# **Draft Non-Negotiable Rules for Products for Persons with Disabilities**

Hon'ble Supreme Court's directions in WP(C) 243/2005 and WP(C) 228/2006 (Shri Rajive Raturi vs Union of India & Ors.)

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**Group: Products** 

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### **Preamble**

In compliance with the directive of the Supreme Court of India and the Rights of Persons with Disabilities Act, 2016 (RPwD Act), the following draft establishes non-negotiable rules for the design, development, and distribution of accessible products for persons with disabilities. These rules integrate nationally and globally recognised key accessibility standards to ensure inclusivity and enforceability.

# **Key Accessibility Standards:**

### 1. Universal Design Principles: Usable | Accessible | Inclusive

- **Equity.** Ensure equitable use for all individuals.
- Flexibility. Provide flexibility to accommodate diverse abilities and preferences.
- Use. Accommodate one handed use of appliance controls.
- Simplicity. Simple and intuitive to use, regardless of experience or knowledge
- **Effort.** Minimize physical effort and maximise efficiency, comfort through ergonomic design.
- Space. Maintain appropriate size and space for approach and use by individuals with mobility aids.
- Errors. Ensure tolerance for errors. Minimise hazards, results of accidental or unintended actions.

POUR Perceivable, Operable, Understandable, Robust

References: NBC, IS 4963, Accessibility in the Built-up Environment

National Building code, SP 7: 2016, NBC, 2016 Vol 1, NBC, 2016 Vol 2

IS 4963 Link; Revised 2025

IS 17802 Accessibility for the ICT Products and Services, Part I & Part II

# 2. Cognitive Aspects:

- Labels. Products must have clear labelling in large print.
- **Openable.** Ensure that the packaging is easy to open.

- Instructions. Instructional materials need to be simple and understandable.
- **Installation.** Simple installation procedures and troubleshooting / support.

# 3. Affordability and Availability:

- Cost. Accessibility features must not significantly increase product costs.
- Availability. Ensure wide availability through inclusive distribution channels.
- Incentives. Provide government subsidies and incentives to manufacturers.

# 4. Audio and Smart Technology Integration:

- **Technology.** Incorporate assistive technologies such as screen readers, voice controls, and auditory feedback.
- **Standards.** Ensure digital interfaces comply with IS 17802 Accessibility for the ICT Products and Services, <u>Part I</u> & <u>Part II</u>

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References: BIS Standards on Sound Pressure for Announcements, Levels, Beeps, Audio Signal Duration

IS 16564 Sound pressure, ambient noise < 80dB

IS 16567 Sound pressure, Interfering sound

IS 16568 **Duration** of Audio Signals

IS 18660: 2024 Auditory guiding signals in public facilities (Identical to ISO 19029)

# 5. Tactile and Visual Accessibility:

- Perceptible. Communicate information clearly and effectively irrespective of ambient conditions/users abilities.
- Colour. Avoid relying solely on color to convey critical information.
- Tactile Affordance. Include tactile markers, textured surfaces, braille.
- Contrast. Ensure high-contrast between text and background / visuals for easy identification and usability.

References: BIS Standards on Tactile & Visual Accessibility

- IS 16565 Tactile dots, bars on consumer products
- IS 18232 Accessible design guidelines for tactile symbols & characters
- IS 16595 (Part 971) Ergonomic requirements & gestures for tactile/haptic interactive systems, AT
- IS 18296 Assistive products for blind and vision impaired persons
- IS 16566 Specifications for age-related luminance contrast for coloured light
- IS 18259 Specifications for colour combinations for age-related changes in colour vision

Standards under publication:

- ISO 17049 Application of **Braille on Signage** Equipment and Appliances
- ISO 19028 Information contents figuration and display methods of tactile guide maps

# 6. Product Development & Feedback:

- Collaborative. Involve PwD. Ensure feedback is included right through the product development process.
- Accommodate. Design to accommodate PwD, promote independence and safety.
- Focus. Vision, understanding, hearing, speech, mobility, safety, the weak and those who need assistance.
- Continuous Improvement. Incorporate a simple product feedback mechanism for product improvements.

# 7. Testing and Certification:

- Accessibility Testing. Products must undergo mandatory accessibility testing by accredited bodies.
- Levels. Products (physical/digital) could be certified as Level A to Level AAA with on product indications.
- Certificate Renewal. Certification must be periodically renewed.
- Manufactured vs Imported.

They have to meet the Indian standards / Internationally recognised standards

# 8. Compliance Monitoring and Penalties:

- Communicate. Establish information dissemination & monitoring mechanisms using AI and other tools.

Eg: By encouraging existing manufacturers to update their licenses & the new applicants to go through the **National Single Window System**, which could give them the accessibility related information too for the specific domain.

Carrot & Stick. / Good Cop - Bad Cop policy

- Incentives. GST tax breaks / deferred payments,...
- **Penalties.** Impose fines, product recalls, and public disclosure for violations.

All of these improve the experience for everyone considerably, besides the PwD. Among the categories of everyday products that aim to make a PwD independent are the following, each of which is elaborated upon in the following pages. The accessibility rules for each category shows the 'Non-Negotiable Mandatory Rules for PwD' as well as the 'Detailed Accessibility Information' by way of explanation for product development as well as for manufacturers who want to go beyond meeting the basic accessibility requirements and go from 'A Level' to 'AAA Level' accessibility, since any new product development is expensive and takes time.

А. І	OOU & DITTIK	<u> </u>	
01.	Kitchenware a	and Cooking	Essentials

02. Bottles and Drink ware

03. Food Packaging

A Food & Drink

### **B.** Appearance

- 04. Grooming and Personal Care Items
- 05. Adaptive Clothing and Footwear

### **C. Independent Living**

### Infrastructure

10. Lifts and Elevators

### **Vocation / Work Life**

- 11. Monetary Transactions
- 12. Writing & Reading Equipments
- 13. Office Supplies

#### Leisure

14. Bags and Storage Solutions

- 06. Home Accessibility Products
- 07. Furniture and Home Décor

### D. Health & Children

- 08. Childcare Products
- 09. Medical Supplies

- 15. Travel and Outdoor Gear
- 16. Vehicle Accessories

### **Safety**

- 17. Fire & Safety Equipment
- 18. Escalators and Moving Walks
- 19. Security Check Apparatus & Procedures
- 20. Self Service Kiosks

#	Product Category Name	Non-Negotiable Mandatory Rules for PwD  Focus Area 01. Accessibility needs.  Focus Area 02. Accessibility needs.	Product Examples (Indicative)  Product Example 01  Product Example 02  Product Example 03  Product Example 04  Product Example 05
	Ministry / QCOS / Mark Ministry QCOS Certification Mark	Note: Information specific to product category / research data / Related BIS / IS Standards	Product Example o6  International Standards  ADA (US) EAA (EU)
	Guidelines IS Standards	Detailed Accessibility Information  Detailed Accessibility Information by area and sub-area  This provides more context to the manufacturer & also to organisations that want to go beyond meeting basic accessibility certification. They can aim to take their product from 'Level A' to 'Level AAA'	BSFG/BGG (Germany) EA (UK) Japan Other Countries
	Committees		India Ministry Standards Dept Regulations / Acts Guidelines IS Standards IS Standards

**Image:** Format of the table & location of information

# **Accessibility Rules by Product Category**

#	CATEGORY  Ministry / QCOS / Mark  1. Ministry  2. QCOS / Authority  3. Quality Mark  IS / Committee / NBC	ACCESSIBILITY RULES / CONSIDERATIONS	PRODUCT EXAMPLES & REFERENCES ADA Title 1 ADA Title 2 ADA Title 3 ADA Title 4 ADA Title 5  India BIS Standards
1	Kitchenware & Cooking Essentials	Non-Negotiable Mandatory Rules for PwD POUR Perceivable, Operable, Understandable, Robust. Physical/Ergonomic. Lowered counters, accessible cabinets/shelves, easy-to-use handles, accessible appliances/sinks, easy one-handed operation. Sensory. High-contrast/large print, tactile/Braille markings, audible/visual feedback.	PRODUCT EXAMPLES (Indicative only) Cutlery, Utensils, Stoves,
	Ministry / QCOS / Mark  1. Ministry of Commerce and Industry (DPIIT)	Cognitive/Communication. Simple controls, pictogram instructions, accessible documentation.  Digital/Web. IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alternative text.	Gas Stoves, Cooking Range, Ovens /OTG/Grill, Electric Chimney,
	Bureau of Indian     Standards (BIS)      ISI Mark	Safety/Usability. Non-slip, stable, lightweight, insulated, easy-to-handle tools and utensils.	Exhaust Fans, Microwaves, Refrigerators,
	Committee's Mechanical Engineering Technical Department (MED)	<b>Detailed Accessibility Information Access.</b> Clearance and Space. Doors and pathways must be min 82 cm / 32" wide, Usage from seated position (wheelchair), Space around appliance for side access Counter height must be max 87 cm / 34", Max. forward reach must be 122 cm / 48", Max. low forward reach must be 38 cm / 15", Appliance installed no higher than 122 cm / 48"	Mixers, Grinders, Juicers, Food Processors  REFERENCES
	MED 23, Domestic and Commercial Gas Burning Appliances Sectional Committee MED 33, Utensils, Cutlery and Domestic Hardware Sectional Committee.	Packaging. Easy to open packaging Grip. Easy to grip and operate, larger contoured handles Material. Lightweight for limited strength, weighted utensils Use, Reuse. Larger openings for easier pouring. Easy to refill containers. Serving bowl and plates with sloped sides to aid serving, non slip base to avoid sliding/spills. Adaptable. Appliances operable with one hand, Consider adaptable & accessible cutlery, plates and containers - disposable ones too.	ISO 23599, NKBA Guidelines USA: ADA Standards, ADA Section 804 ADA 804 Compliance  India

