of tourist information, accommodation, different tourist activities, but also the assistance provided by tourist police, emergency services (in case of fire, flooding, or similar) or local health care providers.

Some of the factors to be considered in this section include the configuration of the environment in which the service is being provided, its furnishing, and especially the attitude and communication skills of tourism professionals and workers from the related fields when it comes to attending to persons with disability and specific access requirements. For this reason, the recommendations on staff training and capacity building will be also outlined, complementing the recommendations outlined in “Accessible Tourism Policies and Strategies”.

Specific accessible tourism services.

This section will focus on the recommendations and requirements regarding the provision of support services to meet the specific access requirements of both tourists and local population. Issues such as those related to food intolerance, use of guide dogs and service dogs for different types of disabilities, renting services of specific tools (scooters, wheelchairs, bath tub boards, vibrating alarm clocks, etc.) will be addressed.

1. Scope

The International Standard on Accessible Tourism for All will offer clear guidelines for tourism planning and destination management as it will provide information on the key aspects of policy making, strategic frameworks and specific characteristics of infrastructure, products and services.

The International Standard on Accessible Tourism for All targets all tourism public and private sector stakeholders at all levels, namely local, regional, national and international, as well as other stakeholders from economic sectors related to tourism and the sphere of universal accessibility.

These stakeholders can be grouped into the following major categories:

- National/regional public administrations (including national tourism administrations, national/regional tourism promotion boards, destination management organizations, municipalities, public entities in charge of infrastructural polices, development and legislative/regulatory frameworks, organizations/professionals working in the field of cultural heritage management and protection).
- Travel and tourism industry stakeholders (investors in destinations and tourism industry, travel and tourism businesses, especially SME’s across the tourism sector: transportation, accommodation, tour operators and travel agencies, hospitality and catering, other tourism providers and trade associations).
- Enterprises and organizations from the support sectors: companies entrusted with the execution of construction works within destinations, architects, developers and promoters of support tools and services for people with specific access requirements, and companies/professionals

operating in the area of Communication Information Technologies, among others.

- Tourism destinations.
- End-users, (i.e. tourists and also the local population with or without specific access requirements).

2. Normative references

To be completed during the development of the standard.

IEC 60118-4:2014 Electroacoustics - Hearing aids - Part 4: Induction-loop systems for hearing aid purposes - System performance requirements.

IEC 60268-16:2011 Sound system equipment - Part 16: Objective rating of speech intelligibility by speech transmission index (EN 60268-16:2011).

IEC 60118-4:2014 Electroacoustics - Hearing aids - Part 4: Induction-loop systems for hearing aid purposes - System performance requirements.

IEC 60268-16:2011 Sound system equipment - Part 16: Objective rating of speech intelligibility by speech transmission index (EN 60268-16:2011).

ISO 7240-16:2007 (Ed. 1) Fire detection and alarm systems -- Part 16: Sound system control and indicating equipment.

ISO 7240-19:2007 (Ed. 1) Fire detection and alarm systems -- Part 19: Design, installation, commissioning and service of sound systems for emergency purposes.

ISO 9241-20:2008 Ergonomics of human-system interaction -- Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services.

ISO 9241-11:1998. Requisitos ergonómicos para trabajos de oficina con pantallas de visualización de datos (PVD) . Parte II.

ISO 9241-110:2006. Ergonomía de interacción persona-sistema. Parte 110.

ISO 9241-171:2008 Ergonomics of human-system interaction – Part 171: Guidance on software accessibility.

ISO 21452-2011 Building construction. Accessibility and usability of the built environment.

ISO 26800:2011. Ergonomía. Enfoque general, principios y conceptos.

ISO/IEC 13066-1:2011. Information technology: Interoperability with assistive technology (AI). Part I.

ISO/IEC 29136:2012 Information technology – User interfaces – Accessibility of personal computer hardware.

ISO/IEC 40500:2012 Pautas de Accesibilidad para el contenido Web (WCAG 2.0).

UNE-EN 14206:2003 Embarcaciones de navegación interior. pasarelas para embarcaciones de pasajeros. requisitos, ensayos.

UNE 26494:2014 (Versión corregida en 2015-05-13) Vehículos de carretera. Vehículos para el transporte de personas con movilidad reducida. Capacidad igual o menor a nueve plazas, incluido el conductor.

UNE-EN 301549 Accessibility requirements suitable for public procurement of ICT products and services in Europe.

UNE 170001-1:2007 Universal accessibility. Part 1: MGLC criteria to facilitate accessibility to the environment.

UNE 178501:2016 Management system of smart tourist destinations. Requirements.

3. Terms and definitions

This section shall include the necessary key terms and definitions as a basis for understanding the International Standard on Accessible Tourism and the recommendations contained therein.

Some of the following definitions will be extracted from the “Convention on the Rights of Persons with Disabilities and Optional Protocol, United Nations (UN),”¹.

3.1 Disability

evolving concept and that disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others.

3.2 Persons with disabilities

those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.

3.3 Discrimination on the basis of disability

any distinction, exclusion or restriction on the basis of disability which has the purpose or effect of impairing or nullifying the recognition, enjoyment or exercise, on an equal basis with others, of all human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field. It includes all forms of discrimination, including denial of reasonable accommodation.

3.4 Reasonable accommodation

necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms.

¹ Please see <http://www.un.org/disabilities/documents/convention/convoptprot-e.pdf> for more information.

3.5 Universal design

design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. “Universal design” shall not exclude assistive devices for particular groups of persons with disabilities where this is needed.

Other complementary definitions will be extracted from the “International Classification of Functioning, Disability and Health”, World Health Organization, (WHO)²:

3.6 Disability

umbrella term for impairments, activity limitations and participation restrictions. It denotes the negative aspects of the interaction between an individual (with a health condition) and that individual’s contextual factors (environmental and personal factors).

3.7 Impairment

loss or abnormality in body structure or physiological function (including mental functions). Abnormality here is used strictly to refer to a significant variation from established statistical norms (i.e. as a deviation from a population mean within measured standards norms) and should be used only in this sense.

3.8 Participation

person’s involvement in a life situation. It represents the societal perspective of functioning.

3.9 Participation restrictions

problems an individual may experience in involvement in life situations. The presence of a participation restriction is determined by comparing an individual’s participation to that which is expected of an individual without disability in that culture or society.

3.10 Accessible Tourism

it guarantees the use and enjoyment of tourism regardless of the capacities, state or condition of the people. Tourism accessible to all means that any tourism product should be designed in a way that takes into account all people, regardless of age, sex or condition, without incurring additional costs for customers with disabilities and specific access needs.

The list above represents only a sample of key terms and definitions to be used which will be complemented by other references.

The International Standard on Accessible Tourism will also propose new terms and definitions in case of gaps, for the purpose of the International Standard.

² “International Classification of Functioning, Disability and Health. Short version. World Health Organization” (Annex 1. 1.- Terms for categories in ICF)

http://apps.who.int/iris/bitstream/10665/42417/1/9241545445_eng.pdf

4. Policies and Strategies for Accessible Tourism

4.1 General

Tourism is an economic activity that has a positive impact on the economic growth and employment of any country. That's why all governments have established policies and action strategies for their development and improvement.

Within the policies, those decisions about what to do would be making the decision on the inclusion of Accessible Tourism as a crosscutting to all actions related to the promotion of tourism in general, as a specific line of action to promote activities or the creating accessible tourism services, or a combination of both.

It is likely that the decision on the establishment of each policy will be conditioned by the maturity of the tourist destinations and by socioeconomic circumstances. In any case, they should incorporate criteria on Universal Accessibility and Design for All, so as to improve the quality of the experience (customer satisfaction) and, thus, the competitiveness of these tourist destinations.

Those strategies, the planning tools for actions to be carried out, should incorporate the guiding principles established in the policies and take them into account.

Generally, following the recommendations of the World Committee on Tourism Ethics of the World Tourism Organization, the principles of Accessible Tourism, based on the universality of human rights, the acceptance of human diversity and the equal treatment and non-discrimination, along with those of Design for All should take into account, and make them reality (happen) by:

- rejection of any form of discrimination;
- active promotion of Accessible Tourism;
- approval of legislation and standards;
- development of communication campaigns;
- forging alliances with tourism associations and organisations for persons with disabilities, both on a national and regional level;
- training through the incorporation of necessary contents in universities, vocational training and education institutes and throughout the whole chain of educational institutions training curricula;
- creation and promotion of inclusive and accessible tourism products and services;
- the dissemination of good practices and positive examples of inclusive and accessible tourism products and services.

4.2 Proposals for Public Administrations

In general, governments and national or local administrations, according to the political organisation of each country, should formulate policies to promote of Accessible Tourism and implement specific strategies, such as:

- The inclusion of Universal Accessibility and Design for All as an objective and instrument of planning the development of tourism in general, a specific line, or both.
- Develop legislative or normative instruments that favour the practical application of accessibility and Design for All requirements for tourism infrastructure, as well for tourism products and services in general. These instruments should incorporate mechanisms that allow the administrations to monitor, evaluate and, where necessary, apply sanctions.
- Promote the implementation of previously established accessibility standards and technical guidelines, to make Accessible Tourism a reality.
- Encourage and support investments for the refurbishing, adaptation or the development of new accessible tourism infrastructure and products and services. Ensure the achievement of accessibility, using monitoring and evaluation mechanisms for both the purpose of these investment assistances (supports), as well as, comparatively, the achievements of the operators (agents) who have used them.
- Provide information and promote training to providers of tourism infrastructure and tourist services, so that they are able to respond by themselves, to the different needs of people according to their ability/disability
- Consult with organisations representing persons (people) with disabilities during tourism planning and development, in coordination with tourism agents.
- Encourage, reward and disseminate best practices.

Each of these strategies should have a specific development in each country, according to their circumstances, pointing out here only that investing in Accessible Tourism provides:

- benefits for the entire industry and not just persons with disabilities,
- broadens the market opportunities and loyalty of any destinations and businesses,
- improves competitiveness and helps in market differentiation,
- improves travel experiences (quality of destination)
- enhances sustainability to businesses and destinations
- promotes the inclusive approach to economic development, corporate social responsibility actions and civility of the population.

4.3 Proposals for private management bodies:

Management companies and providers of tourism infrastructure, product and service providers should generally:

- Respond to market demands, regarding Accessible Tourism and higher quality tourism, which includes comfort, ease of use and safety.
- Improve products and services, by investing in the training the staff to specifically improve customer service. All conducted studies indicate that good customer service satisfactorily compensates the small lacks regarding accessibility.
- Establish accessibility management systems in their businesses, by integrating them into the regular management systems or by including a specific one.
- Coordinate with other companies and, directly or through representative entities, organisations of persons with disabilities and public administrations, to get information, incorporate improvements, disseminate good practices, etc.

4.4 Accessibility management in tourist destinations

Management entities of tourist destinations, including, at their own level and responsibility, public administrations and management companies of tourism infrastructures, products and services, should incorporate accessibility into their management systems, either within their regular systems or by establishing a specific system.

To this end, the management of the entity should:

- Establish the objectives to be achieved regarding to Universal Accessibility and for the Design for All criteria; define policies on the customer care for persons with disabilities (staff, customers, suppliers, etc.), so that the facilities and services provided are available for everyone, regardless of their abilities or capabilities. Also to enable their incorporation as workers.
- Conduct a situation analysis: determine what is accessible and what is not.
- Develop an action plan that includes:
 - Actions to be implemented to make the infrastructure, facilities and services accessible, whether they are either provided in or from these.
 - Actions to be implemented whenever there is a change in the infrastructure, facilities or services.
 - Activities to be carried out for the maintenance and improvement of accessibility levels.

Evaluate and choose indicators that allow verifying the plan is being executed and that the objectives are being achieved.

The elements to be taken into consideration during the diagnosis and action plan shall include those included in this standard, in summary these are: the building (infrastructure and provisions), tourist information and advertising, communication and customer care, general tourist products and services and those specific for people who require them, especially persons with disabilities. See Standard 170.000:1 Particular attention will be paid to the case of accessible tourism: Assisted services

Assisted services for persons with disabilities may be available (assistive service, assistive services for associations representing persons with disabilities and their coordination for the orderly presence of such, warning and emergency buzzers, etc.) may also be provided.

Printed graphic signs may also be available in order to communicate with staff, activity monitors and resource managers, to whom they may be address. Various assistive devices may be available for visitors or participation in activities, under the supervision of specific staff or tutors.

Accessible activities

In order to enjoy the tourist experience in equal opportunities, educational, recreational, social-leisure and sporting activities will be developed aimed at groups and associations with different capacities (healthy walks for persons with disabilities and people of different ages, cultural routes, handicraft workshops, recycling, drawing and painting workshops, etc.).

After the analysis of the same, improvements will be incorporated through the planning of objectives and actions, and above all according to the suggestions of the users.

Regular inspections of the maintenance of infrastructure

Fortnightly inspections are to be conducted on outdoor spaces, depending on wheather factors, and for services, activities and products, as well as preventive maintenance, repairs and overhaul where necessary.

Satisfaction surveys

Satisfaction surveys on various items will be conducted, to evaluate the degree of user satisfaction. Understanding the opinion of visitors after their visits provides an understanding of whether the offered services and organised activities are accessible and to the liking and interest of the users, where they also provide ideas and suggestions for the improvement of the various activities and services.

After their analysis, any improvements will be incorporated through the planning of objectives and actions and, above all, taking into account the suggestions from users.

Complaints and claims management

The personnel in charge of the management will analyze the claims and in the shortest possible time will offer an answer (both orally and in writing format),

making possible an apology and a solution or alternative. All incidents will be registered and will be processed.