		Multi-sensory. (eg: auditory guidance through QR code), auditory signals, visual aids/diagrams to assist comprehension, voice feedback. Consider voice recognition.  Tactile elements. Tactile buttons, braille, colour & tactile coding.  Kitchenware & Cooking Essentials Advertising. Need to be accessible, legible, understandable, Information. Simple, unambiguous communication. Labels. Clear, large print labels, High-contrast colours to distinguish items, braille/tactile symbols Controls. Large, easily accessible buttons or touch controls. Intuitive and should not require tight grasping, pinching or twisting of the wrist. Minimal force to activate controls. Remote control options (eg: Electric chimney, Exhaust fan) Instructions. Simple, clear instructions. Settings. Adjustable and custom settings.  Safety. Avoid reaching across burners. Easy handling of kitchenware when hot, safety locks. Stability. Stable during movement / operation  Maintenance. Allows for easy cleaning Service / Repair. Easy to access for repairs.	IS 17802 Part I & Part II BIS Standards, BIS Kitchenware
2	Ministry / QCOS / Mark 1. Ministry of Commerce and Industry (DPIIT) 2. Bureau of Indian Standards (BIS) 3. ISI Mark Committee's	Non-Negotiable Mandatory Rules for PwD POUR Perceivable, Operable, Understandable, Robust. Physical/Ergonomic. Easy-open packaging, caps, wide openings for easy pouring/filling, easy one-hand operation, ergonomic design, spill proof/resistant and lightweight materials. Sensory. High-contrast/large print, tactile/Braille markings, audible/visual feedback. Cognitive/Communication. Simple controls, pictogram instructions, accessible documentation. Digital/Web. IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alternative text. Safety/Usability. Safe, durable, easy-to-clean materials, universal design.  Detailed Accessibility Information	PRODUCT EXAMPLES (Indicative only) Adaptive Bottles, Spill-proof Cups Water Bottles Wide-Mouth Bottles Flasks Insulated Bottles Cups Straws  REFERENCES
	Mechanical Engineering Technical Department (MED)	Packaging. Easy to open packaging  Grip. Ergonomic grip, enhanced control and stability when lifting and pouring liquid, contoured handles, built-in handles.  Material. Lightweight and easy to carry.  Use, Reuse. Wide mouth openings for easy cleaning, filling and pouring. Non-return valve straws (prevents flow back.).	Canada: Tactile Standards, Japan: Inclusive Drinkware  EAA EU Commission Germany: BSFG 01, 02, 03, 04

	MED 33, Utensils, Cutlery and Domestic Hardware Sectional Committee.	Adaptable. Compatibility with adaptive straws. Support one handed use.  Multi-sensory. Auditory signals, voice feedback during usage if appropriate.  Tactile elements. Tactile markings, textures and features. Colour coding for distinguishing beverages.  Bottles & Drinkware Advertising. Need to be accessible, legible, understandable, Information. Simple, unambiguous communication.  Labels. Packaging to have clear, large print labels, High-contrast colours to distinguish items, braille/tactile symbols  Caps. Easy to use snap, twist or flip caps. Accessible closure mechanisms.  Instructions: Simple, clear instructions for use.  Safety. Insulated bottles with tactile markings to indicate temperature. Avoid burns from hot liquids. BPA free materials.	India Portable Water Bottles IS 17803:2022  Insulated Flask /Bottles/Containers IS 17790:2022 IS 17526:2021 IS 17569:2021
		Stability. Stable during movement / operation. Usable by a child.  Maintenance. Allows for easy cleaning.	
3.	Food Packaging  Ministry / QCOS / Mark  1. Ministry of Health and Family Welfare  2. Food Safety and Standards Authority of India (FSSAI)  3. FSSAI, Agmark, FPO,	Non-Negotiable Mandatory Rules for PwD POUR Perceivable, Operable, Understandable, Robust. Physical/Ergonomic. Easy-to-open, minimal force, large tabs, grip indentations, non-slip, ergonomic, resealable. Sensory. High-contrast/large print, tactile/Braille markings, audible/visual feedback. Cognitive/Communication. Plain language, pictograms, accessible documentation. Digital/Web. QR Codes, IS 17802 Part I & Part II Compliance, accessible e-commerce. Regulatory/Usability. Compliance with ISO and BIS Standards, universal design.	PRODUCT EXAMPLES (Indicative only) Snack packages, Beverages, Ready to cook food, Frozen Food, Desserts, Dairy Products, Snack Bars, Chocolates
	Indian Organic Certification (Issued by APEDA), Green Dot (Veg), Brown Dot (Non-veg), ISI (Eg: Aluminium Foil), Ecomark	Detailed Accessibility Information Packaging. Easy to open packaging. Lightweight materials. Ergonomic. Easy to use, hold, minimise spills. Adaptable. Adaptable utensils/containers and appropriate sizes.  Multi-sensory (eg: auditory guidance through QR code), auditory signals, visual aids/diagrams to assist comprehension, voice feedback. Consider voice recognition. Tactile elements. Tactile buttons, braille, colour & tactile coding.  Food Advertising. Need to be accessible, legible, understandable,	REFERENCES ISO 55, Regulation (EC) No 1935/2004 European Commission 01, 02, Regulation (EU) 2025/40 (PPWR) 01, 02  Good Manufacturing Practices
		Information: Easily readable Critical Information, Manf, Date, Expiry date, Ingredients -	(Regulation (EC) No 2023/2006)

	Low-sodium / Gluten-free / Allergen info. (nuts, dairy, list of ingredients, Labels: Clear, large print labels, High-contrast colours to distinguish items, braille/tactile symbols Opening: Easy to open - tear strips/pull tabs, peel back lids, snap lids Closing. Allow for resealing. Instructions: Simple, clear instructions, stepwise preparation guidance,  Safety. Minimise spills during opening. Child safe. Health. Red, Amber, Green, Grey to Indicate decreasing sugar levels, no added sugar (Grey = Natural sugar only)	USDA  India FSSAI FSSAI Regulations Food Safety Standards Food Labeling Regulations Eat Right India Food Safety & Standards 01, 02 Food Contact Materials
<b>Grooming &amp; Personal</b>	Non-Negotiable Mandatory Rules for PwD	PRODUCT EXAMPLES
Care Items	POUR Perceivable, Operable, Understandable, Robust.	(Indicative only)
Ministry / QCOS / Mark  1. Ministry of Health and Family Welfare  2. Central Drugs Standard Control Organization	Physical/Ergonomic. Large, contoured grips, intuitive interfaces, textured packaging, easy-open caps, ergonomic handles, lightweight, one-handed use. Accessible packaging.  Sensory. High-contrast/large print, tactile/Braille markings, audible/visual feedback.  Cognitive/Communication. Simple controls, pictogram instructions, accessible documentation.  Digital/Web. IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alternative text.  Safety/Hygiene. Hypoallergenic, easy-to-clean materials, stable, non-slip bases.	Toothbrushes - Manual & Electric, Hairbrushes and Combs, Electric Razors, Scissors Shampoo Bottles Soap Dispensers Nail Clippers
(CDSCO)	Note. Approximately 22% of adults with disabilities report that their current grooming	Body Scrubbers Moisturisers
3. No certification mark. CDSCO provides a	products are somewhat or very difficult to use. About 18% of users have difficulty holding the grooming products. ~ 30% struggle with opening containers or remembering to use	
a. Cosmetic Registration Certificate for imported	grooming products, $\sim$ 15% find grooming products too heavy and have sensitivities to certain grooming products.	REFERENCES Australia: Disability Standards, EU: Inclusive Grooming
cosmetics &	Detailed Accessibility Information	<u>Products</u>
b. COS-8 manufacturing license for domestic manufacturers	<ul> <li>Packaging. Easy to open, accessible packaging in braille or audio formats.</li> <li>Toothbrush. Contoured, easy to hold non slip grips, flexible heads, Large, easy to operate tactile buttons for electric toothbrushes.</li> <li>Hairbrush &amp; Combs. Wide toothed design, flexible bristles, soft grips, lightweight materials.</li> </ul>	India CDSCO
	Ministry / QCOS / Mark  1. Ministry of Health and Family Welfare  2. Central Drugs Standard Control Organization (CDSCO)  3. No certification mark. CDSCO provides a  a. Cosmetic Registration Certificate for imported cosmetics &  b. COS-8 manufacturing license for domestic	Labels: Clear, large print labels, High-contrast colours to distinguish items, braille/tactile symbols Opening: Easy to open - tear strips/pull tabs, peel back lids, snap lids Closing. Allow for resealing.  Instructions: Simple, clear instructions, stepwise preparation guidance,  Safety. Minimise spills during opening. Child safe. Health. Red, Amber, Green, Grey to Indicate decreasing sugar levels, no added sugar (Grey = Natural sugar only)  Non-Negotiable Mandatory Rules for PwD POUR Perceivable, Operable, Understandable, Robust. Physical/Ergonomic. Large, contoured grips, intuitive interfaces, textured packaging, easy-open caps, ergonomic handles, lightweight, one-handed use. Accessible packaging. Cognitive/Communication. Simple controls, pictogram instructions, accessible documentation. Digital/Web. IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alternative text. Safety/Hygiene. Hypoallergenic, easy-to-clean materials, stable, non-slip bases.  Note. Approximately 22% of adults with disabilities report that their current grooming products. ~ 30% struggle with opening containers or remembering to use grooming products. ~ 30% struggle with opening containers or remembering to use grooming products.  Detailed Accessibility Information Packaging. Easy to open, accessible packaging in braille or audio formats. Toothbrush. Contoured, easy to hold non slip grips, flexible heads, Large, easy to operate tatelle buttons for electric toothbrushes.

		Electric Razors. Large, easy to use tactile buttons, cordless variants that charge quickly, contoured grips that fit the hand. Consider weighted options/attachment/ razor cuff to provide stability and control for shaky hands. Rounded blade heads that adjust to contours of the face to minimise cuts. Protective guards. Waterproof, removable heads that can be rinsed under water to clean. Dual function - shaver and trimmer to avoid using multiple tools.  Scissors. Spring-loaded mechanism to reduce effort, Ergonomic handles to accommodate various hand sizes.  Shampoo Bottles. Wide-Mouth openings. Flexible material, easy squeeze designs, tactile labels or braille markings for identification.  Soap Dispensers. Touchless operation / Automatic dispensers Large dispensing buttons, easy to press for manual dispensers.  Nail Clippers. Ergonomic grip.  Safety. Built-in nail catches to prevent mess, protect against accidental cuts.  Body Scrubbers (Loofahs). Long handles, textured grips for control when wet. Consider extended/adjustable handles.  Moisturisers. Easy squeeze tubes or pumps, Large labels and tactile elements for identification.	Cosmetics Regulations Mandatory BIS Certification Cosmetics Import Guidelines  IS Personal Care & Cosmetics
5	Adaptive Clothing & Footwear	Non-Negotiable Mandatory Rules for PwD POUR Perceivable, Operable, Understandable, Robust. Physical/Ergonomic. Velcro/magnetic closures, press - buttons, elastic/stretch fabrics, open-back/side-zipped designs, hands-free shoes, non-slip soles and orthopedic options.	PRODUCT EXAMPLES (Indicative only) Adaptive Jackets Easy snap pants Open back shirts
	Ministry / QCOS / Mark Adaptive Clothing It does not currently require any specific certification.	Sensory. Soft/breathable fabrics, flat seams, sensory-friendly tags, tactile/Braille labels  Cognitive/Communication. Simple design, pictogram instructions, accessible documentation  Digital/Web. IS 17802 Part I & Part II Compliance for shopping & smart clothing interfaces.  Aesthetic/Psychological. Fashion-forward, discreet, customizable, supports confidence and well-being.	Snap shoulder undervest Snap closures open back design Dignity suit Adaptive shorts Tear away shorts
	Adaptive Footwear  1. Ministry of Commerce and Industry (DPIIT)  2. Bureau of Indian Standards (BIS)	Sustainability. Durable, sustainable materials, modular/customizable elements  Note: While comfort in clothing is indeed a subjective matter, there are certain elements that help a PwD lead an independent life. Clothing with these features needs to be made available either as a variant or a whole line of offerings, depending on the capability of the company. Small manufacturers could be exempt and larger ones need to make some adaptable clothing.	Gripper socks  Easy dress pull tabs Wrap around skirt/ dress  Adaptive Shoes Extra wide slip on slippers

#### 3. ISI Mark

#### **Detailed Accessibility Information**

#### **Adaptive Clothings**

#### 1. Fastening and Closure Systems

**Magnetic Closures.** Enable easy fastening for limited dexterity or one-handed use. **Velcro Straps.** Allow simple, adjustable closure for people with arthritis, limited mobility, or cognitive disabilities.

**Press-Fit/Snap Closures.** Quick and easy to use, reducing the need for fine motor skills. **One-Handed Zippers.** Facilitate dressing for people with unilateral weakness or limb difference.

**Elastic/Stretch Closures/waistbands.** Offer flexibility and ease of use for various body types and mobility needs.

#### 2. Construction and Fit

**Seamless Construction.** Reduces irritation for those with sensory sensitivities or skin conditions.

**Custom/Adjustable Fit.** Includes adjustable waistbands, hems, and cuffs for comfort and accommodation of assistive devices or prosthetics.

**Easy-Access Openings.** Side or back openings in shirts, pants, or shoes for easier donning/doffing, especially for wheelchair users or those with limited mobility.

**Extra Room in Key Areas.** Such as the crotch, seat, or sleeves to accommodate movement aids and prevent pressure sores.

#### 3. Materials and Fabric

**Stretchable Fabrics.** Enhance comfort, mobility, and ease of dressing.

**Breathable and Moisture-Wicking.** Prevent overheating and skin issues, especially for those who sit for long periods.

**Soft, Non-Irritating Textiles.** Important for people with sensory processing disorders or sensitive skin.

**Easy-Care Fabrics**. Stain-resistant, wrinkle-free, and machine-washable for independent maintenance.

#### 4. Comfort

**Tagless Labels.** Reduce irritation for those with sensory sensitivities.

**Temperature Regulation.** Consider fabrics or integrated technology to help maintain comfortable body temperature.

#### 5. Aesthetics, Dignity, and Independence

#### REFERENCES

EU: Adaptive Fashion
Accessibility,
Adaptive Sportswear
Directive (EU) 2019/882

USA: FTC Guidelines
Market Size

#### India

New QCO, 2024 Adaptive Clothing in India

Adaptive Footwear BIS <u>01</u>, <u>02</u>, ISI Mark 01,

		Fashionable Design. Adaptive clothing should be stylish and not distinguishable from	
		mainstream fashion, supporting self-expression and dignity.	
		<b>Independence-Focused.</b> Features should allow users to dress/undress independently as much as possible.	
		Footwear	
		<b>Hands-Free Designs.</b> Shoes that can be put on or removed without using hands (e.g., Nike GO FlyEase).	
		<b>Wide Openings/Side Zips.</b> For easy entry, especially for orthotics or swollen feet. Orthopaedic options.	
		<b>Adjustable Fastenings.</b> Velcro, elastic laces, or magnetic closures for secure fit and easy adjustment.	
		Non-Slip Soles. For safety and stability.  Lightweight and Flexible. To reduce fatigue and accommodate a range of mobility needs.  Anti-bacterial/Anti-fungal Properties. For hygiene, especially in footwear.	
6	Home Accessibility	Non-Negotiable Mandatory Rules for PwD	PRODUCT EXAMPLES
U	•	POUR Perceivable, Operable, Understandable, Robust.	(Indicative only)
	Products	<b>Entrances/Doors.</b> Step-free, wide, flush, easy-to-operate doors; grab bars, ramps/lifts;	Ramps,
		accessible hardware. Wheelchair friendly fixtures - reinforced walls for safety features.	Smart Lighting
		Pathways. 36" clear width, smooth/non-slip surfaces.	Motion Sensors,
	Ministry / QCOS / Mark	Bedrooms/Living. Manoeuvring space, reachable controls, accessible closets.	Grab Bars,
	1. Ministry of Housing and	<b>Kitchens/Bathrooms.</b> Lowered counters/sinks, accessible appliances, roll-in showers, grab	Non-slip floors
	Urban Affairs, Ministry of	bars.	Accessible bathrooms
	Commerce and Industry	Public/Common Areas. Accessible lobbies, mailrooms, elevators, recreation.	
	(DPIIT)	Controls/Alerts. Reachable, one-hand operable controls, visual/audible alarms.	
	2a. Bureau of Indian	Digital/Web. IS 17802 Part I & Part II Compliance, smart controls, accessible	REFERENCES
	Standards (BIS)	documentation.	EU: EN 17210 Standards, USA:
	2b. Central Public Works	Safety/Usability. Non-slip, stable, well-lit, structurally supported features.	Fair Housing Act, BIS
	Department (CPWD)		<u>TÜV SÜD / Barrier Free</u>
	2c. Department of	Note. Household and similar electrical appliances - Accessibility of control elements, doors,	
	Empowerment of Persons	lids, drawers and handles may be looked into. See NBC, Part 3, IS 4963 (under revision) and	
	with Disabilities	IS/IEC 63008.	India:
	With Disabilities		Guide to using NBC, 2016
	Guidelines: Harmonised	Detailed Accessibility Information	NBC, 2016 Vol 1, Part 3
	Guidelines and Standards for	1. Built Environment / Physical Accessibility	NBC, 2016 Vol 2
	Universal Accessibility	Control Elements. Accessibility of doors, door knobs, lids, drawers. IS 4963 & IS/IEC 63008.	IS 4963 (Under Revision)
	1		

IS 4963 (Under Revision) IS/IEC 63008

3. ISI Mark (BIS), S Mark (STQC) **Entryways.** Step-free, wheelchair-friendly fixtures, Reinforced walls for safety features. **Ramps.** Gentle slopes, non-slip surfaces, handrails, and appropriate width for wheelchair access.

**Doorways & Hallways.** Minimum width to accommodate wheelchairs, level thresholds, and accessible door hardware.

**Grab Bars.** Securely mounted at appropriate heights in bathrooms and along circulation paths.

**Flooring.** Non-slip, firm, and stable surfaces.

**Lighting.** Smart Lighting / Motion Sensors, Adequate and adjustable lighting to assist those with visual impairments.

**Switches & Controls.** Placed at accessible heights, operable with one hand, and requiring minimal force.

**Accessible Bathrooms.** Sufficient turning space for wheelchairs, roll-in showers, grab bars, accessible sinks and toilets, lever handles, and emergency call systems.

#### 2. Adaptive Appliances & Home Controls

**Operability.** Appliances must be usable by people with limited dexterity, vision, or hearing. **Controls.** Large, tactile buttons, voice control, remote operation, and visual/auditory feedback.

**Instructions.** Clear, simple instructions in accessible formats (large print, braille, audio). **Height & Reach.** Controls and displays must be within accessible reach ranges.

#### 3. Information & Communication

**Accessible Instructions.** User manuals and safety information in accessible formats (braille, large print, plain language, audio).

**Visual & Auditory Alerts.** Appliances and home systems should provide both visual and auditory signals for alarms, timers, and notifications.

#### 4. Digital Accessibility (Smart Home Interfaces & Appliances)

Screen Reader Compatibility Keyboard Navigation High Contrast Modes Voice Control Accessible Mobile Apps and Websites

#### 5. Safety & Emergency Features

**Emergency Call Systems.** Accessible and easy-to-reach alarms and call buttons. **Visual & Auditory Alarms.** Smoke, fire, and carbon monoxide alarms with both visual (flashing lights) and auditory signals.

IS/IEC 63008 01, 02,

Guidelines
BIS 01, 02, 03, 04,
Accessible India Campaign
Harmonised Guidelines, 2016
Harmonised Guidelines, 2021

ISI Mark 01, S Mark 01,

# 7 Furniture & Home Décor

#### Ministry / QCOS / Mark

- 1. Ministry of Commerce and Industry (DPIIT)
- 2. Bureau of Indian Standards (BIS)
- 3. ISI Mark, BIFMA (Industry Standard)

IS 17631

IS 17632

IS 17633

#### Non-Negotiable Mandatory Rules for PwD

POUR Perceivable, Operable, Understandable, Robust.

**Physical/Ergonomic.** Clear floor/turning space, accessible height, height adjustable tables, easy-grip handles, avoid sharp edges.