4.5 Actions for staff training

Staff play an important role in minimising the impact of potential shortcomings in access or in solving unforeseen circumstances. Their training to identify, understand and address the needs of customers with disabilities may also minimize the impact of small unresolved accessibility issues.

The Convention on the Rights of Persons with Disabilities establishes that staff should be trained to understand and respond to these rights.

Those responsible for public administrations and infrastructure management companies, tourism products and services should provide their own staff with the sufficient means to meet the needs of persons with disabilities (accessible or alternative services and facilities or the provision of assistive devices, information on accessible products, services and facilities that are available for tourists by other entities on the municipality, security and emergency protocols that take tourists with disabilities into consideration, etc.). They should also encourage the training of their own staff on the knowledge of these factors and internal and external accessible services, as the key to a dignified and quality service for everyone, regardless of their abilities.

4.6 Promoting tourism research and innovation

When it comes to furthering knowledge on needs and trends of the market in general and of persons with disabilities or in disability situation in particular (seniors, health tourism, etc.), it is important to establish research strategies that provide sufficient information on the development of new products and services.

Many of the studies carried up until now, or at least their bibliographies, are found in the manuals that the UNWTO has made available on its website, which furthers these trends and specifies some products and services, although further research should be conducted.

Public administrations should promote these research strategies, while, at the same time, promote the development of Accessible Tourism.

Particularly noteworthy is that further research should be carried out in the development of essential indicators³, in order to assess the management of established macro and micro policies and strategies and determine whether they are achieving the expected result.

Furthermore, various responses should be provided to the known needs, through the application of innovation strategies in the rehabilitation of infrastructure, the provision of services, the provision of alternative technological systems, etc., where some of these examples have been collected and should continue to be collected as good practices, so they may be

³ Manual on accessible tourism for all: Principles, tools and best practices. Module IV: Indicators for research on accessibility in tourism.

provided and disseminated by the public administrations and managing bodies of Accessible Tourism.

4.7 Promotion/marketing strategy

Once accessible tourist products and services have been achieved, the following step should be promotion and marketing. To achieve this, the first objective is for all agents (public administrations and private managers) to have a common goal and, at each level, the precise knowledge to implement the strategy that is being developed.

It should, therefore, be establish a marketing plan that designates a coordinating entity, indicate the tasks of each of the agents and includes effective communication channels.

When establishing the marketing plan, it is important to consider that these products and services are destined for all tourists, not just those with disabilities, otherwise failure is guaranteed, since sustainability cannot be based just on specific groups of persons.

5. Travel planning, information and communication

5.1 General

The first step to take a tourism trip is planning ahead and searching for information. It is, therefore, essential to provide information on the accessibility of places to visit, but it is also important that the information is displayed in such way that all people, regardless of their abilities, can access it.

It should also be borne in mind that communication must be considered in all areas where tourism is developed, not as one more element (buildings, public realm, public roads, transport, tourism services, etc.).

5.2 Information channels

The most common information channels are: Internet, mobile devices, tour operators and travel agencies.

Internet

Web Accessibility may be defined as a set of technologies and standards of implementation and design that ensure the use of websites to the greatest number of people, regardless of the technical means, including those with some kind of disability, while following the principles Design for All.

Thus, accessible design should ensure access for all users, regardless of the context in which they navigate or their abilities.

There are different tools used to measure the degree of accessibility of a website, the most used and extended reference sources are the documents developed by the Web Accessibility Initiative or WAI. This working group belonging to the World Wide Web Consortium (W3C, www.w3c.org) has developed a series of recommendation documents that define accessibility

criteria aimed at improving accessibility and the user experience on the Internet. In terms of web content, there are the Web Content Accessibility Guidelines, or WCAG, which consist of a set of guidelines, techniques and sources used to assess and measure the degree of accessibility for web content, by reducing or even eliminating identified barriers.

The standard, EN 301549 Accessibility requirements for public procurement of ICT products and services in Europe, determines the requirements applicable for webpages.

The recommended web accessibility measures , in terms of content, are available at: www.w3c.org. Of these, the following are worth mentioning:

- add alternative text for informational images (also in images links)
- correctly associate form controls,
- design with style sheets that allow increase and decrease fonts, while avoiding overlapping of content in different browsers, and the change of colour contrasts,
- not to use technologies incompatible with accessibility.

Providing the adequate means of information for each tourist may allow tourists to make their own needs understood or to offer tourists the possibility to explain their own needs.

It is advisable to offer alternatives in terms of languages or to enable the automatic translation of the page, as language may be the first barrier that any tourist faces when it comes to accessing the information.

As far as possible, buildings and premises should be illustrated by photographs. For example, a photograph of an airport or a restaurant may provide information on devices usability, ticket offices, counters and displays, clear transit width, etc.

Ofrecer un medio de información adecuado a cada turista se puede facilitar invitando a los turistas a dar a conocer sus necesidades, ofrecer la posibilidad de explicar sus propias necesidades al turista. Hay que ofrecer al turista la posibilidad de explicar sus propias necesidades.

It is necessary to offer the possibility to the tourists to explain their own needs.

Moreover, it is recommended to take into account the following measures:

- implement search engines by type of accessibility resources, to facilitate the gathering of data according to users' needs.
- Provide attractive and informative images,
- provide accurate and up-to-date information,
- provide easy to read information,
- offer accessible downloads, with special attention to PDF documents and their accessibility,

- ensure that the information is loaded quickly,

all information on accessibility must appearing in promotional and advertising materials in an easily detectable way.

Any advertising posted on social networks should also comply with the above web accessibility requirements.

Mobile devices

It must be kept in mind that tourists also accesses information from mobile devices, through mobile webpages or applications. In this new environment, the “cloud” is essential for the traveller to access applications, (the so-called apps) and services from any place at any time. This reality makes it increasingly important for tourist companies and destinations not to only have an Internet presence, but also to offer users the best user experience. This is a new model called *smart tourism*.

In addition to the W3C WGAC 1.0 or 2.0 Guidelines in order to improve user experience in web browsing from mobile devices, the Mobile Web Best Practices, or MWBP, should be implemented. The W3C has an automatic W3C Mobile OK Checker, which allows the guidelines to be automatically validated but, as stated under the WGAC guidelines, the validation of the web must be necessary done by professionals and users.

Mobile Web Best Practices 1.0 is a W3C Web Standard that aims to help web developers to design and publish web content that functions properly on mobile devices. By complying them, a greater number of the public may be able to access content creating effective websites and applications and web browsing accessible on a greater number of devices, a fact that will undoubtedly improve tourist information.

Some of the guidelines are similar to those already mentioned and others are based more on the context of mobile searches⁴.

With regard to applications, to ensure an better user experience it is advisable to apply the Mobile Web Application Best Practices, which are an extension of the WMBP, but oriented towards rich Internet applications, or RIA, as well as the use of advanced device capabilities.

For native applications, it is necessary to be aware of these documents and implement any applicable guidelines. Nevertheless, it is also necessary to check the specific accessibility guidelines for Android, Blackberry, Apple and Windows.

Tour operators and travel agencies

Tour operators and travel agencies should consider that the service they have to offer to tourists must be tailored based on the different needs.

In addition to this, the following actions are recommended:

- ensure the availability of information,

⁴ www.w3.org

- ensure that information is accurate, detailed and reliable,
- be aware of the accessibility policy of the destination,
- integrate information about accessibility into the general information on tourism,
- identify distribution channels (general and specific to disability),
- communicate the information to staff at all levels of the organisation,
- communicate the information to intermediaries,
- use the appropriate technological tools to improve accessible tourism.

Regarding tourist advertising and information provided by tourist agencies and tourist, it is recommended that they take into account the following points:

- Wherever possible, any information provided for tourists with disabilities should be included in the general tourist information, by preferably incorporating international symbols that are easy to understand I.
- Advertising material should indicate whether it is possible to contact the establishment using accessible means (text, fax or email), and whether the information is available in alternative formats.² European Commission (2005), *Improving information on accessible tourism for disabled people*, European Commission, Brussels. Brochures can have accessible versions in large print, Braille or even two-dimensional codes to be scanned that provide accessible digital information.
- Tourist visitor centres (tourist destinations) should provide a list of all the support services for tourists with disabilities. The list of these services should include, as general rule, facilities for the repair and replacement of prosthetics/prosthesis and equipment, veterinary clinics for guide dogs and specialized medical care providers and distributors.
- Reservation systems should contain unambiguous data on the accessibility level of the facilities and services advertised for tourists with disabilities, in order to properly inform and facilitate the proper booking procedures.
- The bodies responsible for receiving and addressing tourism consumer complaints should register and resolve, through established procedures, all complaints regarding any failures in the provision of services and facilities where its accessibility has been mentioned or advertised.
- Finally, when visiting a travel agency, it is necessary to consider the recommendations for the built environment, as contemplated under Section 10 of this document.

5.3 Communication

Accessibility to communication implies making information available to all.

Therefore, the basic needs a communication system should have to be accessible are the following:

- provide users with sufficient information in an unambiguous way, in order to be able to orientate themselves, locate and use the environments tourist products and services,
- provide information on the outdoor space and buildings in alternative formats, in order to reach the entire population,
- provide the necessary channels and systems, so that users may communicate with staff.

As technology evolves, the means to respond to the above needs are many.

To clarify, the main accessibility considerations are presented below, according to the type of communication used, however, it is preferable to employ a combination of systems to respond to a wider public.

Signage

Signage is the tool that allows tourists to orient themselves throughout an unfamiliar environment. The design should be done taking into account the different access needs.

Signage should be legible and understandable by people persons who have sight loss or cognitive impairment. It will be well lit clear, legible, contrasted, located at a suitable height and providing information in different formats understandable for everyone. Special attention must be paid to the placement, height and location. ISO 21542:2011

Nowadays, there is no international standard for signage, although several countries have national legislation on this matter. The recommendations of Module II of WTO Manual on Accessible Tourism for All: principles, tools and best practices, are the recommendations that we offerin this regard:

- Use matt and durable materials making sure it is well lit. Use homogenous design of signage in the same environment, to facilitate being perceived by users.
- • Consider the size and height of the signage depending on distance at which they are going to be viewed.
- Make sure the information is provided with enough contrast and adequate background.
- Use standard pictograms, to allow signs to be understood by a large number of tourists.
- Include clear images to explain important information.
- Whenever the signage is placed in an approachable area, make sure there are no obstacles to reach them. Consider including alternative formats, such as raised letters and Braille, to help navigation or provide alternative systems of orientation, such as geolocation and smart navigation systems.

Tactile Communication

There are other means of tactile communication in environments and establishments that facilitate the interaction with the environment to all people and especially for the blind and partially sighted persons.

Signage in Braille and raised features

In the signage that requires it, it is recommended that it includes information in Braille (for blind and partially sighted persons). This information should comply with the standardisation parameters determined by each country. In the case of signage incorporating information in Braille, the approaching distances must be taken into account so they can be perceived in a tactile manner.

Raised text and figures is a way to outline text and pictograms in three dimensions, so they can be perceived in a tactile way and understood by persons with sight loss who do not know Braille or for those that are partially sighted.

Both combined modes ensure the perception of information by this group. It is advisable not to establish differences between general and tactile signage, in order to normalize its differentiate between general and tactile signage, so as to standardise their use.

The spaces where signage and tactile information are used (Braille and/or raised text) are diverse, from information panels, walls, handrails, lifts, etc., so that, as a whole, constitute a signage chain for the user to navigate safely through the environment or establishment.

TWSIs or tactile flooring

TWSIs (Tactile Walking Surface Indicators) or tactile flooring provide warning or guidance information and they are tools to facilitate the orientation and circulation throughout the buildings. They allow the generation of itineraries in large areas where there are no walled surfaces for spatial location, such as walls or curbs.

Depending on the country, the layout of the raised elements may vary therefore, it is recommended to consult the current legislation. Generally, tiles embossed with bands or buttons are used as a guiding system and to warn of any uneven sections. There are also other examples that use superimposed vinyl or PVC materials with similar reliefs.

Tactile maps and models

These are very useful for tactile recognition and the general understanding of the organization and structure of a space. These assist the sequential perception of an space so that, when it cannot be perceived entirely by sight (a large statue, a park, a building), it may provide a representation of the space or element that allows the construction of spatial concepts and it improves the navigation throughout these spaces.

Tactile models and representations should be accompanied with additional, Braille or audio information.

Acoustic communication

In general, all the contents as well as all the information that is transmitted by visual means, will be accessible for everyone and will be provided in an audible format. Environments will be equipped so that cochlear implants and other assistive devices users may access information and communicate effectively. When induction loops are installed, these should meet the technical criteria provided under IEC 60118-4 and all acoustic requirements regarding noise levels, the geometry and dimensions of rooms and reverberation are to be considered, as indicated under 21542 ISO:2011.

Audiovisual panels

When using digital panels or boards to display information, these should be placed at a suitable reading height from a wheelchair and be free of any obstacles.

Additionally, it is recommended that the following guidelines be followed:

- Display updated and complete information, including the information provided on traditional boards.
- All information should be complemented visually, using text, and in audio, so that sufficient and relevant information is conveyed in both ways. In this regard, it is convenient to avoid the use of speakers close to other sources of sound that prevent from being heard.
- With regard to the screen, it should not have reflective glass and it will be protected from direct light avoiding flashes and flickering.
- The typeface (font) will be large and adequately contrasted and the contents of the board should be understandable without the use of colour. In dynamic content, the text line and rolling text will be displayed with enough time to facilitate reading
- Additionally, the option to receive the information on the board through other devices (for example, information transmitted via Bluetooth, WiFi, 3G, infrared, etc. to a mobile device) can be evaluated.
- The content should be clear and concise, avoiding local slang and technical terms (useful for all formats of tourist information transmission). The use of affirmative phrases in favour of negatives will be considered as well as the use of universally recognised symbols and pictograms to facilitate their understanding.
- It is recommended that the text be written in lowercase with the corresponding capital letters and that there is a minimum spacing between words, being equivalent to the space occupied by a capital letter. Likewise, tones of blue, green and violet will be avoided to convey the information, as they are problematic for elderly users. It will avoid the use of more than five colours to present of information.

These measures are also applicable in the section on ticket offices and direct sales or customer service counters in other tourist locations, as well as at transport terminals.

Documents

There is the possibility of making documents in alternative formats using large print texts taking into account the size and type of font, colours used and the density and type of paper.

Large print usually refers to font size 18, however, a document in large print for general use should be at least 14 points, as it will be accessible to many people. Another aspect that is recommended is the production of documents in alternative formats (audio or Braille) and to pay attention to the content, so that the language is understandable (comprehensible) for as many people as possible.

Lighting

Providing good lighting where it is needed is essential for everyone and it ensures that persons with sight loss (who are partially sighted) can make use of buildings in a comfortable and safe manner and so that persons with hearing loss can read lips. Natural lighting will be combined with artificial lighting, avoiding glare, reflections, shaded areas and excessive contrasting, and can be regulated according to needs.

In order to facilitate navigation and to ensure the safe use of the spaces, information, potential hazards and adjacent surfaces should have a visually perceptible contrast.

There should therefore be a chromatic difference between the elements of the doors, the surfaces of large areas and the elements of potential risks and information in text. This colour difference should be provided and maintained during the service life of the building elements, taking into account any deterioration and maintenance during their installation.

Different colors and visual contrast should be used for door fittings (elements and components that facilitate the opening and closing of a door) and flooring and for the identification of the same and different floors or sections of a building, so as to help persons with a cognitive impairment. Follow the indications of ISO 21542:2011.

6. Use of transportation

6.1 General

Infrastructures, whatever the means of passenger transport, including privately hired vehicles, buses and coaches, taxis and similar means, trams, cableways (cable cars), trains, ferries and boats (ferries, cruise ships, etc.) should be designed in such way as to permit the safe, comfortable and equitable transportation of persons with disabilities. Likewise, the information provided before, during and after (customer satisfaction) travel, including information on emergency evacuation procedures, should take into consideration the needs of such people. When infrastructures, means of transport, services, etc. are not able to respond to the needs of such people, then providers will offer other decent and quality alternatives that respect their.

As for the other sections of the standard, in this case, the transport chain must be taken into account in relation to accessibility, it will be necessary to consider the features that respond to the needs of people, in the access to information prior, during and after the trip, while circulating from the starting point to the departure infrastructure, for the access and use of the infrastructure, the access and use of the means of transport, during the use and exiting (access in reverse) the arrival infrastructure and the use of existing services for both the infrastructure and the means of transport used.

this section, covers the specific features of means of transport, infrastructures and services, referring to other chapters and sections of the standard, where necessary.

6.2 Providing accessible information

The features related to the provision of information are found in section 5.

Anyone who travels should have appropriate information about the features and capacity on the transport service. In order to do this, providers (public administrations, private companies and individuals) should make the information on their services publicly available, in accessible formats by providing alternatives when required.

It is particularly important to consider the needs of persons who find limitations to see, hear and understand, as well as those who have difficulties with reading or reading comprehension.

The information should be complete. Thus, departure/arrival infrastructure should contain:

- map and explanation of the departure/arrival infrastructure Location of the means of transport in question.
- Locations or places of destination / arrival from that infrastructure Existing services in the infrastructure (ticket vendors, information, catering, restrooms, gift shops, clothes stores, news stand, etc.) and their accessibility features and, where necessary, their conditions of use (for example, where purchases or the use of restrooms are only accessible once passed the ticket control).
- Transport services in a particular infrastructure
- Types of services provided by each company before, during and after the trip: timetables, costs, types of mobile infrastructure (buses, boats, trains, planes, cars, 4x4 vehicles, etc.) and their accessibility features, as well as the services provided during the trip. Also, available support services, in order to assist persons with disabilities, the elderly, children, etc., who require such. As for support services, these should also describe their features and to be equitable, they should be free of charge.

When it comes to the information concerning the purchase of tickets, each of the systems that each provider offers should be accessible, either independently or in collaboration with others (tour operators, agencies, hotels,

etc.) and provided to the customer (Internet, web applications, brochures, phone recordings, signs and posters, etc).

It is also included, although it would correspond to another section, the accessibility features of the purchasing system (Internet, vending machines, staffed ticket offices, etc.) should allow anyone to carry out the purchase, cancellation, rectification, etc., that is, all activities that are required for each case.

It is essential to train those who provide information services, so they may effectively convey such information to each and every customer, regardless of their ability/disability.

When it comes to services that do not have companies that manage these services or do not have fixed infrastructures or, when they do, they are difficult to understand (for example taxi stands or other small public transport vehicle waiting areas), local tourist information services should have sufficient and alternative information, so that any tourist may find those that are accessible.

6.3 Fixed infrastructure or transport departure/arrival points

Taking into account that it is a question of providing general accessibility recommendations, it is necessary to consider that the starting point / arrival of a means of transport can count on a fixed infrastructure (building, urbanized space with its endowment - quay, exchanger, Marquee, etc.) or to be at any point in a city or town (with no other location than an address) or in place / space without urbanization (be it in a natural or rural environment or the conditions of Economic development of the city or town in which it is located).

That is why some recommendations are included that should apply to all considered cases and others would apply only to those that correspond.

In any case, the basic activities that any person, including persons with disabilities, should be able to carry out under conditions of equality and safely, when using these fixed infrastructure and transport departure/arrival spots are:

- Locate, access and move through the infrastructure or place in question
- Use the services offered with comfort and, most importantly, access and use mobile equipment or means of transport required for the trip

Within the **recommendations applicable to all cases**, these would refer to:

- Directional signage for the location of infrastructure or transport departure/arrival spots. It includes all means of transport, as well as taxis and other small transport vehicles and tourist buses.
- Accessibility features of the space around the infrastructure or transport departure/arrival places.
- The transport infrastructures or transport places of departure/arrival should be interconnected with the rest of the spaces through accessible routes, which will meet the requirements set out under the town planning urbanism section or those referring to non-urbanized environments, where appropriate (natural spaces).

- Information/customer services for all people who require such, in particularly for persons with disabilities or in situations of disability (the elderly, pregnant women, travellers with children, etc.). This service, which should be provided in collaboration with the transport companies, is intended for travellers throughout the infrastructure or, in the issuance of tickets and be communicated to on any matter, where required, however, quite often, it requires particularly assistance during the check-in process or baggage claims, where needed, moving from the boarding area or gate by being providing a wheelchair, if required, or any other element for mobility, during embarkment/disembarkment of passengers, while using, where the case may be, a lift/transport system and assistive technologies (for example, narrow wheelchair for aircraft aisles).

The request for assistance should be able to be done in several ways to ensure the provision of options according to people's needs: via a conventional telephone, text phone or mobile phone, via videoconference and chat, by web and email and, in the case of an automatically operated switchboard, it should provide menus that combine voice recognition and keypad input.

Assistive services for persons with disabilities should have the same schedule as the rest services of the infrastructure or facility in question.

- The need to ensure accessibility for the interoperability or the possibility of combined various means of transport and to correctly informing its existence or not.

When the places from where a means of transport (stations or stops, etc.) are not urbanized, there should be at least:

- Signage for the exact location from where the means of transport departs or arrives (where it is located). As for the previous point, all means of transport, as well as taxis and other small transport vehicles and tourist buses are included.
- A space for the safe embarkment and disembarkment of passengers: there will be lateral spaces, either urbanised or of compacted soil, that will allow to embark and disembark from the means of land transport in question, being at least 100cm in width. In the case of transport, the features of this space for the embarkment/disembarkment of passengers will depend on the type of vessel and, additionally, it should provide, piers and, where appropriate, ramps or other elements for their safe use. As for air transportation, runways should have mechanical systems and assistive staff to meet the needs of persons with disabilities.
- It is advisable to differentiate, even in these non-urbanised spaces, the pedestrian route connecting the embarkment/disembarkment areas to the access used by the land transport areas or the space of the air transport areas or the no-crossing point for maritime transport areas.
- Accessible information services, to know the accessibility features and the existence of specific customer services for those who may require them.

Within the **accessibility recommendations applicable to fixed infrastructures considered as buildings**, such as airports, seaports, train stations or bus terminals, etc., most of these are collected when talking about urban planning and building and are related in the different sections of this standard.

However, it is worthwhile to stop here, even if they can be repeated, as they are issues having the greatest impact on this type of infrastructure:

- **Signage**. In these spaces that are usually large it is necessary to take into account the orientation to reach information points, ticket offices, ticket vending machines, platforms or waiting areas, etc., therefore, they must have contrasting bands on pavements (coloured tactile flooring), vertical and pendant signage, etc., that is either accessible (close, easily visible and legible, with standardised and tested pictograms, etc.) or that incorporate accessible alternatives.

Guidance technologies can also be incorporated through the mobiles or machines or other mechanisms installed in those spaces. Signalling with tactile flooring pavement and colour contrasted with the placed along the edge of platforms in the case of train stations, trams, metros ... and also on the edge of the boarding areas at bus stations is essential to warn in a visually and tactile manner about the risk of falling.

- The walls of these spaces, which are often glazed, should be visible, by offering sufficient protection against glare, while at the same time incorporate elements that warn of their presence (contrasting colours, shapes, etc.), so as to prevent bumping and to allow the **identification** of doors, hallways, lifts and any other framing element .
- the **pavement** of these spaces, must also be considered so that it is not slippery nor shiny or glary, preventing orientation and location.

Regarding **other recommendations on the provision of services**, it is worth mentioning:

- **Those related to the organisation of people flows:**
 - **Turnstiles**: If turnstiles are used, there should be at least one with a enough width to allow wheelchair or cane users or people with other needs go through them. There are various types of turnstiles that facilitate control (with a single arm, an automatic door hinged, guillotine type, etc.) they work with sensors that detect the person or that can be manipulated remotely by the staff in the service of the infrastructure.
 - If **corridors and directional systems** are organized into different spaces or services, such as posts and mechanical walkways, they should be of adequate width (as if it were a corridor). Those elements should be detectable by persons using a white or red and white cane. To be detectable they should be an obstacle to the movement of the cane that is made at ground level. For longer journeys, there should be alternatives available.

- Those to make waiting times comfortable: There must be waiting areas with suitable furniture (seats with a backrest, armrests, proper height and depth, taking into consideration the anthropometric diversity of people). On platforms, bus stops or taxis stops or other waiting bays for small public transport vehicles, where the wait is usually shorter, it is important to have sciatic support elements at varying heights.
- On main roads, particularly on toll roads, there should be rest areas at regular intervals, equipped with facilities and services, as well as toilets and emergency phones, accessible for everyone and, in particular, for travellers with disabilities.
- Improving access to information that:

- o It is broadcast over a PA (Public address system): The installations will comply with IEC 60118-4: 2014 Electroacoustics - Hearing aids - Part 4: Induction-loop systems for hearing aid purposes - System performance requirements and for large facilities, it is important to install a magnetic induction loop connected to the PA system.

In any case, even if it improves the PA system, there must be alternatives, so there should be displays that visually and simultaneously transmit the audio information and it is best to incorporate other systems, such as accessible mobile applications.

It is important to keep in mind the following standards, although they are not validated from an accessibility point of view, if they provide the criteria for the proper installation of audio transmission and speech intelligibility equipment:

- .- ISO 7240-16:2007 (Ed. 1) Fire detection and alarm systems -- Part 16: Sound system control and indicating equipment;
- .- ISO 7240-19:2007 (Ed. 1) Fire detection and alarm systems -- Part 19: Design, installation, commissioning and service of sound systems for emergency purposes;
- .- IEC 60268-16:2011 Sound system equipment - Part 16: Objective rating of speech intelligibility by speech transmission index (EN 60268-16:2011)

- o It is provided at information points: Firstly, staff training has to be considered so they may properly assist any tourist. Then, the design of the information point, its furniture and provisions. If it has a counter, it will be usable by persons who are of short stature and by its lower section it will have inferior space to allow the approach of wheelchair users. It will have sufficient space to lean on (those using canes may require to do so) or to leave objects on and to exchange/fill out documents. It will be equipped with an induction loop and if it has screens, then also a bidirectional microphone.

- Those for the purchase/sale of tickets at ticket offices:

Issues concerning the furnishings of ticket offices are the same as those for the above sections and if tickets are purchased at ticket offices

attended by staff, as in the previous case, training is a key element for a satisfactory travel experience.

If there are several ticket offices and a mechanical allocation of turn of attention, the system should alert audibly and visually both the number of the shift and the window. Also, as already mentioned, as an alternative, applications or acoustic location systems, either wireless or of another type, may be installed to convey information.

- Those for the design or those that must be considered for the acquisition of vending machines are to be the recommendations in ISO 9241-20:2008 Ergonomics of human-system interaction - Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services.

This section of ISO 9241, as indicated in the actual information itself, on the one hand, is based on understanding the characteristics of persons with physical, sensory or specific cognitive limitations and, on the other hand, where the lack of accessibility is a problem that affects many people who use interactive systems and that have varying and different physical, sensory and cognitive capabilities and abilities. The variety of factors that limit the ability to participate in activities of daily living are very diverse and forms part of a “universal human experience”.