**Sensory.** High-contrast/large print, tactile/Braille, audible feedback.

**Cognitive/Communication.** Simple design, pictogram instructions, accessible documentation.

**Digital/Web.** IS 17802 Part I & Part II Compliance, smart controls and documentation. **Placement/Safety.** Non-slip, stable, glare-free lighting, secure anchoring.

**Note.** Emphasis on **unobstructed access, adjustable and reachable surfaces, operable controls, and clear manoeuvring space, avoid sharp edges** for furniture and home decor. Tactile features/markers to indicate information. These measurements will work for the Indian population, but it is best to ratify this through Indian Anthropometric Studies/Data.

In the Indian Standards on Chairs, Tables and Desks IS 17631 (Work Chairs), IS 17632 and IS 17633, the dimensions and designs are as per agreement between manufacturer and the purchaser. The requirements covered in these Standards are the performance requirements, which includes strength, stability and durability of the furniture. Dimensions and Design have been kept generic for catering to specific needs.

#### **Detailed Accessibility Information**

**Tables.** Knee Clearance - minimum 68.6 cm/27", minimum barrier free width 76.2 cm/30" width and depth of 48.3 cm/19", Maximum height of 86.4 cm/34" with adjustable options, manual or powered.

**Chairs/Seating.** Accessible spaces, transfer space, armrests, stable support, required bench dimensions. Clear floor space next to seating for wheelchair transfer (minimum  $76.2 \times 121.9 \,$  cm/  $30 \times 48$  inches).

**Chairs/Seating for changing rooms,** benches must be 106.7 cm/42 inches long, 50.8–61 cm/20–24 inches deep, and 43.2–48.3 cm/17–19 inches high, fixed to the wall.

**Shelves/Storage.** Reach range 38.1 - 121.92 cm/15–48" above floor, accessible handles, shelf depth for reachability.

**Doors/Entryways.** 81.28 cm/32" min. width, 1.27 cm/1/2" maximum threshold, easy-to-operate handles, less than 5 Pounds force for interior doors.

# PRODUCT EXAMPLES (Indicative only)

Entryways, Height Adjustable Tables, Chairs and Seating, Benches, Shelves, Storage, Doors, Digital or Smart Furniture - Eg: Smart Tables, Lighting

#### REFERENCES

<u>Canada: Furniture Standards,</u> <u>EU: Ergonomic Furniture</u>

BIFMA Certification
TÜV SÜD / Barrier Free

#### India:

BIS ISI 01, 02,

IS 17631: 2022 IS 17632: 2022 IS 17633: 2022 Know Your BIS Standard

IS Furnishing & Interior Decor

	<b>Space Planning.</b> 152.4 cm/60" turning space, clear accessible routes, stable/slip-resistant	
	surfaces. Furniture must not encroach on accessible routes or clearances.	
	<b>Digital Furniture.</b> Accessible controls (voice/tactile), IS 17802 Part I & Part II Compliance	
	for digital interfaces.	
8 Childcare Products	Non-Negotiable Mandatory Rules for PwD	PRODUCT EXAMPLES
	POUR Perceivable, Operable, Understandable, Robust.	(Indicative only)
Ministry / QCOS / Mark	Physical/Ergonomic. Accessible entrances, ramps, adapted furniture, assistive play	Play Area,
1. Ministry of Women and	materials, safe surfaces, lightweight designs.	Creche, Strollers,
Child Development (MWCD)	Sensory. High-contrast/large print, tactile/Braille, visual/auditory cues, multi-sensory	Toys, Sensory toys,
Ministry of Consumer Affair	materials.	Accessible Swings, Spinners
(Food and Public	<b>Cognitive/Communication.</b> Simple layout, pictograms, plain language, AAC devices, starr	with sensory elements,
Distribution).	training.	Adaptive clothing
,.	<b>Digital/Web.</b> IS 17802 Part I & Part II Compliance, for digital resources and documentation.	Walkers
Other Ministries involved in	<b>Social/Policy.</b> Inclusive practices, individualised support, professional collaboration.	Hearing Aids, Glasses
Childcare Products are the		Screen Readers
Health, Education & Social	<b>Note:</b> MWCD oversees policies, schemes, standards for childcare products, while BIS is	Text to Speech Software
Justice Ministries.	responsible for issuing and enforcing product safety standards and certifications for childcare	
	products through the ISI mark. Childcare products in India are regulated by multiple	
2. Bureau of Indian	ministries, agencies, depending on the product type and intended use. Regulations to	REFERENCES
Standards (BIS)	consider either parent or child/both are PwD.	USA: ADA Standards
, ,		USA: Child Safety Guidelines,
3. ISI Mark	Regulations worldwide that we need to look at include THE ADA (US), EAA (EU), BGG/BSFG	Access Board: Play Areas, 02
	(Germany), EA (UK) and WCAG 2.2.	Australia: Inclusive Childcare
		Products
		Paper <u>01</u>
	Detailed Accessibility Information	EII. EAA
	1. Physical Environment	EU: EAA
	Barrier-free access. Ramps, wide doorways, and corridors for wheelchair and stroller	Germany: BGG/BSFG <u>01</u> , <u>02</u> ,
	access.	03, 04
	Adapted restrooms and changing areas. Height-adjustable changing tables, accessible	UK: Equality Act <u>01</u> , <u>02</u> ,
	toilets.	WCAG 2.2 <u>01</u> , <u>02</u> , <u>03</u> ,
	Clear signage. High-contrast, tactile, and Braille signage for navigation.	Tudio
	<b>Emergency systems.</b> Visual and audible alarms, accessible evacuation routes.	India
	<b>Flexible space organization.</b> Open layouts for manoeuvrability; quiet zones for sensory	Toys and Safety Regulations,
	needs.	2015 Crosho: Minimum Standards 02
	<b>Lighting and acoustics.</b> Adjustable lighting, minimise background noise for sensory	Creche: Minimum Standards 02
	accessibility	Rights of the Child

#### 2. Product Design Accessibility

**Ergonomic design.** Large, easy-to-grip handles on bottles, utensils, and nail clippers for children and caregivers with limited dexterity.

**Adjustable equipment.** High chairs, strollers, and cribs with adjustable heights and supports.

**Assistive technology compatibility.** Products that can be used with communication devices or other assistive tools (e.g., Braille labels, audio cues).

**Non-toxic, hypoallergenic materials.** For diapers, bottles, and surfaces, reducing risk for children with allergies or sensitivities.

**Safe, accessible toys and play materials.** Adapted for children with various disabilities (e.g., tactile, auditory, or visual play items). Lightweight.

#### 3. Service and Information Accessibility

**Accessible digital information.** Websites, apps, and digital forms for childcare services must comply with WCAG 2.2 (screen reader compatibility, keyboard navigation, captions for videos).

**Inclusive communication.** Use of plain language, pictograms, and alternative communication methods (e.g., augmentative and alternative communication boards).

**Staff training.** Educators and caregivers trained to support children with diverse needs and use assistive technologies.

**Policy and inclusion.** Written policies ensuring non-discrimination and reasonable accommodations for children and parents with disabilities.

# 9 Medical Supplies & Equipment

### Ministry / QCOS / Mark

- 1. Ministry of Health and Family Welfare.
- Central Drugs Standard Control Organization (CDSCO) & State Licensing Authorities
- 3. No Certification Mark

#### Non-Negotiable Mandatory Rules for PwD

Medicines & Medical Aids. Medical Equipment. Small Devices.

**POUR** Perceivable, Operable, Understandable, Robust.

**Physical/Ergonomic.** Easy to open, tactile packaging, Ergonomic, height-adjustable equipment, stable, accessible controls, transfer supports, clear floor space, stable mounting. **Sensory.** Tactile/Braille labels, buttons, high-contrast/large printed instructions, audible/visual/tactile feedback/alarms for machine operation.

**Cognitive/Communication.** Simple controls, plain language, diagrams, pictogram instructions, accessible manuals / documentation and signage, multi-format instructions. **Digital/Web.** IS 17802 Part I & Part II Compliance for web accessible consoles /user friendly digital displays, screen reader support, keyboard navigation, color, high contrast, alternative text.

 $\textbf{Interoperability.} \ \text{Assistive tech compatibility, multi-sensory information.}$ 

**Policy/Service Level.** Universal design, non-discrimination, program accessibility.

**Note:** These include 1. Medicines and aids, 2. Small Medical Devices,

# PRODUCT EXAMPLES (Indicative only)

#### Medicines & aids

Medicines - Tablets, Capsules, Syrup, Medicine Bottle, hot water bag, hot/cold compression bags,

#### **Small Equipments**

Steam Inhaler, thermometer, weighing scale, Blood Glucose Meter, Pulse Oximeter,

#### **Larger Equipments**

Crutch, Stretcher,

#### Regulations

Drugs & Cosmetics Act, 1940, Drugs & Cosmetics Rules, 1945,

Labeling and Packaging Standards

Schedule M - Good Manufacturing Practices (GMP), Schedule Y - Clinical Trials 3. Medical Equipment/Machinery and 4. Digital or Web Interfaces, each with its own specific accessibility needs.

#### **Detailed Accessibility Information**

#### 1.Medicines & aids

**Tactile and Braille Labels.** Medicine packaging should include Braille and tactile markings for visually impaired users.

**High-Contrast, Large Print.** Labels and instructions must use high-contrast colors and large, legible fonts for those with low vision. Consider using QR code like marks to access information via scan and audio readout of description.

**Easy-Open Packaging.** Containers should be easy to open for users with limited dexterity or strength, complying with ergonomic standards.

**Clear Instructions.** Use plain language and pictograms for instructions, supporting cognitive accessibility.

**Non-slip Surfaces.** Bottles and aids should have textured, non-slip surfaces for easier handling.

#### 2. Small Medical Devices

#### **Physical Accessibility**

**Ergonomic Design.** Devices must be usable by people with limited grip, strength, or dexterity.

**Adjustable Components.** Height, angle, or size should be adjustable (e.g., crutches, walkers).

Stability and Safety. Non-slip bases, secure grips, and stable construction.

#### Sensory Accessibility

**Audible Feedback.** Devices should provide spoken instructions or beeps for users with low vision.

Visual Indicators. Large, high-contrast displays and indicator lights.

**Tactile Controls.** Buttons and switches should be distinguishable by touch.

#### Digital Accessibility (for devices with screens or apps)

**IS 17802 Part I & Part II Compliance.** Interfaces must be perceivable, operable, understandable, and robust, including keyboard navigation, screen reader compatibility, and sufficient contrast.

**Accessible Mobile Apps.** Apps must meet WCAG 2.2 Level AA, ensuring compatibility with assistive technologies.

**Instructions and Documentation** 

Walker Reclining Bed

#### Machinery

X-ray machines, mammography machines, ultrasound devices. Examination tables

#### REFERENCES

IS 13450, ISO 13485, IEC 60601-1, FDA Standards How to Operate Healthcare Technology Effectively

WCAG 2.2 <u>01</u>, <u>02</u>, <u>03</u>, <u>WCAG 2.2 Explained</u> <u>WCAG Levels</u>

#### India

Drugs Regulation <u>01</u>, <u>02</u>, <u>Department of Pharma</u> <u>CDSCO</u>

Drugs & Cosmetics Act, 1940,
Drugs & Cosmetics Rules,
1945,
Labeling and Packaging
Standards (Legal Metrology
Rules, 2011)

IPA NITI Aayog Regulations of Pharmacy Council **Multiple Formats.** Instructions should be available in print, digital, audio, and easy-read formats.

#### 3. Medical Equipment / Machinery

#### **Physical Accessibility**

**Height Adjustability.** Examination tables and imaging equipment must adjust in height for wheelchair transfers and patient comfort.

Transfer Aids. Provide transfer boards, patient lifts, or sliding surfaces.

**Clear Floor Space.** Sufficient space for wheelchair manoeuvring and positioning.

**Accessible Controls.** Controls must be reachable and operable from seated or standing positions, with tactile, visual, and audible feedback.

#### **User Interface Accessibility**

**Accessible Consoles.** Touchscreen or button interfaces must comply with WCAG 2.2 for digital displays.

**Audible and Visual Alarms.** Alarms should be both audible and visual for users with sensory impairments.

#### **Safety and Emergency Features**

**Emergency Stop Controls.** Easily accessible and clearly marked.

Non-slip Surfaces. On floors, tables, and steps.

#### **Documentation and Training**

**Accessible Manuals.** Provide manuals in accessible formats (large print, Braille, digital, audio).

**Clear Signage.** Use pictograms and plain language on equipment and in facilities.

#### 4. Digital and Web-Based Accessibility

**WCAG 2.2 Principles.** Interfaces must be perceivable, operable, understandable, and robust.

**Keyboard Navigation.** All functions must be accessible via keyboard.

 $\textbf{Screen Reader Compatibility.} \ \textbf{Proper labeling and structure for assistive technology}.$ 

**Contrast and Text Size.** Sufficient color contrast and resizable text.

**Error Identification.** Clear feedback and instructions for correcting errors.

**International and Regional Laws.** Ensure compliance with ADA, EAA, BGG/BFSG, Equality Act 2010, and Nordic laws, which require non-discrimination, reasonable accommodation, and universal design in both physical and digital products.

#### 10 Lifts and Elevators

#### Ministry / QCOS / Mark

- 1a. Ministry of Housing and Urban Affairs (MoHUA)1b. State Governments (Lift Licensing Authorities/Electrical Inspectorates)
- 2. Bureau of Indian Standards (BIS)
- 3. ISI Mark

#### Standards

Rules

IS 17900 (Parts 1, 2 and 5) (Part 5 is under print) IS 15259 National Building Code (NBC) of India State-Specific Lift Acts and

IS 17900 (Part 7/Sec 4) (under print) Requirements of lifts for PwD

#### Non-Negotiable Mandatory Rules for PwD

POUR Perceivable, Operable, Understandable, Robust.

#### **Physical/Ergonomic:**

- a. **Access & Lighting.** Accessible location, clear floor space, step free pathway, adequate space in front of & around lift for ingress/egress. No barriers / obstacles, easily step / wheel oneself inside/outside, grab bar/ handrails. Adequate Lighting outside & inside lift.
- b. **Size.** Large car size, wide doors (1m), Min 60" diameter/T-turn space, manoeuvrable (In, Turn, Out) easily, wheelchair accessible.
- c. **Position & Safety.** Demarcate wheelchair position in the lift adjacent to controls, Door Sensors at wheelchair height, Self-levelling at each floor.
- d. **Time.** Safe wheelchair entry/exit ensure adequate time for entry or exit. Pressing 'Wheelchair button' on lift controls can *also* automatically add 10 seconds to '*lift open to lift close'* duration on any floor for easy wheelchair exit.
- e. **Controls.** Simple Controls, Button layout, Wheelchair accessible controls, Independently Operable Controls at a height of 15" to 48" from floor level. Lift Open/Close buttons. Wheelchair button, floor buttons, Emergency button.
- f. **Credentials.** Larger b buildings with Lift Management Systems, Fingerprint reader / Card Swipe option with tactile markings & card positioning cues. Wheelchair accessible, Audio announcement triggered by proximity, Digital as well as Numeric keypad option to input floor number. Pathway, minimum 1m wide for wheelchair access.

#### Sensory.

- a. **Tactile.** Textures/Tactile/Braille buttons/markings on controls. Alternative tactile option for a touchscreen user interface, Non Touch screen/tactile numeric pad/accessory, Tactile/Braille interface options a must. Door open/close.
- b. **Visual.** High-contrast/Large print, visual indicators, Lift travel Direction indication (Up / Down), Door open position at floor level condition peripheral of 'Door Close' button could be lit up, showing available options.
- c. Audio.
- i. Door open/close audio (beep) indication at each floor level.
- ii. Floor indication audio beep/ announcements.
- iii. Voice. 'Lift: Open Door'/'Lift: Close Door' option at each floor level.

#### Cognitive/Communication.

- a. **Simplicity.** Simple controls, Large Print, High Contrast, accessible signage, understandable, simple language, pictograms, diagrams, visual indicator,
- b. Audio.
- i. Lift travel Direction indication (Up / Down),
- ii. Floor indication audio
- iii. Choose Floor Beep/Announcement.

# PRODUCT EXAMPLES (Indicative only)

Passenger Lifts, Platform Lifts

#### REFERENCES

IS 14665 (Parts 1-5), ISO 21542, EN Standards for Elevators

#### India

BIS

<u>IS 17900</u>: Part 1: 2022, <u>IS 17900</u>: Part 2: 2022, IS 17900: Part 5: 2022

(under print)

IS 17900 : Part 7/Sec 4 : 2022

(under print)

IS 15259
Guide to using NBC, 2016
NBC, 2016 Vol 1, Part 3
NBC, 2016 Vol 2
Karnataka Lift Act
BIS Standards.

- iv. Opening Door & Closing Door beep/Announcement
- c. Emergency Communication.
- i. Emergency audio announcement that is calming Eg: 'This Lift is stuck temporarily, Please stay calm while help is on the way' OR 'This lift is stuck. Help arrives in 10 minutes.'
- ii. Accessible Alarm button,
- iii. Auto SOS relay to Service Personnel,
- iv. Wheelchair accessible Emergency Communication / Devices,
- vi. Emergency Two way communication system.
- vii. Ensure adequate ventilation & oxygen levels whatever position the lift is stuck in.
- viii. Safety mechanism to take the Lift to the nearest, lower floor, with self levelling.

**Digital/Web.** IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alternative text.

**Additional/Legal.** Independent operation, accessible route, regular inspection, safety code compliance. Comply with Lift related IS Standards, IS 17900: Part 1: 2022, IS 17900: Part 2: 2022, IS 17900: Part 5: 2022 (under print) and IS 17900: Part 7/Sec 4: 2022 (under print).

**Standards.** BIS and or NBC needs to define **Accessible Lift Standards & Accessible Lift Purchase Guidelines.** Lift Procurement / Purchase Departments to mandatorily follow Accessible Lift Purchase Guidelines.

#### **Detailed Accessibility Information**

#### 1. Physical Accessibility Features

**Car Size and Manoeuvring Space.** Minimum clear floor area for wheelchairs (typically at least 30 by 48 inches). Unobstructed turning space inside the elevator (60-inch diameter circle or T-turn).

**Door Operation.** Automatic doors with sufficient width for wheelchairs. Door dwell time must allow safe entry and exit for people with mobility impairments.

**Reachable Controls.** Control panels placed at accessible heights (typically 15–48 inches from the floor). Emergency communication devices reachable from a seated position.

#### 2. Sensory Accessibility Features

**Tactile and Braille Information.** All control buttons must have tactile and Braille markings for visually impaired users. Floor indicators and emergency buttons must be labeled in Braille. **High Contrast and Large Buttons.** Buttons should be large, high-contrast, and easy to press for users with low vision or limited dexterity.

**Audio Announcements.** Verbal announcements for floors, direction of travel, and emergency alerts. Audible signals for door opening/closing and arrival at floors.