In summary, equipment (machines) should:

- be useable by wheelchair users (ranging from a maximum height of 120 cm and a minimum of 40 cm minimum, with frontal or lateral approach free space) and for those who use only one hand, without having to apply any force or high precision;
- have tactile detectable controls, slots, ticket boxes and keyboards ;
- incorporate simple and clear instructions for both the use of the machine itself and the types of tickets and prices;
- provide the instructions that appear in screens, in audio and include an output jack or that can interact with a mobile device (via Bluetooth);
- possibility of enlarging text of the screens and that have suitable lighting from the interface, etc.

They should be able to be located, as already described above, with legible and visible signs or pictograms, either on walls or pendants, with directional and contrasting colour tactile flooring or areas and with alternatives, such as incorporating location beacons that emit acoustic information through applications installed on mobile phones.

- Those for the furnishing design of locker spaces, regardless of their style and design. For counters, such as those discussed, and for ticket offices, there should be several available in the dimensions and heights for wheelchair users to use them (with free space for legs and feet and at an adequate height) with easy opening/closing lock mechanisms and

precise operating information in various languages and with pictograms or drawings.

- The design of public phone spaces and models, on the one hand, will be those of location (along with an accessible route or also connected by an accessible branch route), those already indicated for other elements, in terms of the keyboard features and furnishing layout (ISO 9241-20:2008 Ergonomics of human-system interaction - Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services) and those for the improvement of the audio features, for that some of them will have volume controls and magnetic induction loops with a selection switch. A text phone may be provided and to promote the existence of intermediary service in the country .
- Those related to safety: all measures relating to safety, whatever they may be, should consider, where appropriate, the criteria on buildings, furnishings, flow organisation, information, signage, etc.

Occasionally, safety measures do not take into account the diversity of the people upon which they were first conceived.

Finally, recommendations for other infrastructure: bus stops and taxi stops:

The characteristics of connection with accessible routes are the same as those of any other infrastructure..

In the case of buses, to facilitate this interconnection, the infrastructure should be located on the sidewalk or incorporate standardised edged sidewalks, to achieve a better positioning of a ramp to the vehicle or for the safer boarding of passengers in other cases.

A minimum obstacle clearance of lateral or central access to the structure of the stop or awning, if any, of at least 100 cm should be respected. The obstacle clearance inside the shelter should be 150 cm. The tactile flooring to the stop and mobile applications will facilitate its location. The design of the transit shelter or infrastructure should facilitate its location and provide information inside it (stop number, bus lines, etc.), in an accessible way (visual, acoustic and in alternative formats using various technologies).

The shelter should have elements that provide shade or shelter from the sun, rain and wind. It is preferable to have a partial enclosure and whenever it is available, it should be detectable by anyone, including persons with sight loss . It should also have well-designed seats and sciatic supports.

For taxi stand, there is often only one location signal with information, such as a phone number. If this is the case, they should comply with all the indications given with regard to their location, signage and the provision of information to ensure accessibility.

6.4 Elements of transport

The accessibility of moving elements of transport is essential and it is often a key element, along with the transport link and the connection to the point of boarding and/or disembarkment.

Transport embarkment/disembarkment features

For the getting on and off of passengers on urban, interurban and tourist buses, a differentiation has to be made between raised-floor buses, which should be provided with a lifting platform, and low-floored buses, which should have a ramp for persons who cannot climb stairs and for those that use assistive technologies to access the vehicle.

They should incorporate adequate handrails on doors to assist all people to maintain their balance.

Finally, the width of the doors should allow for the comfortable transit of all travellers.

For the embarkment/disembarkment of train passengers, there should be no height differences between the platform and the train, even when there is a distance between the height of the entrance of the car and the platform that should require the use of ramps, portable lifts or platforms on the car, which must always be used by the railway company staff or staff belonging to the entity operating the station.

In order for the embarkation and disembarkation of the wagon of a metro or tram, or similar means of transport, to be accessible the floor of the wagons should be at the height of the platform and when there is a space between the wagon and the platform, for example in curved stations,, at least one car from each convoy should have a board or electro-mechanical surface that bridges the gap to allow the transit without the possibility of accidents. When these circumstances arise, the access point to that accessible car should be marked on the platform.

The boarding and disembarkment of aircraft passengers should be done through a telescopic tunnel (finger), without any uneven sections, directly from the boarding area to the plane. This itinerary should have the same features as any other accessible route, especially with regard to the signalling and lighting features

In the absence of such a tunnel, lifting equipment should be used to connect the runway and the access to the aircraft for passengers with reduced mobility.

It has not been resolved that airplanes have spaces reserved for wheelchair users, who must check-in the wheelchair and move into a narrow wheelchair to board the plane. Good management and transport of the tourist wheelchair to be used when arriving at destination is the key point of the service of the airline and who manages the services of each airport and should take special care.

The boarding and dismount of ship and boat passengers for either urban or interurban transportation should have gangways, ramps, piers, etc. that comply with the appropriate technical criteria, where appropriate, allowing for the safe

boarding and dismount of passengers. In this case, the difficulty is saving the height or distance gap between the pier and the boat, when accounting for the movement of water and, quite often, wet floor.

In the case of maritime transport, the only standard existing in Spain is UNE-EN 14206:2003 Inland navigation vessels - Gangways for passenger vessels - Requirements, testing.

The entrance and exit of commonly used, taxis or small vehicles is not possible, therefore a sufficient number of these should be adapted using specific criteria, so that may be used by any person. (In the case of Spain and for these types of vehicles, such criteria and technical requirements are applicable under UNE 26494:2004 (Amended version 2015-05-13) Road vehicles. Vehicles for transport of persons with reduced mobility. Capacity up to nine passengers, driver included..

The interior of vehicles, rolling stock, etc...

The interior space of all vehicles, buses, trains, metro trains, etc. should have a sufficient width for the passage between the rows of seats.

There should be, , areas with clamping and fastening systems reserved for wheelchair or scooter users, by adapting these to each type of mode of transport. Seats should also be reserved for those with other needs associated with walking. All these spaces should have handholds and stop and emergency call buttons.

It should be taken care of the location in height that allows the adequate reach and use of the different elements - banknote detectors, handholds, bars and handrails, call or door openers, etc. When the vehicle has toilets, on a train for example, it should include some that are adapted and nearby to spaces reserved for wheelchair users.

Aircraft, with their interior designs and provisions, are the most inaccessible vehicles in terms of transit or for the use of their services.

For maritime transport, there must be a differentiation between large ships, which function more like accommodation buildings that have their own food catering and leisure services, and smaller urban and interurban vessels and tourist watercraft.

. In the first case, the same criteria and technical recommendations for interior accessibility should be considered as in a housing type building with the services it includes.

For transport boats, the criteria for circulating, their use, booking times, etc. are indicated in this point. And in the case of small boats for excursions or other services will have to make the specific adaptations whenever possible. Another aspect to be considered for the improvement of accessibility of moving materials signage and communication for issues such as the proper location and design of:

- Seat numbers

- The seats of priority use for persons with mobility or communication difficulties and, where applicable, for the areas designated for those who use wheelchairs,
- Horizontal and vertical handrails
- Call buttons and door opening buttons,
- Areas reserved for the storage of luggage,
- When providing further information on a bus or metro line, etc., it should have light and audible indicators that provide information about stops, etc.
- The information on the services inside the vehicle or about tourism and the various formats used like audio, paper, as well as providing alternatives such as fixed or portable induction loops, braille, easy reading, etc.
- Audiovisual services offered on long journeys, with captions and audio description.

7. Accessibility in urban and rural environments

7.1 General

This section will focus on the recommendations and requirements which enable access to urbanized environments, whether in cities or rural areas, in particular with regards to urban planning, characteristics of streets and urban furnishing squares, parks, urban beaches, etc.

An urban environment would be defined as the area occupied by a largely populated city, which provides infrastructure (parks, green areas, residential buildings and services, facilities, etc.) allowing its inhabitants organize themselves in their daily lives. Meanwhile, a rural environment would be the area occupied mostly by green spaces, with a lower level of urbanization and a lower population, involved in agricultural and agro-industrial activities, where residential buildings are scattered and where there are less service buildings.

7.2 Accessible pedestrian routes in urban environments. Horizontal circulation

How to clearly delimit spaces and others is complicated, for the purpose of this standard this section incorporates accessibility recommendations for itineraries in urban and rural urbanized environments.

The basic need to meet the requirements of an accessible pedestrian route in an urbanised or urbanised rural environment is that people can move throughout it in conditions of equality and safety. The main feature of accessible routes is, therefore, continuity.

To achieve this objective, it is necessary that each accessible route connected spaces and services, by at least having a floor with firm, stable and continuous pavement with accessible alternative solutions when there are uneven sections; sufficient circulation and manoeuvring spaces that are free of obstacles; precise accessible signage; warnings and protection at crossings and an adequate level of illumination.

In the urban route, it is common to have a pavement, facade line, spaces adjacent to street crossing, a street, accesses and spaces for services, such as public transport stops, reserved car park spaces, toilets, rest areas, etc.

In order for all people to be able to move without risk of stumbling, slipping or falling, it is important that the pavement meets the safety and accessibility features detailed under section 10 on Accessibility to Buildings.

The minimum required width of a pavement, while depending on many factors, should be at least 120 cm for straight sections and at least 150 cm when changing direction, although whenever possible, it should be 180 cm wide along the entire route. The provision of street furniture (lampposts, signage, bollards, trees and plants, etc.) should be located along a band, so as not to invade the free minimum clearance width of the pavement.

The minimum clearance height should be 220 cm, so as to avoid the risk of collision with protruding elements or those attached to facades (awnings, plaques, signs and posters, etc.), or with street furniture (signs, lampposts, trees, etc.). When possible, it is preferable for it to be 300 cm, in order to facilitate any rescue activities in the event of an emergency along the facades.

Where it is not possible to avoid overhanging elements, it is important to have a projection around its perimeter with a sufficient height so that it is easily detected by foot or by a white cane or white and red cane, in order to go around the obstacle.

The longitudinal slopes in the direction of the march depend on the topography of the terrain and when they are elevated (over 6% in sections longer than 10 m), these pose difficulties for the transit. For this reason, it is necessary to look for alternatives, either to the route or by incorporating resting areas and by providing mechanisms for vertical circulation (described further below) or available loan services for assistive devices or transportation items, where possible. This is one of the clearest examples for the need to provide prior information before using the route, so that tourists may make a decision whether to take it or not.

Transversal slopes, being perpendicular to the direction of movement, should only be contemplated, and only to an absolute minimum, when it is necessary, to prevent water from storing on the pavement.

The definition of the edges of an itinerary facilitates the transit, especially to persons with sight loss and this is achieved when at least one of the lateral edges has detectable elements or boundaries (vertical or horizontal). In urbanised routes, this guide is often the facade line, which should have supports (planters, baseboard, fences and tactile flooring) that offer continuity in the case of building setbacks, overhangs in the building or discontinuities..

In the case of exits from car parks within buildings and in other specific situations, vehicles have to cross the pavement, and since it is required to ensure safety, the pedestrian route should have preference. The slope and configuration of the pavement at these connection points should be maintained, in order to give an intuitively understanding of the preferred flow, even if the edge has been bevelled to facilitate access of vehicles. It is recommended to modify the colour and texture of the pavement, so it warns pedestrians of potential dangers and that there is acoustic and lights warning of the exiting of vehicles. The design of the car park exit should have a straight section without a ramp before joining the pavement and, for drivers, there should be mirrors that allow them if there are pedestrians on the pavement.

In order to facilitate the orientation, sometimes difficult in an urban environment, it is necessary to have accessible information (Section 5).

In cases in which accessibility and safety conditions of urban routes cannot be maintained for various reasons, an alternative route should be provided.

Intersections between routes or crossings

For people to travel safely, it is preferable that the accessible route is differentiated and separate from other types of traffic, such as motor vehicles, bicycles or animals. However, in crowded urban areas or at historical centres it often unfeasible to separate the various flows due to the width of the road system. In these cases, there are alternative solutions as stated in Section 9 on Accessibility at Heritage Sites.

On the other hand, when the various types of traffic are differentiated and have separate itineraries, actions must be taken at crossing points and intersections to ensure safety and accessibility.

Pedestrian crossings along the accessible route are intersection areas formed between pedestrian and road traffic and they should be perpendicular to the pavement to assist orientation to blind persons and have dropped kerbs to equal the level of the pavement and roadway, by avoiding steps for the safety of all pedestrians. Dropped kerbs may be made by an inclined plane with lateral protective elements, or three planes with the same slope. They should have a sufficient width (just as the pavement) and its surface should be hard, non-slippery and with a different texture and colour, so it can be detected tactile. When pavements are narrow, there are alternative solutions as stated in Section 9 on Accessibility at Heritage Sites.

In order to improve the detection of pedestrian crossings by drivers in different vehicles, the roadway should be marked with non-slip bands and on the pavement there should be a vertical sign.

Raising the roadway to avoid a creating a step with the sidewalk is another way to facilitate crossing, being this one used to reduce the speed of vehicles, which is known for traffic restraint. This solution improves accessibility and makes the crossing safer. The tactile pavement should be maintained along the pavement.

Another way to provide safety when traffic is heavy is to install pedestrian traffic lights at intersections, but, to be accessible, they should be located so that they are visible from the pavement and from the road; have various acoustic signals,

in addition to visual signage, which allow the location of the pedestrian crossing, determine that the street may be crossed and when the time for crossing is about to finish . There are several methods of providing these acoustic signals: either continuously without the need for activation or at the request of the interested person, in this case, activating with a remote control, via a mobile phone or by pressing a button on the traffic light post, or by other means.

Where remote controls are required in a city, tourist offices should make them available for for free to visitors with sight loss who require one.

Other protective elements for pedestrians

Containment barriers. Barriers that prevent the invasion of or pavements or spaces for pedestrian traffic by vehicles.

Pedestrian beacons. Flashing lights located on zebra crossings, to warns the drivers the presence of pedestrians.

Pedestrian refuge islands. They help pedestrians to cross the road, by offering a safe waiting area, usually located in the middle of the road.

Town squares, sitting areas, parks and gardens

Along pedestrian routes in cities and towns, it is common to find town squares or sitting areas among streets or parks and gardens, to which accessible routes should join.

These environments and their provisions (furnishings and services, such as toilets, catering, etc.), apart from meeting the same technical criteria of any other space, either urbanised or built (Section 10), with regards to access, pavements, provision of furnishings, etc. , may require signage that provides visual information and, as in this case, tactile flooring, especially along the routes to facilitate the orientation and location of the different spaces and available services within or adjoining them (e.g. metro station).

In the case of parks and gardens, when roads are not paved or covered in asphalt, as in urban spaces, they should meet the requirements under Section 8 on Accessibility to Natural Environments.

Spaces and provisions for transportation

In the pedestrian routes and forming part of the accessible routes there are connections with the transport public. Provisions and parking spaces, taxi stands or standing areas for other small vehicles used for public transport services, bus and tram stops or the entrances to nearby metro stations should comply with the features and requirements specified in Paragraph 6 on Accessibility to Transport.

The characteristics of the transportation buildings, including interchanges and their furnishings and specific provisions, are included in the Section mentioned in the previous paragraph.

As they haven't been included in any other section, the recommendations on bicycle lanes are included below. A bicycle is a silent vehicle and, therefore, it

can be a hazard for pedestrians, in general, and particularly for pedestrians with sight loss.

Bicycle lanes should have a separate section from the pedestrian route and they should not prevent the use of available furnishings and facilities (bus stops, for example). Although there are various criteria for priority, according to different countries, pedestrian accessibility and safety should be ensured.

It is recommended to provide bicycle parking areas along the path of the bicycle lane, to avoid having to leave them improperly obstructing the pedestrian route, as well as to pay particular attention to their signage.

Accessible pedestrian routes in urban environments. Vertical circulation.

When the slopes of the terrain are high and the gradients are too steep or stairs have been added as a way of communicating the different sections of the city, in order to include accessible routes, interventions need to be made to improve the stairs so that they comply with, wherever possible, the features and technical requirements specified in Section 10 on Accessibility to Buildings, such as by adding escalators, moving walkways, lifts or cableways where there are stairs in urban environments.

All these mechanisms should comply with the technical characteristics and requirements of manufacture, installation and maintenance that the current legislation of each country and those specified in the aforementioned section and, while taking into account when they are outdoors, the compliance will be stricter, especially in terms of the strength of materials and their maintenance.

Other provisions and public services in the urban environment

In the urban environment, there are many elements of urban furniture, such as public toilets, kiosks and information points, public telephones, vending machines, ATMs, litter bins, waste containers, post boxes, drinking fountains, terraces and sunshades, etc., and these should comply with the features and technical requirements contained under Section 10 on Accessibility in Buildings.

Urban spaces with maritime, beach and quays features

Due to its touristic interest, this section considers the features of beaches, quays and other maritime spaces in urban spaces, or if they are found in natural environments, as being urbanized.

The basic needs that tourists have in these environments are the usual: to access, circulate and leave a beach, quay, promenade or maritime space in question and to enjoy, both safely and under the basis of equality, the various available services. They also need to access to the sea, being able to bathe and leave the water in the safest and autonomous way possible.

Just as for other areas, therefore, there should be at least one accessible route that connects to the public transport system, which should also be accessible, also with an access to the beach, quay or maritime area in question and, from there, to all other available services. This route or routes are also to be connected to the parking areas.

Most of the characteristics and technical requirements of the transport to the maritime environments, from the parking areas with reserved spaces, route design and provision, general level accesses or ramps, furnishings and the various services, should comply with that established in this section and Section 10 on Accessibility in Buildings.

The main access to the beach or the quay, or at least one of the accesses, should be to level or by gently graded slopes.

The pavement of the stairs and ramps should be non-slip and the level changes should be protected by railings and baseboards, as well as having handrails.

In the sand soil, there should be walkways and paths leading to the sea, with materials of firm consistency that can withstand adverse weather conditions and the erosion of sand and salt water. The requirements to be met are the same as those of any other soil/pavement for an accessible route (non-slip, visually and tactilely identifiable, without projections or gaps, etc.), regardless of the material from which they are made of or the difficulties of the environment in which they are located.

Where possible, these routes should extend from the access to the sea shore and interconnect with the beach furniture and activities. When it is not possible, there should be alternative provisions or services for those who require these types of support.

Within the areas of accessible routes, there should be accessible toilet, showers and changing rooms, reserved shaded areas and access to the assistive staff and bathing area, along with emergency services and healthcare services.

In all beaches where there are rescue and lifeguard services, the assistance service should be included in the bathing service, training the staff and providing equipping like amphibious chairs and crutches, etc..

Persons with sight loss may find difficult to orientate themselves in the sea. To indicate and protect the entrance to the sea, there should be a line of floating beacons (buoys) of easily visible colour that leads from the beach into the sea. If the buoys are numbered correlatively in large characters, using a contrasting relief and in Braille, these are to indicate the distance to the shore. Other beacon systems may be employed, or other devices using communication technologies to transfer information or make emergency warnings..

The rest of the furniture (drinking fountains, litter bins, etc.) and particularly The rest of the furniture, recreational spaces and others that may be available should also be accessible, by following the recommendations of the other sections of this standard.

8. Accessibility to natural environments

8.1 General

References to existing buildings standards and building characteristics that are part of these environments will be taken into consideration where necessary, especially in connection elements.

In contrast to the urban or urbanized environments, natural or rural spaces or non-urbanized areas do not always have continuous routes or access for accessible vehicles. The most important element of the route, the soil, is in many cases the natural terrain with its specific characteristics, according to the topography and the geographical in question.

Tourism in natural environments is becoming more frequent and it is a matter of seeing how they can progress in their accessibility taking into account the need to preserve them. The first rule is to intervene where it already has intervened, where a road has been opened up, where there are buildings and viewpoints, etc.

8.2 Accessible pedestrian routes in natural environments

Accessible routes should have stable and continuous solid ground obstacle-free space to circulate accessible alternatives for existing uneven sections, sufficient signage and lighting, warning and protection systems at crossings and guiding elements.

In natural environments, where they have been interventions to make them accessible, at least the main characteristic of accessible routes that is their continuity must be guaranteed. Although it should always be done, in this case it is essential to inform, before starting the route of each and every one of the details on the itinerary, to avoid any risks or accidents.

It is also important to ensure that the accessible routes are the same as the general ones, so as to avoid unnecessary segregation.

The surface of the paths and the materials used will determine, to a greater extent, the degree of their accessibility. The surface should be firm and regular so maintenance is essential. It will be possible to use sufficiently compacted and adequately treated soil with a drainage system that evacuates rainwater to prevent pavement from losing compactness. . When loose pavements are used, they should provide a degree of compaction greater than 90% (in modified Proctor compaction test). In the case of surfaces that are formed of several sections or various types, smooth, homogeneous surfaces with no bumps or protrusions will be provided.

Among the wide variety of existing materials, it is advisable to use cement or asphalt finishes, stone, wood, among others avoiding the use non-compacted sand. It is important to pay special attention to continuous earthen pavements, which comply with safety and accessibility for all features, made of glass-based with ecological binders, to offer a continuous, natural, durable, waterproof and environmentally friendly surface.

For wooden walkways or bridges, planks will be placed parallel to the direction of travel, without gaps greater than 1.5 cm, being perfectly flush with the ground and treated with a surface coating to prevent slipping. On both sides of the walkway there will be a safety baseboard of 10 cm that serves as a guide and prevents wheels from leaving the path unexpectedly.

It must be ensured that paths and trails have a minimum width and height free of obstacles. The recommended width is 120 cm along straight sections and at

least 150 cm for changes in direction, although whenever possible, it is preferable that they are 180 cm wide along their entire length. The minimum clearance is 220 cm.

In relation to the slopes, wherever possible, it is necessary to look for the routes that run along smooth slopes. Alternative routes will often have to be created, for example, zigzagging. It is advisable to establish frequent rest areas along steep slopes, include supports, such as handrails or enable means of transport or assistive devices. As already mentioned, it is essential to provide information that indicates the features of each area, so that each tourist is aware of any existing difficulties, so they may make a decision whether or not to follow an itinerary.

Defining boundaries in the routes facilitates their use and, although it is more complicated for rural environments, other resources can be used, such as installing raised edges with boards or logs or a line of large stones that remain stable. The general features for signage and information, essential for orientation, the location and understanding of each space, along with the various possible applicable systems are found under sections of this standard and some and others will be met, depending on the specific circumstances of each natural environment.

Maintenance, which is always required, is essential for routes through natural environments subject to weather conditions and the transit and use by animals.

These accessible routes through natural environments should comply with the same features, by adapting their implementation to the type of place, climate, etc. It is important to note that natural or non-urbanised beaches are one of these frequently visited spaces.

8.3 Protected natural spaces

A special mention must be made for protected natural spaces, which are on the most popular tourism resources. In these cases their use and enjoyment should be compatible with the preservation of the variety, uniqueness and beauty of natural ecosystems and the landscape. Legislation regulates the management of these environments and the interventions that can be carried out in most countries. Because of their nature and due to legislative restrictions, the possibilities of providing accessibility are limited. Even so, their design and modifications may take into consideration the criteria on Design for All and accessibility, allowing them to be enjoyed by a greater number of people.

In order to provide them with as much accessibility as possible, there is a need to apply the above criteria and those referenced to other sections, inasmuch as the conditions of the interventions in the protected natural environment permit and always in those parts in which it has been urbanized / built..

8.4 Common provisions for natural parks

Visitor Interpretive centres

These spaces are the most commonly built in natural environments. Refer to Section 10 of this standard for the accessibility requirements.

Wildlife observatories

The creation of these observation spaces may be compatible with accessibility criteria and, whenever possible, they should be compliant as much as possible.

Ensure levelled access or ramp access to the platform, being usually built above the natural landscape; design routes along paths or tracks commonly facilitating the approach for the most number of people as possible; incorporate observation areas (windows) at two different heights, so that people of varying heights, children, wheelchair users, etc., may observe; do not include furnishings that hinder the act of observation and make the existing ones available to those who need them, such as raised drawings of animals or 3D models, buttons that allow to listen to the sounds emitted by each species or that release odours or other similar solutions.

Viewpoints

At viewpoint, these circumstances are similar, as they are places that have urban or constructive interventions or provisions. Accessibility features will met wherever possible, for both parking areas and along routes, together with the dimensions of the free spaces at the viewpoint, in their provisions and signage, especially those that are interpretive.

Precisely, the two most important issues in this case are that there should be the provision of accessible alternatives to the routes for the usual changes of level at viewpoint, where the ramp or lift design respects the landscape and prevents falls, and they should have stable vertical barriers put in place that are non-scalable and at a sufficient height to ensure safety, allowing for the views to be contemplated by people of different heights, children and wheelchair users.

Educational camps

Educational camps are often organised in natural settings and to ensure that they are accessible, they must take into consideration the same criteria as other spaces.

In this case, special care must be taken with accommodation and activities, especially in bedrooms, dining rooms, bathrooms, changing rooms, classrooms, etc. In the case of the dormitories, if it is not possible that they are all accessible, at least a certain percentage of them should meet the requirements for accessible rooms. The same applies for the toilets and changing rooms, while the other provisions for the carrying out of activities should be accessible.

Similarly, so that staff can perform activities for children with different abilities and capabilities, they must have the appropriate skills for teaching, organisation of activities and persons with disabilities care, in order to develop an appropriate program. There must also be assistive technologies, such as adapted sports equipment.

Camping

This form of accommodation is characterised by its relationship with the natural environment and it may be found in a variety of options: camping tents, campervans, caravans, cabins, bungalows, etc. There is also a wide variety of

associated services: cafés, supermarkets and shops, sporting areas and programmed activities.

The accessibility features, in each case, will be appropriate, as indicated throughout this standard. As in the previous case, accessibility should be ensured in all bedrooms or at least some of them. The same applies for the toilets and changing rooms, while the other provisions for the carrying out of activities should be accessible.

9. Accessibility to cultural heritage

9.1 General considerations

Historical or cultural heritage sites have particular features and, for most countries, specific regulations with regard to their preservation. Both of these issues are limiting when it comes to intervening to make them accessible. However, they should always consider making a diagnostic analysis, then make the relevant proposals and, as soon as possible, carry out actions.

In some occasions it will be possible to proceed with the technical criteria and requirements applicable to any building or urban space and, at other times, to undertake specific measures, in order to achieve the highest level of accessibility using special solutions.

9.2 Historical centres

Historical centres are a part of the cultural heritage and make up the urban environment around them.

In order to achieve accessible urban planning for these environments, the following general recommendations are proposed, which should be pursued, whenever possible, by applying the general accessibility requirements:

- provision of car parks and alternatives to road traffic and, especially, urban transport,
- provide sufficient pedestrian space,
- create living areas,
- standardise the types of road crossings,
- rationalise and organise the placement of urban furniture,
- design short routes or those with rest areas and alternative solutions to steep slopes or stairs when overcoming uneven sections.