		Visual Indicators. Illuminated indicators for floor position, direction of travel, and alarms. High-contrast displays for users with low vision.  3. Cognitive and Communication Accessibility Features Clear Signage. Signage indicating elevator location and instructions in plain language, with pictograms and Braille. Simple User Interface. Logical button layout and clear instructions for operation. Emergency Communication. Two-way communication systems accessible to people with hearing or speech impairments.  4. Digital and Web-Based Accessibility (for Smart Elevators) IS 17802 Part I & Part II Compliance. Any digital interfaces, touchscreens, or mobile apps must be perceivable, operable, understandable, and robust. Features include screen reader compatibility, keyboard navigation, sufficient color contrast, and error identification.  5. Additional Features for Compliance with International Laws Accessible Route. Elevators must be located on accessible routes connecting all floors and major areas. Proximity to Entrances. Placement near accessible building entrances to minimize travel distance for people with disabilities. Clear Floor Space at Landings. Sufficient space outside elevator doors for wheelchair manoeuvring. Independent Operation. Lifts and elevators must allow unassisted entry and exit.	
11	Monetary Transactions  Ministry / QCOS / Mark 1. Ministry of Finance 2. Reserve Bank of India (RBI) 3a. RBI Authorisation Certificate 3b. NPCI Certification (UPI, retail payment platforms) 3c.	Non-Negotiable Mandatory Rules for PwD POUR Perceivable, Operable, Understandable, Robust. Physical/Ergonomic. Tactile currency, shape & size recognisable, high-contrast/large print. Cards - accessible card readers, large buttons, audio feedback, wheelchair accessible PoS, ATM. Sensory. Audio/visual/vibration feedback, distinct colors/sizes. Cognitive/Communication. Simple interfaces, pictograms, error prevention/correction. Digital/Web. IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alt text. Must ensure availability of a slide open tactile PIN input numeric keys on device/ tactile input attachment or accessory for device / an older device that allows tactile PIN input. Ensure tactile input & privacy of PIN input. Universal/Assistive. Assistive tech compatibility, voice commands, touch-less/contactless options. Policy/Support. Non-discrimination, accessible customer support.	PRODUCT EXAMPLES (Indicative only) Currency / Notes Coins ATM PoS Swipe Terminal Debit / Credit Cards UPI / Electronic Payment  REFERENCES South Korea: Tactile Currency Guidelines, EU: Accessibility for Financial Tools
	Standards / Acts Currency - RBI Act		Cash Reader App

Coins - Coinage Act PSS Act FEMA Act RBI/AML/KYC Guidelines RBI/NPCI Guidelines

Currency Coins Credit/Debit Cards, ATM, PoS Payments UPI/Digital Payments Note:

Money: Currency, Coins

Source: ATM

Payment: PoS Swipe Terminal for Debit/Credit Cards, UPI / Electronic Payments

**Currency & Coins.** These are very widely used, but are not distinguishable by people with low vision or even by the common people. Whenever it is due for a redesign, it needs to be done with particular emphasis on recognition through sizes and tactile features by the blind.

The areas that need intervention in terms of accessibility/universal design are:

- 1. Currency & Coins Recognition by tactile features, sizes, QR code,...
- 1. ATM Make withdrawal, deposit of cash accessible
- 3. PoS Make secure payment at merchant establishments, cabs, toll,... through Cash Payment / Debit or Credit Card (Card Tap is a welcome step) /UPI Payment accessible by all. Includes redemption of wallet points.

Currency. As an interim measure, simple non-electric aids/tools or apps like the:

- a. Drishti Currency Note Identifier
- b. MANI app that uses the mobile camera to recognise, read out currency notes

#### **Detailed Accessibility Information**

1. Physical Accessibility Features: ATMs and PoS Devices

**Accessible Location & Approach.** Levelled entrance with ramps and handrails. Non-slip floor surfaces and clear manoeuvring space for wheelchairs (minimum 1500 mm turning diameter, 900 mm wide entrance). Tactile Ground Surface Indicators (TGSI) leading to the ATM.

**Reach Ranges.** Controls, card slots, and coin slots located between 800–1200 mm from the floor, accessible for wheelchair users. All operable parts within 15–48 inches (380–1220 mm) from the floor.

**Space Requirements.** Minimum clear floor space of  $900 \times 1200$  mm at ATMs and  $30 \times 48$  inches. Sufficient landing space for waiting wheelchair users.

**Operable Parts.** Large, tactile, and high-contrast buttons and keypads with raised numbers. Beveled and contrasted card slots with tactile symbols for insertion direction. PoS machines should be easily accessible for visually impaired persons. Compatibility with assistive technologies.

2. Sensory Accessibility Features: ATMs, PoS, Cards, and Digital Interfaces Audio Output. Speech output for all displayed information, including instructions, prompts,

#### India

Ministry of Finance
Reserve Bank of india
NPCI
PSS Act
FEMA Act
RBI/AML/KYC Guidelines
UPI
BHIM UPI
PoS
Cash Withdrawal at PoS

<u>Indian Currency Study</u> Drishti Currency Identifier

MANI Currency Identifier App

verification, errors, and receipts. Private audio via headphone jack or handset for privacy. Audio guidance for self-service kiosks and ATMs.

**Braille and Tactile Features.** Braille instructions and raised numbers on keypads and important controls. Tactile graphics and symbols for card insertion and operation.

**Visual Features.** High-contrast, sans serif fonts (minimum 4.8 mm height) on displays and instructions. Visual indicators (lights, screen prompts) for transaction status and errors. Blank screen option for privacy for visually impaired users.

**Currency and Coins.** Distinctive tactile features, varied sizes, and high-contrast markings for easy denomination identification (New IS Guidelines to be defined).

#### 3. Cognitive and Communication Accessibility Features

**Simple, Intuitive Operation.** Clear, logical layouts for controls and instructions. Use of pictograms and universally recognised symbols for operation and navigation.

**Accessible Documentation.** Instructions and guides in plain language, large print, Braille, and audio formats.

# 4. Digital and Web-Based Accessibility Features IS 17802 Part I & Part II Compliance

Online and mobile banking, UPI, and digital payment interfaces must:

Support screen readers and assistive technologies.

Be navigable by keyboard or alternative input devices.

Provide sufficient color contrast and scalable text.

Include alternative text for icons and images.

Offer accessible authentication, error messages, and help features.

**Accessible Notifications.** Transaction and error notifications must be available in multiple formats (visual, audio, and text). Check possibility of summarised notifications, instead of notifications at each step of transaction (Eg: Choose to receive notification from bank/Merchant during transactions.)

#### 5. Inclusive and Legal Compliance Features

**Universal Access.** At least one ATM, PoS, or payment terminal at each location must be fully accessible. Features must not compromise security or privacy for users with disabilities.

**Consistent Accessibility.** All new technology deployments (ATMs, kiosks, PoS) must include built-in accessibility features before launch. Maintenance of accessibility features throughout the product life cycle.

# Writing & Reading Equipments

#### Ministry / QCOS / Mark

- 1. Ministry of Education (Department of School Education & Literacy)
- 2. Bureau of Indian Standards (BIS)
- 3. ISI Mark

#### Standards

BIS/IS Standards Educational Procurement Guidelines Accessibility Standards

#### Non-Negotiable Mandatory Rules for PwD

POUR Perceivable, Operable, Understandable, Robust.

**Physical/Ergonomic.** Ergonomic grips, lightweight, easy one-handed use, stable/anti-slip design. **Sensory.** High-contrast/large print, tactile/Braille markings, multi-sensory instructions. **Cognitive/Communication.** Simple layout, pictogram instructions, accessible documentation. **Digital/Web.** IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alt text, error handling.

**Information/Labeling.** Accessible labels/instructions, adjustable fonts/spacing, alternative formats.

#### **Detailed Accessibility Information**

#### 1. Physical Accessibility Features

**Ergonomic Design.** Pens, pencils, erasers, and sharpeners should have contoured, non-slip, and enlarged grips to assist users with limited dexterity or arthritis. Writing pads and rulers should be stable and easy to hold, with anti-slip bases.

**Adaptable.** Adaptable stout grips for pens, pencils, mechanical pencils, rulers that can be attached.

**Lightweight Construction.** Equipment should be lightweight to reduce fatigue for users with limited strength.

**Easy-Use Mechanisms.** Sharpeners and erasers should require minimal force to operate. Rulers and magnifiers should have handles or grips for easier manipulation. Larger/longer lasting ink refills.

#### 2. Sensory Accessibility Features

**High-Contrast Markings.** Rulers, writing pads, and measurement increments should use high-contrast colors for users with low vision.

**Large Print and Markings.** Numbers and labels on rulers, magnifiers, and pads should be in large, clear fonts.

**Tactile Markings.** Raised or tactile indicators/textures or features on rulers, pens, and other equipment for users with visual impairments.

**Braille Labeling.** Key information (such as ruler measurements or pen types) should be available in Braille.

#### 3. Cognitive and Communication Accessibility Features

**Simple, Intuitive Design.** Simple, unambiguous communication. Equipment should have clear, simple, clear instructions and minimal steps for use.

**Pictogram Instructions.** Use of pictograms or visual guides on packaging and instructions to aid users with cognitive disabilities.

Consistent Layouts. Consistency in button or grip placement across similar products to

# PRODUCT EXAMPLES (Indicative only)

Pens
Pencils
Sharpners,
Erasers,
Rulers,
Sketch Pens,
Magnifiers

#### REFERENCES

		Packaging. Clear, large print labels, High-contrast colours to distinguish items, braille/tactile symbols.  4. Digital and Web-Based Accessibility (for Digital Reading/Writing Aids) IS 17802 Part I & Part II Compliance. Digital devices (e.g., electronic magnifiers, smart pens) and their apps must:  Support screen readers and text-to-speech functions. Offer keyboard navigation and compatibility with assistive technologies. Provide adjustable contrast, font size, and color settings. Include alt text for images and clear, logical content structure. Accessible Documentation Digital manuals and guides should be available in accessible formats (e.g., HTML, tagged PDF, audio).  5. Additional Features Universal Design. Products should be usable by the widest range of people, regardless of ability, aligning with the principles of non-discrimination and reasonable accommodation. Clear Product Information. Packaging and instructions should use plain language and be available in multiple accessible formats (large print, Braille, audio).	
13	Ministry / QCOS / Mark  1. Ministry of Housing and Urban Affairs (MoHUA)  2. Bureau of Indian Standards (BIS)  3a. ISI Mark  3b. GISO Quality Assurance (for Government supplies)	Non-Negotiable Mandatory Rules for PwD POUR Perceivable, Operable, Understandable, Robust. Physical/Ergonomic. Adjustable, easy-to-use controls; one-handed operation; non-slip grips; accessible reach adjustable features. Sensory. Braille/tactile labels; high-contrast, large print; audio and visual feedback. Cognitive/Communication. Simple interfaces; pictograms; accessible instructions in multiple formats. Digital/Web. IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alternative text.  Detailed Accessibility Information Include adjustable features and tactile feedback. 1. Ergonomic and Physical Accessibility Features Ergonomic Chairs. Adjustable seat height, armrests, and lumbar support to accommodate various body types and mobility needs. Easy-to-operate adjustment levers and controls that require minimal strength or dexterity. Stable base and non-slip casters for safe transfers, including for wheelchair users.	PRODUCT EXAMPLES (Indicative only) Ergonomic chairs, Printers  REFERENCES Germany: Workspace Standards, EU: Ergonomic Design

**Staplers, Presentation Controllers, and Similar Tools.** Large, easy-to-press buttons or levers. Non-slip grips and lightweight construction for users with limited strength or dexterity One-handed operation options for staplers and controllers.