9.3 Cultural heritage

The composition and importance given to the cultural heritage of a country changes over time and due to social and economic circumstances, but always based on the idea that heritage must be preserved and known.

When considering the goal of achieving accessibility in cultural property in the cultural heritage, sometimes this may not be possible, however, (as there are

other means of making them known to the public when there are preservation difficulties), there should be alternative solutions or specific products or services.

Providing special lifts or imaginative constructive solutions should be the first of these solutions. The use of ICT-based applications and services opens up a huge range of possibilities. Using these applications and designing them with Design for All criteria should allow people to provide access to information on cultural heritage. Here, solutions provided under Section 5 on Information and Communication are applicable.

Examples may include audio guides that are available on the Internet for mobile downloaded or the loan of information devices at tourist offices that include geolocation systems, QR codes and other digital information transmission systems.

9.4 Tourist routes

From the point of view of accessibility, accessible tourist routes should be established and, whenever requested, tour guide trained to respond to specific needs should be made available to those who need them.

For the creation of accessible tourist routes, these should follow the provided recommendations to ensure accessible routes, linking emblematic places in the destination. These routes should be offered to all tourists, avoiding any discrimination and providing specific and detailed information on the accessibility.

These circuits should have trained tour guides, depending on the composition of each group, who will keep pace, providing information and details on assistive devices, etc., explaining the historical, cultural information, etc., in a pleasant, friendly and understandable language, while adapting to the variability of the audience.

10. Accessibility of the built environment and equipment

10.1 General

The key reference for this section is ISO 21452-2011 Building construction. Accessibility and usability of the built environment, which establishes the requirements and recommendations to create a sustainable built environment that is accessible, and it is aimed at users of buildings, architects, planners, engineers, builders, owners and property managers, manufacturers, politicians and legislators. As indicated in the text itself, “the purpose of this International Standard is to define how the built environment should be designed, constructed and managed to enable people to approach, enter, use, egress from and evacuate a building independently, in an equitable and dignified manner and to the greatest extent possible.

The intention of this International Standard is to meet the needs of the majority of people. This goal is achieved by agreement on minimum standards of provision which are generally accepted to accommodate the diversities of age

and of human condition. This agreement has been reached by consensus between different countries all over the world.”

In the development of this standard on accessible tourism the provisions of ISO 21452 are also applicable, insofar as that “in some countries a higher level of technical specifications has been achieved due to their long history in developing accessible building standards and regulations. The requirements of this International Standard are not intended to replace more demanding requirements.” (defined in those national standards or national regulations.)

Accessibility of the common spaces of buildings ranges from access areas and parking areas up to the halls, spaces and elements that allow circulation on each floor (horizontally) and the use of all its spaces, as well as stairs, lifts and other mechanisms that facilitate circulation among floors (vertically). They should also consider elements concerning safety, protection and evacuation and, consequently, individual attention.

10.2 Parking areas

Wherever possible, there should be, as close as possible to the tourist resource, waiting areas and stops for public transport and reserved parking spaces for persons with limited mobility.

For the proper design and operation of the reserved parking bay, these need to be adequately located, have a suitable surface, finish and dimensions, which are unequivocally and easily identifiable through their signage, being connected by a safe accessible route, with a dropped kerb, if necessary, and be sufficient in number with regard to each tourist resource.

The technical features and requirements for this provision, location and design are stipulated under the above ISO standard and these must be met. It should be remembered that each country has adapted vehicles that may be very different in size and adjustments, therefore, reserved parking bay should be designed accordingly. It must also be urged that the continuity of the accessibility should be maintained between the reserved parking bay and the access to the building and, in this case, due to the risk of an accident, special consideration must be given to safety.

When reserved parking bay is located inside a building or when the exteriors are fitted with protection structures (roof type, canopies), the height of all elements must be taken into consideration, to avoid accidents.

In the case of installing automatic control and payment machines, design features should take into consideration those found in Module II: Accessibility chain and recommendations. Manual on Accessible Tourism for All: Principle, tools and best practices and ISO 21452:2011.

10.3 Building access and egress

The access / exit elements of the building should be able to be identified and located and guarantee access / exit through a continuous accessible route between the exterior and the interior.

For their location, the building should be provided with different characteristics (type of materials, use of contrasting colours, etc.), while at the same time incorporate signage that is detectable via the senses (the most common being visual and tactile flooring in this case) and, on a regular basis, inform the street number to which it belongs.. If there are several entries, their different uses should be indicated and which is accessible, especially when they are not all, using the international symbol of access (ISA). Lighting should be adequate and help facilitate the location of accesses.

Accesses should be level or, if there are stairs, there should be an accessible alternative entry.

For doorways, apart from being clearly identifiable as indicated above, these should have an interior width of passage of at least 80 cm, however, 100 cm is recommended wherever possible. The flow of users will determine whether this width should be greater and it will influence the decision on the number of building entrances/egresses.

Head clearance should be 220 cm.

Spaces before and after doors are to be level and these should be 150 cm by 150 cm and, if possible, larger in order to facilitate wheelchair or scooter users to manoeuvre or to handle suitcases or goods, even for windbreak entrances with double doors.

To facilitate visibility in the interior, permeable and transparent materials should be used to allow the interior to be seen and, in order to avoid bumping, dual coloured and striped signage should be used. They shall be provided, over their entire length, with visually contrasted signage situated at a lower height, between 0.85 m and 1.10 m, and at a taller height, between 1.50 and 1.70 m.

Opening and closing devices should comply with ISO 21542, although automatic doors are recommended as they are more comfortable and they do not need to be manipulated to be used. Even when they are installed, they should have speed reducing mechanisms and safety features to prevent entrapments⁵. If there is an intercom, preferably a video intercom, to call and request the opening of the door, it should comply with the features of the above standard.

10.4 Horizontal circulation

The floor of the building, along any of its points, should be firm, stable, without loose parts, and continuous, without dips or bumps between its pieces or changes of materials. If there is a need for grids or logs, they should be located outside the circulation space and, in any case, level with the rest of the pavement and the size of the gaps should be less than 1.5 cm.

It should not be slippery when dry or wet and, depending on the gradient, they should have greater or lesser resistance to slippage. Different countries have established regulations to quantify and establish ranges of slip resistance ranges. As the main criterion, this feature should be determined in terms of the:

⁵ There is European legislation on pedestrian doors, Directive 98/37 / EC on machinery

Type of environment and its main use (for example, if it is found inside or outside), presence of moisture or water (for example, if it is a swimming pool or bathrooms, it must be less slippery than an office) and if it has sections on a gradient or stairs (if the circulation is on the same plane, it would be less dangerous than if it were on an uneven surface, where it would be best to increase the slip resistance).

As they may have an impact on perception and orientation, any finishes should be non-dazzling and contrasting with the furniture and walls. When required, tactile flooring should be incorporated to warn or guide all people, not only those who do not see.

TWSIs (Tactile Walking Surface Indicators) or, in other words, tactile flooring, are used to warn of any changes in level (stairs, ramps, lifts, platforms) or traffic features (pedestrian dropped kerbs) and as a guide along routes inside large spaces up to points of interest. The features, the lack of any specific standard, are referenced to in Annex A of the above ISO.

10.5 Corridors and other connecting spaces

The main aspects to be considered are the features of corridors and interconnecting spaces and their relationship with other spaces to be used in the building and its provisions.

The features of all passageways along an accessible route indicate that its width should be at least 120 cm and, when a large amount of traffic is anticipated or when a wide space for the passing of people is required, it should be at least 180 cm in width. Where this is not possible, there should be places set aside for wheelchair users to turn around or for the passing of people, being 150 cm by 150 cm in size. Along specific lengths, when it is not possible to avoid them on the accessible route, the already specified widths for doors are applicable and these should never extend farther than 20 cm. Where there are objects that protrude by more than 10 cm, these are to continue until the floor (or 30 cm from it) or they are to be indicated via a 10 cm detectable horizontal edging; in any case, the indicated width will remain obstruction-free. Head clearance should be 220 cm.

When the ground plane is on an incline, it should never have a gradient over 4% along its length or 2% across its width.

Corridors and interconnecting spaces should have the corresponding indicative or directional signage.

So that circulation is safe and comfortable, illumination, including emergency lighting, should meet the minimum requirements established under the various standards for these circulation spaces and that the variation between the exterior and interior lighting not cause any glare or impede vision.

10.6 Doors and openings

All doors and openings of accessible routes should comply with that indicated for access doors.

When associated issues indicate that, where the most common type of door is opened by hand, the easiest handles to use are those that require pressure or a lever to open, as they may be activated with various body parts, including hands, such as the forearm or elbow and this allows more people to use them. A space is also required for the arm to perform the movement of opening or closing the door, which are fixed at least 60 cm between the leading edge of a door and any wall perpendicular to it.

10.7 Vertical Circulation

It is useful that the various vertical routes, either accessible or not, are located as close to each other as possible (for example, lifts, ramps and stairs) to avoid the possible segregation of users of the building. When this is not feasible, there should be accessible directional signage to allow tourists to easily find the nearest accessible route.

10.8 Interior and exterior stairs

In the mentioned standard, there are technical criteria concerning the design and features of the rise and runs of flights of stairs and landings, as well as the headroom. Furthermore, they include recommendations on especially important visual and tactile signage used for stairs that are potentially dangerous areas.

Issues, such as stairs should not encroach upon the circulation strip of accessible spaces, so as to avoid tripping or that should be indicated and include tactile flooring, so they may be distinguished, especially for persons with sight loss or for reasons of safety, especially in the event of an evacuation and one recommendation in the standard states that the sections should not have less than three steps.

In ISO 21542:2011 there are exceptional technical requirements applicable existing buildings found in developing countries that should also be considered.

10.9 Ramps and slopes

Ramps are crucial to ensure safe and comfortable circulation and to accessibly connect uneven sections along an accessible route. This requires properly dimensioned non-slip sections of pavement and landings, as well as handrails, sturdy and ergonomic protections and comprehensible accessible signage on the uneven sections.

To address these aspects, ISO 21542:2011 contemplates the requirements and characteristics to make them safe.

10.10 Handrails and guiding elements

Likewise, this standard includes the features of railings and guiding and support elements (skirting and handrails), being indispensable for safety and to facilitate the use of stairs and ramps, the placement of protective elements, such as rails and guiding and support elements, as well as skirting and handrails. The height or slope from which the placement of barriers is necessary, depends on the concepts of safety that changes from one country another and from one environment to another. When it comes to the design of these elements, it is

essential to combine the use, by those that require them, with that of any possible misuse, especially by children, as they should not be scalable.

10.11 Stairs, mechanical ramps and moving walkways

The first thing to be illustrated is that escalators, mechanical ramps and moving walkways cannot be part of what would be called an accessible route for everyone, as difficulties arise in their autonomous use by wheelchair, canes or walker users or those who have difficulty with balance, etc., although they are incorporated as a way to complement accessible routes, by providing significant improvements to overcome sections that make circulation difficult and they are to be regulated to as comfortable and safe as possible for those who can use them.

In the same way that other elements have been previously mentioned, features and requirements must be taken into account for these mechanisms with regard to the obstruction-free width and height, surface dimensions for entering and exiting such, their protective elements and support, as well as their gradient, where appropriate, their speed and their ability to slow down upon entry and exiting.

In addition to the requirements established under the above ISO standard, this machinery has regulations with regard to their manufacturing specifications⁶ in many countries.

10.12 Lifts

Lifts represent the best accessible alternative for vertical circulation when the distance between uneven sections would require extensive ramps or where there are greater constraints for perambulating.

These complement stairs and it is recommended that they be found alongside them.

Key aspects to be considered for lifts are: access, dimensions, equipment, car, control devices and signage elements.

The most important aspect for lifts, prior to considering the minimum requirements, particularly applicable to the refurbishing of existing buildings, is to adapt the installation to the capacity and purpose required by the tourism environment in question and to incorporate an adequate provision of elements and resources to determine their location and identification.

For their dimensional criteria and other features, refer back to ISO/FDIS 21542:2011 (E) that, in the case of some requirements for accessible lifts, refers to ISO 41190-1 or ISO 41190-5, although, also in this case, it is important indicate that each country has its own legislation on lifts.

In those countries where national regulations do not require a lift in a multi-story building, there should be at least sufficient space for the installation of an accessible lift, with a minimum internal car size of 110 × 140 cm and a load capacity of 630 kg, to allow for subsequent adaptations. As an exceptional

⁶ Directive 2006/42/EC on machinery and the European EN standard

consideration, for developing countries or where wheelchairs are smaller in size, a smaller space of 100 × 125 cm may be left.

10.13 Toilets

As stated in ISO/FDIS 21542: 2011 (E), the stance on adapted toilets and all their criteria varies from one country to another, so several regulations must be taken into consideration. In any case, where there is no regulation or where it is incomplete or insufficient, the criteria in this standard should be applied, which describes various types of toilets.

Essential aspects to be generally considered and, for those that are designed for wheelchair users, in particular, are: doors, stalls, signage, lighting, design and layout of the various mechanisms, support bars, toilet bowls, as well as the incorporation of alert elements for the need of assistance and emergency situations.

One of the issues that, for both designing a new building and its refurbishment, must be decided upon is the number of toilets made available for wheelchair users from the total of all available toilets and, depending on various factors, as a general recommendation, there should be at least one adapted stall for wheelchair users at every tourist environment and, wherever possible, in every toilet complex there should also be at least one, which may be unisex. Their use by both sexes allows for a greater flexibility for people who require assistance.