**Printers and Office Machines.** Reachable controls and paper trays (within 15–48 inches from the floor) for wheelchair users. Clear floor space in front of equipment for manoeuvrability.

#### 2. Sensory Accessibility Features

**Tactile and Braille Markings.** Braille or raised tactile labels on key controls (e.g., printer buttons, controller functions).

**High Contrast and Large Print.** High-contrast labeling and large, legible fonts on all controls and displays for users with low vision.

**Audio Feedback.** Audible signals for successful operations, errors, or alerts (e.g., printer ready, paper jam).

Visual Indicators. Bright, high-contrast indicator lights and screens for status notifications.

#### 3. Cognitive and Communication Accessibility Features

**Simple, Intuitive Interfaces.** Clear, logical layouts for controls and displays to reduce cognitive load. Use of pictograms and universally recognised symbols on devices.

**Accessible Instructions.** Instructions provided in plain language, with visual aids or pictograms. Multi-format documentation: printed, large print, Braille, and digital accessible formats.

#### 4. Digital and Web-Based Accessibility (For Smart Devices and Interfaces)

**IS 17802 Part I & Part II Compliance.** All digital interfaces (printer screens, configuration apps, web portals) must be:

Operable by keyboard only (no mouse required).

Compatible with screen readers and assistive technologies.

Designed with sufficient color contrast and scalable text.

Structured for logical navigation and error identification.

Provide alternative text for icons and images.

**Accessible Support Services.** Support and help documentation available in accessible formats and via multiple sensory channels.

#### 5. Additional Features

**Universal Design.** Products should be usable by the widest range of people, regardless of ability, following principles of non-discrimination and reasonable accommodation.

		Information Accessibility. Information about product functionality and accessibility	
		features must be available in more than one sensory channel (e.g., written, audio, tactile).	
		<b>Compatibility.</b> Devices should be interoperable with assistive technologies (e.g., switch	
		controls, screen readers).	
4.4	D 0 Ch	Non-Negotiable Mandatory Rules for PwD	PRODUCT EXAMPLES
14	Bags & Storage	,	
	Solutions	Pour Perceivable, Operable, Understandable, Robust.	(Indicative only)
		<b>Physical/Ergonomic.</b> Adjustable straps, tactile zippers, One-hand operable parts, reachable	Organisers,
		controls (15–48 in.), easy-open lids, adjustable shelves, wide openings. Ensure ease of use	Storage Bins,
		for persons with limited dexterity.	Handbags,
	Ministry / QCOS / Mark	<b>Sensory.</b> High-contrast/large print labels, tactile/Braille info, audible feedback.	Gym Bags,
	1. Ministry of Environment,	<b>Cognitive/Communication.</b> Simple controls, pictograms, accessible documentation.	Backpacks,
	Forest and Climate Change	Digital/Web. IS 17802 Part I & Part II Compliance, screen reader support, keyboard	Luggage
	(MoEF&CC)	navigation, color contrast, alt text.	
	2a. State Pollution Control	<b>Inclusive/Legal.</b> Universal design, accessible information, ongoing compliance.	
	Boards (SPCBs) / Pollution		REFERENCES
	Control Committees (PCCs)		USA: Universal Bag Design,
	2b. Extended Producer	Detailed Accessibility Information	Japan: Accessible Storage
	responsibility (EPR)	1. Physical Accessibility Features.	<u>Products</u>
	3a. SPCB/PCC Registration	Reachable and Operable Components. Handles, locks, zippers, and controls must be operable	
	Certificate,	with one hand and without tight grasping, pinching, or twisting.	
	3b. CPCB Compostable	All operable parts (e.g., locker handles, storage bin lids) should be within 15–48 inches	India
	Certification,	(380–1220 mm) from the floor to accommodate both seated and standing users.	Ministry of Tourism
	3c. Recycled Mark,	Storage compartments, shelves, and hooks should be positioned for easy access and use by	Ministry of Environment, Forest
	3d. ISI Mark (where	people with limited mobility.	and Climate Change
	applicable)	Doors/lids should open easily, stay open during use, and require minimal force.	(MoEF&CC)
		Larger Storage Systems. (E.g., mobile storage, lockers), ensure a clear opening width of at	
	Standards	least 32 inches (810 mm) and a turning radius of 60 inches (1525 mm) for wheelchair	BIS
	Plastic bags	manoeuvrability.	ISI <u>01</u> , <u>02</u> ,
	Plastic Waste Management	Adjustable and Flexible Design. Adjustable shelving and customizable compartments to	
	Rules, IS/ISO 17088:2008,	accommodate users with different needs and reach ranges. Ramps or level entries for storage	Plastic bags
	IS 14534:1998, IS	units and bins to enable wheelchair access, especially in larger or fixed installations.	Plastic Waste Management
	9833:1981		Rules, IS/ISO 17088:2008,
	IS/ISO 17088:2021	2. Sensory Accessibility Features	
	IS 17899T:2022	High-Contrast and Large-Print Labels. Use high-contrast colors and large fonts for	IS 14534:1998,
		labeling compartments, instructions, and controls to assist users with low vision.	IS 9833:1981
	Jute Bags:	Tactile and Braille Information. Provide tactile or Braille labels on key controls,	IS/ISO 17088:2021
	IS 16186:2014	compartments, or bag tags for users with visual impairments.	IS 17899T:2022
1	IS 1943:1995		

	Paper and other IS 8460:2023 IS 17753:2021	Audible Feedback. For electronic lockers or smart luggage, include audible signals for successful operation, errors, or lock/unlock status.  3. Cognitive and Communication Accessibility Features Simple, Intuitive Operation. Controls and mechanisms should have clear, logical layouts and require minimal steps for use. Pictogram Instructions. Use universally recognised symbols and pictograms for operation and identification of compartments to aid users with cognitive disabilities. Accessible Documentation. Provide instructions and user guides in plain language, large print, Braille, and audio formats.  4. Digital and Web-Based Accessibility Features IS 17802 Part I & Part II Compliance. Digital interfaces for smart bags, lockers, or storage management apps must:  Support screen readers and assistive technologies. Be navigable by keyboard or alternative input devices. Use sufficient color contrast and scalable text. Offer alternative text for icons and images. Ensure target areas for touch or click are at least 24x24 pixels. Avoid requiring dragging movements unless essential, and provide alternatives. Provide consistent help, accessible authentication, and clear error messages.  5. Inclusive and Legal Compliance Features Universal Design. Products should be usable by the widest range of people, minimising the need for adaptation or specialised design. Obligation for Service Providers. Providers must supply accessible information and support in oral and written formats, and maintain accessibility throughout the product life cycle.	Jute Bags: IS 16186:2014 IS 1943:1995  Paper and other IS 8460:2023 IS 17753:2021
15	Travel & Outdoor Gear  Ministry / QCOS / Mark 1a. Ministry of Tourism 1b. Ministry of Environment, Forest and Climate Change (MoEF&CC) 1c. Ministry of Social Justice	Non-Negotiable Mandatory Rules for PwD POUR Perceivable, Operable, Understandable, Robust. Physical/Ergonomic. Adjustable, ergonomic handles/straps compatible with mobility aids, one handed use, lightweight, accessible reach, stable/anti-tip, non-slip, accessible boarding, clear pathways. Sensory. Tactile/Braille labels, high-contrast/large print, audible/visual feedback. Cognitive/Communication. Simple controls, pictogram instructions, accessible documentation. Digital/Web. IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alt text.	PRODUCT EXAMPLES (Indicative only) Backpacks, Tents, Sleeping Bags, Warm Clothing, Power Bank, Portable Fans, Headlamps, Portable Water Filter,

and Empowerment
2a. Bureau of Indian
Standards (BIS)
2b.State Tourism Department
3. BIS, ISI Mark

#### Standards

- 1. Indian Adventure Tourism Guidelines By Ministry of Tourism & Adventure Tour Operators Association of India (ATOAI)
- 2. BIS IS/ISO Standards
- 3. Accessibility/Medical Device standards
- 4. Eco-Tourism Policy
- 5. Adventure Tourism norms

ISO 21101 (Adventure Tourism—Safety Management Systems) IS/ISO 21101:2014 for adventure tourism activities State- Specific Policies **Outdoor/Recreational.** Accessible paths/trails, stable surfaces, adaptable equipment, inclusive participation.

Universal/Legal. Universal design, inclusive participation, accessible tourism standards.

#### **Detailed Accessibility Information**

#### 1. Physical Accessibility Features

**Manoeuvrability and Ergonomics.** Luggage and gear should have adjustable, padded, and ergonomic handles or straps to accommodate users with limited strength or dexterity.

**Wheels on luggage.** Stable, multidirectional, and require minimal force to operate, supporting users with mobility impairments.

**Hiking Gear and Outdoor Equipment.** Lightweight, balanced, and easy to carry or attach to mobility devices (e.g., wheelchairs, walkers).

**Wheelchair Accessories.** Compatible with standard wheelchair dimensions and provide secure, easy-to-use attachment mechanisms.

**Accessible Storage and Reach.** Compartments, zippers, and fasteners must be operable with one hand and require minimal effort.

**Storage solutions.** (E.g., lockers, racks) should be within accessible reach ranges (typically 15–48 inches from the floor for forward or side reach from a wheelchair).

**Outdoor Gear and Public Storage.** Provide clear floor space and turning radius for wheelchair users (minimum 1500 mm turning space).

**Stability and Safety.** Gear should have anti-tip features, secure mounting, and stable bases, especially for outdoor or rugged use.

**Luggage and hiking Gear.** Non-slip surfaces and secure closures for safety.

#### 2. Sensory Accessibility Features

**Tactile and Braille Markings.** Luggage tags, gear labels, and locker numbers should include tactile or Braille markings for users with visual impairments.