It is important that after a toilet has been provided with these features, if any furnishings or other items are added, such as rubbish bins, that there is sufficient clearance, as indicated in the reference standard so that they may be used for what they were provided for. Furthermore, it is important to always assign, regardless of the frequency of visits by people who require them, their use as a toilet and not for any other use, such as a storage area for cleaning implements.

10.14 Changing rooms

The provision of the changing rooms, in addition to that indicated for toilet stalls, is to have a shower and equipment, along with at least one accessible storage space. It is also advisable to have a bench and a full length mirror.

The requirements for the shower and its equipment, as well as the furnishings or accessible storage space are considered under the same standard and it is recalled that the number of changing rooms in each building depends on the regulations for each country and, also herein, as a general recommendation, it indicates there should be the provision of at least one accessible changing room for wheelchair users at each location where there are changing rooms for public use. The availability of a unisex stall allows for greater flexibility for people who require assistance, such as for children, the elderly and some persons with disabilities.

10.15 Reception areas

There are to be general features for all service elements, such as reception areas, counters, work desks, ticket offices and cloakrooms, with regard to their

location (easily locatable, avoiding backlighting, not facing windows and with manoeuvring room), materials (considering general design requirements relating to colour and visual contrast), finishes, maintenance, etc. and others more specific to each, in terms of their sizing and ergonomic aspects. The reference standard is ISO 21542:2011

Having proper lighting where it is needed is essential for everyone and it ensures that persons with sight loss can make use of buildings in a comfortable and safe manner and so that persons with hearing loss can read lips. Natural lighting is to be combined with artificial lighting, by avoiding glare, reflections, shaded areas and excessive contrasting, where it may be adjusted as required.

Building elements are to be identified, with stronger lighting in critical areas, such as entrances, hallways, stairs, changes in level and work stations, so that they are easily identified. Follow the indications of section 33 of ISO 21542:2011.

10.16 Equipment, controls and switches

The design and construction of the controls and switches should allow all people to operate them safely and independently. They are to be installed at a height that is accessible, so they may be reached and operated, and they are to be adjusted to the effort required to activate them and they are to be placed so they are easily locatable. ISO 21542:2011

10.17 Accessibility in specific spaces

Health care areas

Often buildings open to the public, where activities involve a large number of people, are provided with small health care areas where emergency situations may be addressed prior to, if necessary, being derived to a health centre. These spaces may be also only for seasonal use, for example at beaches or in natural spaces where there are seasonal activities.

Apart from having staff trained to assist at such emergencies, it is recommended that the access and its interior be accessible, along with its furnishings and, in this case, especially the available stretchers.

For buildings, it is recommended that they are located on the ground floor and close to access ways with lifts and exits, should it be required to take people by ambulance or other means of transportation to medical centres.

As for other environments, equipment and furnishings are essential elements for accessibility, but in this case, it is of greater importance as it may deal with very specific products, such as stretchers, medical care products and materials, defibrillator, etc.

In these spaces it is recommended to have, where possible, the presence of a hoist to safely move persons with serious conditions affecting permanent or temporary mobility.

It is also recommended to have freely available wheelchairs and stretchers that are height adjustable and of high capacity to improve their stability, which is

very useful for people with severe disabilities such as in the case of quadriplegia.

Accommodation buildings

Within the tourism sector, accommodation is an essential element and, from the point of view of accessibility, if there is no accessible accommodation at a particular location, then travelling to such is not possible.

It is customary that tourist accommodation also provides additional services, such as restaurants, stores, swimming pools, entertainment, personal care and that these are information points for tourist routes, places to visit and travel services offered in the area.

For this reason, it is required that the hotel complex apply universal design criteria to all rooms and services associated with accommodation, so as to meet the needs of any tourist, and that it has rooms that are accessible for wheelchair users and, also, other specific assistive equipment for other people.

These buildings, like others, should comply with the technical features and requirements set out in the above points for its interior and exterior routes and their provisions.

Rooms

Essential elements that make all rooms more comfortable, allowing them to be used by a greater number of people, apart from those being specifically allocated for wheelchair users, are: the width of the entrance door and the interior passageways (including bathrooms), the height and arrangement of existing apparatus (light switches and controls for cooling/heating, telephone, hair dryer, emergency button, etc.), so they can be reached and used by anyone.

Another element to take into account are furnishings, where the most suitable should be chosen in terms of convenience of use and the avoidance of hitting against edges or overhanging or protruding elements.

It is important to establish a minimum provision of adapted rooms for the needs of wheelchair users, in both open spaces and for their equipment. The dimensional requirements are the same as those along routes for horizontal circulation, applicable to any built environment, however, in this case, clearances should also be considered on both sides of the bed. Where necessary, within the provisions of assistive devices for accommodation, these should include hoists or have them available for rent when required by the user.

These adapted rooms should have their own toilet and comply with the requirements specified under the corresponding point of Section 10.

There should also be alarm systems in both the room and the toilet.

And finally, incorporating home automation mechanisms in the rooms, such as automated blinds or fall detection sensors, increases customer perception on quality.

Evacuation

In accommodation buildings, it is especially important to comply with the safety requirements and to have escape routes in place. But, just as important, they should have emergency management systems (including evacuation procedures) to take into account the different needs of customers, especially for those persons with disabilities.

Among the elements to be considered for providing information and communicating with customers is to have alternative formats for emergency warning systems, standards and evacuation procedures for persons with disabilities.

Information and communication.

The training of staff, along with other public support services, is essential.

In addition to designing the furnishings and the information space so they are comfortable and accessible, for accommodation buildings, an important aid for communication is to have a fax, text telephone, magnetic loop and email with public access, along with WiFi to ensure the use of other specific communication tools that are necessary for certain people (apps, video calling, chat or any other internet service).

Relevant services may also be provided with a Braille transcription for basic information, such as menus, services and availability, etc.

Support service or provision

The perception of quality by customers increases when the premises has a service, or that incorporates within the management of its services, to determine the possible needs of customers.

The provision of certain assistive devices or working alongside companies that rent or sell them is a good practice. These products, in addition to the above mentioned hoists, bath seats, scooters or wheelchairs, alarm clocks that operate using vibrations or lights or communication systems that may be used by deaf people, such as the above mentioned text telephones or videophones, bath seats, etc.

Catering spaces

Restaurants and other catering places, besides the accommodation, are essential to any tourist destination.

For these spaces, even though they should comply with all the technical requirements to be accessible, special care has to be taken for the features in interior circulation spaces, toilets, equipment and furniture, communication and safety.

For the interior circulation spaces, the provision and placement of tables and chairs should be done while leaving sufficient manoeuvring space for all people, including wheelchair users.

As for the toilet, apart from being accessible, care should be taken with regard to its location and its access via an accessible route that is specifically free of obstacles and there should cleaning and maintenance protocols established that make it available at all times. They should be identified with pictograms that

are, ideally, standardised, and readable and understandable by anyone, regardless of their place of origin or cognitive or sensory abilities.

The design or choice of furnishings (counters or bars, tables, chairs, etc.) should also be chosen carefully, especially in accordance with ISO 21452.

Lighting and the safety system and evacuation plan should also be considered carefully and should consider the needs of all potential customers. They are to comply with the specifications contained under the relevant sections of this standard.

With regard to information and communication, both should meet the above requirements, in particular, by having signs designed to ensure that they are readable and understandable and have others in alternative formats (Braille, pictograms) for internet applications on mobile devices, etc.

For persons with hearing loss that use hearing aids or implants, there should be a portable induction loop or magnetic loop made available. Another option is to have these devices built into the technology that helps the waiter take note and they fulfil this dual function. Also, it is important to take into consideration the constructive design, provision and implementation of acoustic solutions in these areas, so as to achieve acoustic comfort.

There should be menus and specific meals to meet the various needs and to convey their availability.

The information should be provided, in full detail, on the features offered by the premises that it considers as being accessible.

As stated in other sections, staff training is essential.

Tourist information areas

Information centres and points and tourist offices should meet all accessibility requirements regarding the built space, kiosk or mobile or fixed information point, especially with regard to information and communication.

With regard to information and communication, in order that every is aware of the offered services and that they are adapt to the personal circumstances of a greater number of tourists, there should be various channels for requesting information: in person, by telephone, via internet or accessible web applications, which include chat or video conference services, etc.

When there are several information centres, all should be accessible. If this is not possible, they should identify and include their features in all information and communication systems being used.

Apart from the general tourist information, these places should have reliable information on the accessible tourist attractions and services.

When providing face-to-face information, staff should have sufficient and appropriate training to communicate with anyone and there should be services and alternatives made available (induction loop, magnifiers, brochures in various alternative formats, pictograms, etc.)

The provision for furniture or information systems, such as digital information boards, should comply with the accessibility measures contained in Section 5.

Recreational spaces or spaces

Children's play areas

When tourism includes children, it is essential that these spaces are available and accessible.

If a play area is located in a building or in another built environment, for it to be accessible, apart from complying with the requirements on location and connection via accessible routes, its distinctive features are to be the incorporation of soft pavements that cushion impacts and minimise injuries, in the event of falls, and the inclusion of play equipment that allow all children, regardless of their abilities, to share.

Among the recommended play equipment, besides ensuring that they should always be safe, they should also always include models to be used and enjoyed by children with or without disability.

Swimming pools and spas

The provision of pools and spas, especially at places of accommodation, are an attraction at tourist destinations.

The specific accessibility characteristics that must be ensured for these spaces are to guarantee access to the premises and the pool and the possibility to safely enjoy bathing. Other requirements regarding access, routes, toilets, changing rooms, etc., are clearly described under other points.

With regards to safety, since they are wet areas, particular care has to be given to the choice of pavement and maintenance for any part of the premises, and, especially, around the edge of the pool, so that they are non-slip and made of different materials depending on the areas. The pool edges should be visually and tactilely indicated and be of a design that minimises risks in the event of falls or collisions. Care must also be taken for the sizes of the grate openings, as well as their location and design.

For spas, in the steam rooms, there is a need to enhance the colour contrast between the different elements to aid the vision and perception of everyone.

Finally, as a safety measure, it must be noted that the depth of pools should be indicated, not only visually, by using textures and colours along the edges and the bottom.

For their access, they must be provided with, as a minimum, one accessible swimming pool entrance/exit, being either at surface level or beach type or by using movable flooring, a ramp or hoist.

Orientation within pools is assisted by the use of lane ropes and, so that different people may make the most of the swimming pool, depending on their abilities, there are many elements that may be used, such as pool crutches, floatation devices, etc.

Other sports facilities

In addition to the accessibility features and technical requirements for any other building, in these cases, access and the use of spaces sporting activities must be ensured (courts and fields, tracks, etc.), as well as the grandstands or areas to be used by the public, with reserved spaces for wheelchair users, so they are not isolated from the rest of the crowd, as well as sufficient randomly distributed seating with a backrest and armrests.

Furthermore, there should be different types of sporting equipment that may be used by people with different fitness levels to avoid injuries. In this area, staff training is particularly important for those that manage the exercises, so they understand how to cater to persons with disabilities or other specific constraints.

Museums, exhibition halls, performance centres and buildings of touristic interest

Cultural tourism is a widespread form of tourism, while museums and buildings of cultural interest have always been iconic centres for tourists, along with monuments and cities.

For these cases, besides from ensuring accessibility to the building or built spaces in question, it must be ensured that the content is accessible or that it be presented in alternative formats, so, ultimately, that the information and sensory experiences are conveyed to each person in a manner in which they can understand and perceive.

Accesses, toilets, lockers, furnishings, routes, etc., should comply with the indicated requirements in the previous sections.

To ensure accessibility to content, there should be alternatives available for each case where applicable:

- Installation of information boards on the corresponding content. The boards should be suitable and accessible in terms of their location and design (text size, contrast, etc.),
- Selecting furnishings (particularly, shop windows) that take into account the needs for approaching and the varying height of people,
- Allowing the works to be touched by visually impaired visitors, whenever possible, or by making scaled models or educational sheets in relief identifying the content of the original,
- Including signs in Braille and that are easy to read,
- Offering technological resources, such as audio guides and video guides that are also accessible with regard to their manner and operation and their communication resources with audio description, closed captions and sign language, where appropriate.

Also, with the development of ICTs, informational panels (infrared, NFC, two-dimensional codes, such as QR, etc.) are included, as well as interactive screens and internet applications that should be equally accessible to all people, so they should comply with the technical requirements of ISO 9241-20:2009 Ergonomics of human-system interaction - Part 20: Accessibility guidelines for

information/communication technology (ICT) equipment and services and UNE-EN 301549 Accessibility requirements suitable for public procurement of ICT products and services in Europe.

Content available over the Internet may also be included.

If interactive games for children are offered, at least some of these should be accessible,

- while taking into account guides that are specialised and knowledgeable about the needs of persons with disabilities,
- etc.

Cinemas, theatres and auditoriums

These spaces form part of cultural leisure and, therefore, tourist circuits.

For these spaces to be accessible, they should ensure the provision of accessible reserved spaces in all rooms and the provision of alternatives to access the content, in order to enjoy the experience.

The specific location of the reserved spaces should be determined by criteria on equality, without reserving any areas with low or zero visibility or circulation areas, nor should they impede the visibility of other people who are behind these. If the reserved spaces are located near an emergency exit, a toilet area or any other service area, safety conditions are to be enhanced in the event of an evacuation and the distances are to be reduced for users to reach all other services.

It is important to integrate wheelchair users in armchair modules and indicate their location on the pavement.

To avoid isolating the person who requires the reserved space, there should be the possibility of the reservation of adjacent seating.

For accessibility to the content of these places, they should have magnetic induction systems, optional closed caption and audio description systems, so they may be selected voluntarily by those who require them. Audio description and closed captions may be broadcast live. They may also be pre-recorded and conveyed to devices made available inside the premises. Audio description can also be received via mobile devices belonging to the audience. Another alternative is to provide an audio introduction that, at least, establishes the type of presentation and the context of the performance.

Libraries

To ensure the accessibility of libraries, an important tourist resource, apart from the generally applicable requirements, they must ensure access to content, documentation and information.

There are various systems used to search for information at libraries and, in most cases, it requires the support of service staff, especially for the more traditional type using index cards.

In any case, libraries should be provided with books, documents and informational materials, especially those that refer to the locality (maps, guides,

background history, legends, etc.), in alternative formats: Braille, high relief, being easy to read text, accessible CDs and DVDs with closed captions and audio.

If electronic filing systems are incorporated, some of these should be provided with accessible hardware and software: large screen, ergonomically adapted keyboard and mouse, Braille display, assistive reading hardware (scanner or built-in OCR reading device, etc.); screen magnifying programs, automatic text readers, voice recognition software and augmentative communication programs, etc. There should also be audiobooks available and access to books and digital magazines.

Reference standards would, for accessible software, the International Organization for Standardization (2008), Ergonomics of human-system interaction – Part 171: *Guidance on software accessibility*, ISO 9241-171:2008 and for accessible hardware, the International Organization for Standardization (2012), *Information technology – User interfaces – Accessibility of personal computer hardware*, ISO/IEC 29136:2012 and the already mentioned UNE-EN 301549 Accessibility requirements suitable for public procurement of ICT products and services in Europe.

10.18 Safety and emergencies for persons with disabilities

Although they are applicable to all environments and tourist uses, it is important to consider all the features that buildings must generally comply with, as well as to consider evacuation management as an essential factor to minimise risks towards tourists.

The reference standard is the entirety of Section 10 and ISO 21542:2011. Being especially recommendable is the understanding of informative Annex D “Fire safety and assisted evacuation for all in buildings.”

Additionally, this standard should incorporate the protocols applied in some countries for evacuation during disasters, since, for these cases, it is not addressing a situation of a building, but rather in a large urban, rural or natural area and, although the conditions may vary, the technical requirements and emergency service staff training should be similar.

In an emergency situation, compliance with the accessibility criteria along the evacuation route, which are to be the same as those for any other route, is essential. During an evacuation, in a horizontal direction, a problem occurs for large spaces, which should be divided, due to the long distance having to be crossed to the exit and at the moment of evacuating a multi-storey building, and this problem may combine with that of having to descend vertically.

They must include, while not being mentioned until now, information on independent access ways, refuge areas and emergency lifts:

- Independent access ways are used to divide spaces and limit the spread of a fire. When located along an accessible evacuation route, they should comply with several specific requirements without complying with its function, especially for the opening/closing of division doors between access ways.

- Refuge areas are spaces of a building, separated from other areas that are safe from fire and smoke for certain period of time, based on the construction features. Allow for people who cannot leave independently, to remain inside the building until being rescued by emergency teams or the fire brigade. They are used when it is required to overcome uneven sections during an evacuation.
- Emergency lifts are those that meet certain technical requirements and that may be used by emergency services or firefighting service. Also, if provided by the building, the evacuation plan may be used by persons with disabilities.

Special care should be made with the installation and maintenance of warning and alarm systems, which meet the requirement of being both visual and acoustic, and they should be perceived from anywhere, including toilets. Special care should also be made with the accessible design and location, as well as the maintenance of the signage of evacuation routes and fire protection systems.

As for the lighting of the building elements, these are to be identified, with stronger lighting in critical areas, such as entrances, hallways, stairs, changes in level and work stations, so that they are easily identified. Follow the indications set out under ISO 21542:2011.

10.19 Management and security planning

Each country has its own legislation that needs to be understood and, additionally, due to the complexity and importance of this issue, there should be experts in safety, emergency systems and emergency response when organising emergency safety management, in other words, an emergency and evacuation plan that should be a must for any tourist service and, necessarily, have in-house staff of the managing body or service in question for an orderly evacuation.

Customers should always be offered information on the routes, standards and evacuation plans in an adequate manner (Braille, high relief, or a combination of both, easy to read, sign language, large print brochure, etc).

11. Accessibility for tourism services in general

11.1 General

The document, Recommendations of the UNWTO on accessibility and tourist information, is to be taken as a reference.

Recommendations or requirements on accessibility in this section refer to four aspects:

1. **Provision of information on services:** the information must be in an accessible format. Takes into account all disabilities (physical, visual, auditory, intellectual) or special needs (elderly, foreigners who do not speak the language, etc.). For example, if there is a brochure, it must

provide a version in Braille for the blind and another that is easy to read for persons with intellectual disabilities, the elderly or foreigners that do not speak the language well and that it is manageable by persons with reduced mobility in their hands. If it is a web page, this must be accessible for blind persons and it should come in an easy to read version, just as it has been mentioned for persons with intellectual disabilities, the elderly and foreigners. If it is a PDF file, this must be readable by blind persons. If it is an explanatory video, this must have closed captions and sign language for deaf persons. It should take into account the provisions of Section on Communication and Information of this standard.

2. **Tourist services:** any offered services or activities must be designed in a manner so that they may be enjoyed or carried out by everyone. In other words, they must be designed following the principles of Universal Accessibility or Design for All.
3. **Configuration of the environment** where the service is being provided, as well as the furnishings: is important that associated services are also accessible. For example: if a cultural workshop offered by a museum is attended, access to the museum, the furnishings and the workshop material itself must be accessible by all people. It should take into account the provisions of section 10 of this standard on the build environment.
4. **Assistance provided by professionals** and workers in tourist services that cater to tourists. These must always understand how to cater for tourists with disabilities and special needs. The recommendations of Section 4.4 of this standard on actions for staff training are to be taken into consideration.

11.2 Provision of tourist information.

This should be offered so that it is accessible to everyone. The recommendations specified under Section 5 on Communication are to be taken into account:

1. For physical locations, such as traditional travel agencies, tourist information offices, etc.
 - a. Accessibility to space: in this point, the recommendations/requirements will be those contemplated under Section 10.
 - b. Furnishings: in this point, the recommendations/requirements will be those contemplated under Section 10.
 - c. Information material such as brochures, magazines, etc. (for example, have basic information in Braille, offer documents accessible PDF format, have information available that is easy to read, being easily manipulated by persons with reduced mobility). Once again, consideration must be paid to the specifications of Section 5.2.5 Documents of this standard and the

Recommendations of the WTO on accessibility and tourist information.

- a. Professionals: recommendations on: Section 4 with regard to training programs for professionals in tourism for tourists customer care:
 - i. Training of professionals in attending to persons with disabilities.
 - ii. Have staff who can communicate in sign language.
2. Websites: the information provided on the websites is to be accessible, while contemplating the following:
 - a. Accessibility for blind persons : when the website is designed in accordance with international standards of the WAI (Web Accessibility Initiative of the World Wide Web Consortium). Section 5.1.1 Internet of this standard.
 - b. Accessibility for people with temporary reading difficulties (immigration, late readers, poor schooling, etc.) or permanent difficulties (learning disorders, functional diversity, senility, etc.): provide easy to read content.
 - c. Accessibility for deaf persons : if websites are visited that have videos or spoken text, in the case of videos, these should have closed captions and, in the case of spoken text, written text should also be transcribed. Furthermore, where possible, there should be videos in sign language.

Once again, consideration must be paid to the recommendations of the WTO on accessibility and tourist information and that specified under Section 5.1.1. Internet of this standard.
 - d. For brochures or physical advertising material: For example, have basic information in Braille, offer documents accessible PDF format, have information available that is easy to read, being manageable for persons with reduced mobility. Recommendations of the WTO on accessibility and tourist information and that specified under Section 5.2.5. Documents of this standard.
3. Tourism applications: in this case, these are applications that have been developed to provide mobile services concerning transportation or destinations that provide tourist information. The provisions of Section 5.1.2. should be taken into account. Mobile devices and those of the Recommendations of the WTO on accessibility and tourist information, is to be taken as a basis.

11.3 Accommodation

Whether they are hotels, hostels, lodgings, bed and breakfasts, camping sites, etc., these must comply with the following requirements on accessibility, while also taking into account the provisions of Section 10.4.2 Accommodation buildings, of this standard:

1. The reception area of the accommodation:
 - a. Accessibility to space: in this point, the recommendations/requirements will be those contemplated under Section 10.
 - b. Furnishings: in this point, the recommendations/requirements will be those contemplated under Section 10.
 - c. Information material such as brochures, magazines, etc. (For example, have basic information in Braille, offer documents accessible PDF format, have information available that is easy to read, being manageable for persons with reduced mobility). Once again, consideration must be paid to the specifications of section 5.2.5 Documents of this standard and the Recommendations of the WTO on accessibility and tourist information.
 - d. Professionals: recommendations on: section 4 with regard to training programs for professionals in tourism for tourists customer care:
 - i. Training of professionals in attending to persons with disabilities.
 - ii. Have staff who know how to communicate in sign language.
2. Throughout the built environment: accessibility for the entire built environment, as well as the routes leading to it. It must be possible to circulate around the accommodation itself, and toward the services offered by the accommodation (restaurants, spa, pool, convention rooms, etc.). For recommendations on accessibility, this point must take into consideration the indications specified in section 10 of this standard.
3. It is required to reserve a portion of the accessible rooms for all people, of the total of accommodation rooms, as well as the accessibility in common areas, so that it is possible to circulate (existence of adapted toilets, etc.). There may be regulations overseeing this aspect, but they may vary from place to place. Current regulations of each place must be followed and, should there not be any, it is recommended that all accommodation have at least one adapted room and be increased proportionally where the number of rooms is greater.

11.4 Tourism activities

This section refers to all activities that may be undertaken at a tourist destination, whether it is outdoors or indoors (cinemas, theatres, exhibition halls, circuses, hiking trails, bike rental, cruise ships, tour buses, etc.). This offers a huge range of possibilities, but while focusing on the accessibility requirements, the same issues are to be found.

For all activities, regardless of where they are undertaken (outdoors or indoors), need to take into consideration:

1. The reception area of the accommodation:
 - a. Accessibility to space: in this point, the recommendations/requirements will be those contemplated under Section 10.
 - b. Furnishings: in this point, the recommendations/requirements will be those contemplated under Section 10.
 - c. Information material such as brochures, magazines, etc. (For example, have basic information in Braille, offer documents accessible PDF format, have information available that is easy to read, being manageable for persons with reduced mobility). Once again, consideration must be paid to the specifications of section 5.2.5 Documents of this standard and the Recommendations of the WTO on accessibility and tourist information.
 - d. Professionals: recommendations on: section 4 with regard to training programs for professionals in tourism for tourists customer care:
 - i. Training of professionals in attending to persons with disabilities.
 - ii. Have staff who know how to communicate in sign language.
2. Throughout the built environment: accessibility for the entire built environment, as well as the routes leading to it. It must be possible to circulate through the entire space, not only the place where the activity takes place. For recommendations on accessibility, this point must take into consideration the indications specified in Section 10 of this standard.
3. For outdoor activities such as hiking, etc., the recommendations established in Section 8 on Accessibility in natural environments (signage, routes, access, etc.) should be considered.
4. Availability of adapted toilets. If there are any regulations on the availability of adapted toilets at every location, these must be adhered to, and in the event that there are not any, these are recommended.
5. For activities relating to the use of transport (bicycles, tour boats, tourist buses, etc.), it is necessary to establish the recommendations described under Point 6.
6. It must be recalled that, in addition to the above services, tourists may require the assistance or intervention of professionals, such as the police, emergency services, the fire brigade or health services.

For all these cases, once again it is necessary to follow the below recommendations:

1. At reception or the office of the place where the activity takes place, whether they are police stations, health centres, etc.:

- a. Accessibility to space: in this point, the recommendations/requirements will be those contemplated under Section 10.
 - b. Furnishings: in this point, the recommendations/requirements will be those contemplated under Section 10.
 - c. Information material such as brochures, magazines, etc. (For example, have basic information in Braille, offer documents accessible PDF format, have information available that is easy to read, being manageable for persons with reduced mobility). Once again, consideration must be paid to the specifications of section 5.2.5 Documents of this standard and the Recommendations of the WTO on accessibility and tourist information.
 - d. Professionals: recommendations on: section 4 with regard to training programs for professionals in tourism for tourists customer care:
 - i. Training of professionals in attending to persons with disabilities.
 - ii. Have staff who know how to communicate in sign language.
2. Availability of adapted toilets. If there are any regulations on the availability of adapted toilets at every location, these must be adhered to, and in the event that there are not any, these are recommended.

In the event of a natural disaster, such as a floods, fire, earthquake, etc., there should be an action protocol for the evacuation of persons with disabilities.

12. Specific accessible tourism services

It is important to consider, regardless of the legislation in each country, the access of guide dogs and assistance dogs on any means of transportation, activity, building, etc.

At catering establishments, it is useful, while taking into account the recommendations concerning accessibility to the physical space (circulating through the entire space, adapted toilets), information (accessible menus for people with sight loss, easy to read for people with difficulty in understanding, in several languages), to have menus and meals for persons with special nutritional requirements, which are renewed on a regular basis. Thus, a quality service and good customer perception is ensured.

To carry out the activities, the use of certain products may be necessary for them to be enjoyed. Such products, for example, scooters, crutches, wheelchairs, vibrating alarm clocks for deaf persons , etc., must be available at all tourist services, where required, so they may be used by everyone.