**High-Contrast and Large Print.** Markings, instructions, and labels should use high-contrast colors and large, legible fonts for users with low vision.

**Audible Feedback.** Electronic locks, storage systems, and smart gear should provide audible signals for successful operation or errors.

**Visual Indicators.** Status indicators (e.g., lock/unlock, battery level) should be bright, high-contrast, and visible in various lighting conditions.

#### 3. Cognitive and Communication Accessibility Features

**Simple, Intuitive Operation.** Controls, locks, and mechanisms should be straightforward, with clear, minimal steps for use.

**Pictogram Instructions.** Use universally recognised pictograms or symbols for operation and identification on gear and storage units.

Monocular/Binocular, Lantern, Waterproof Mats, Luggage, Hiking gear, Wheelchair accessories Camping Stove

#### REFERENCES

USA: ADA Travel Standards, New Zealand: Outdoor Equipment ISO 21101, 01,

#### India

Ministry of Tourism
Ministry of Environment, Forest
and Climate Change
(MoEF&CC)
Ministry of Social Justice and
Empowerment
Karnataka Tourism Department

BIS
ISI 01, 02,
Indian Adventure Tourism
Guidelines
National Strategy for
Eco-Tourism

**Accessible Documentation.** User instructions should be available in plain language, large print, Braille, and audio formats.

4. Digital and Web-Based Accessibility (for Smart Gear and Storage Solutions) IS 17802 Part I & Part II Compliance. Digital interfaces (e.g., for smart luggage,

e-lockers, or gear apps) must be:

**Perceivable.** Support screen readers, provide alt text for icons, and ensure sufficient color contrast

**Operable.** All functions accessible via keyboard or assistive technologies.

**Understandable.** Clear navigation, instructions, and error messages.

**Robust.** Compatible with a wide range of assistive technologies.

**Accessible Support.** Customer support and help documentation should be available in accessible formats and via multiple sensory channels.

#### 5. Outdoor and Recreational Accessibility

**Accessible Outdoor Environments.** Paths, trails, and campsites must have firm, stable, slip-resistant surfaces, and clear tread widths for wheelchair access.

**Outdoor Gear.** Adaptable for use in various terrains and weather conditions, supporting users with disabilities.

**Inclusive Participation.** Equipment and environments should enable independent use and participation in outdoor and travel activities by persons with disabilities, as emphasized in accessible tourism guidelines.

# 16 Accessories for Vehicles

#### Ministry / QCOS / Mark

 Ministry of Road Transport and Highways (MoRTH)
 ARAI, ICAT, VRDE, and other CMVR-notified test agencies
 Type Approval Certificate (ARAI/ICAT/VRDE);
 BIS ISI mark (if under BIS mandatory certification)

#### Non-Negotiable Mandatory Rules for PwD

**POUR** Perceivable, Operable, Understandable, Robust.

**Physical.** Large/one-hand operable controls, accessible reach, ramps/lifts, low floors, clear floor space, secure installation, universal design, accessible parking aids.

**Sensory.** Multi-sensory feedback, Audio feedback, visual signals, high-contrast/large text, tactile/Braille markings or info, multi-sensory communication.

**Cognitive/Communication.** Simple controls, operation, pictograms, accessible documentation.

**Digital/Web.** IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alt text, accessible notifications.

**Universal/Legal.** Universal design, compliance with vehicle adaptation standards. ISI mark/accessibility certificate, ongoing accessibility maintenance, accessible reporting/documentation.

#### Note:

Develop accessories that empower/assist a PwD as a passenger / driver in using various vehicles. Adaptable aids, Accessories for vehicles that enable independent/assisted use by

# PRODUCT EXAMPLES (Indicative only)

Ramps, Lifts, Charging Stations, Mobile Holders, GPS Unit, Cup Holder, Toll Payment

# REFERENCES Examples of Accessories

Vehicle safety Equipments Swivel seat for transfer Wheelchair racks Driving Aids

#### Regulations

(MoRTH) Central Motor Vehicles Rules (CMVR), 1989 (MoRTH)

Motor Vehicles Act, 1988

#### Standards

- 1. Automotive Industry Standards (AIS) By Automotive Industry Standards Committee (AISC), Published by - Automotive Research Association of India (ARAI).
- 2. BIS (where applicable) 3. CMVR (especially Rule 124, Rule 126)

PwD. Disseminate information, make it available for all - online or through service centers or showrooms.

Modes. Taxi, Bus, Own vehicle, Train, Boat, Aircraft

Tasks. Store luggage, enter, sit/rest, fasten/unfasten belt/secure, exit

#### **Detailed Accessibility Information**

#### 1. Physical Accessibility Features

Accessible Controls and Operable Parts. Large, easy-to-operate buttons, switches, and handles that do not require tight grasping, pinching, or twisting.

Controls must be operable with one hand and require minimal force. Placement of controls and accessories within accessible reach ranges (typically 15-48 inches/380-1220 mm from the floor or ground).

Clear Floor and Manoeuvring Space. Sufficient space for wheelchair users to enter, exit, and manoeuvre around vehicle accessories (e.g., ramps, lifts, charging stations). Unobstructed access to all controls and connection points.

Accessible Mounting and Installation. Accessories such as ramps, lifts, or wheelchair securement systems must be installed to allow independent and safe use. Secure, slip-resistant surfaces and stable installation for all accessories.

**Universal Design.** Accessories should be designed for use by all, regardless of ability, in line with universal design principles promoted by Nordic and European frameworks.

#### 2. Sensory Accessibility Features

Audio Feedback and Announcements. Audible signals for activation, errors, or completion of actions (e.g., charging start/stop, successful operation of lifts or ramps).

Visual Feedback and High-Contrast Text. High-contrast, large-font displays and labels for controls, instructions, and indicators. Visual signals (e.g., indicator lights, flashing alerts) for users with hearing impairments.

Tactile and Braille Information. Tactile markings or Braille labels on key controls and instructions for users with visual impairments.

Multiple Sensory Channels. All critical information (instructions, feedback, alerts) must be available through more than one sensory channel (visual, auditory, tactile).

#### 3. Cognitive and Communication Accessibility Features

Simple, Intuitive Operation. Controls and interfaces should have clear, logical layouts and require minimal steps for use.

Pictogram and Symbol Instructions. Use of universally recognised symbols and pictograms for operation, safety, and emergency instructions.

Choosing Handicap Aids **Essential Accessories** Vehicle accessories for PwD PwD Vehicle Accessories **Custom Car Accessories** 

#### India

MoRTH Parivahan ARAI **ICAT VRDE CMVR** 

**BIS** ISI 01, 02, AIS 01,

		<b>Accessible Documentation.</b> Instructions and user guides available in plain language, large print, Braille, and audio formats.	
		4. Digital and Web-Based Accessibility Features IS 17802 Part I & Part II Compliance. Digital interfaces (e.g., for infotainment, vehicle	
		apps, payment or charging systems) must: Support screen readers and assistive technologies. Be navigable by keyboard and alternative input devices. Feature sufficient color contrast, scalable text, and clear focus indicators. Provide alternative text for icons, images, and controls. Ensure that interactive targets are large enough and not obscured. Offer accessible notifications and avoid requiring fine motor skills for interactions.  Consistent Help and Error Prevention. Provide consistent help, guidance, and accessible error messages to reduce confusion and cognitive load.	
		5. Legal and Compliance Features Certification and Marking. Products must undergo conformity assessment and, where required, display the ISI Mark / accessibility certificate, or equivalent as proof of compliance. Maintenance of Accessibility. Accessibility features must be maintained throughout the product lifecycle, and any changes must not reduce accessibility. Obligations for Service Providers. Providers must supply accessible information in oral and written formats and report non-compliance to authorities, as required by the law.	
17	Fire and Safety	Non-Negotiable Mandatory Rules for PwD	PRODUCT EXAMPLES
17	Equipment	POUR Perceivable, Operable, Understandable, Robust.  Physical/Ergonomic. Large buttons, accessible heights, emergency exits, obstacle-free access, operable with one hand, low force, stable surfaces, Lightweight fire extinguishers.  Sensory. High-contrast text/tactile/Braille info/signage, visual/audible alarms, Audio	(Indicative only) Fire Extinguishers, Fire Alarms, Emergency Lighting
	Ministry / QCOS / Mark	announcements, emergency lighting.	Linergency Lighting
	1a. Ministry of Home Affairs	<b>Cognitive/Communication.</b> Simple controls, instructions, pictograms, accessible	
	(MHA), State Government	emergency communication & documentation.	REFERENCES
	1b.Ministry of Housing and Urban Affairs (MoHUA)	<b>Escape/Evacuation.</b> Wide/level escape routes, illuminated signage, refuge areas, multi-sensory cues.	USA: Fire Safety Standards
	2. Directorate General Fire	<b>Digital/Web.</b> IS 17802 Part I & Part II Compliance for interfaces, alerts and instructions for alarms and evacuation systems, multi-sensory communication. Perceivable, Operable,	
	Services, Civil Defence &	Understandable and Robust.	India
	Home Guards, BIS	Legal/Best Practice. Obstruction-free, multiple escape routes, stakeholder responsibility.	NBC, 2016 Vol 1, Part 3 NBC, 2016 Vol 2
	3a. BIS, ISI Mark	Note:	
	3b. Fire Department No	Intent. Empower/enable the PwD to help themselves during fire evacuation, follow	

Objection Certificate (Fire NOC), Approval from Chief Fire Officer

#### Standards

Regulations.

a. BIS - National BuildingCode (NBC) of India, Part IV:Fire and Life Safetyb. IS Standards (BIS)c. State-specific Fire Safety

All Fire Fighting equipment and installations must conform to IS Standards.

IS 2189: 2008 (Audio-Visual Alarm Systems) IS 16018: 2012 (Wheeled Fire Extinguishers) IS 15683: 2018 (Portable Fire Extinguishers) evacuation instructions through devices /accessories/adaptable products that can be independently used. Non powered accessible fire safety equipment, self evacuation aids.

#### **Detailed Accessibility Information**

#### 1. Physical Accessibility Features

**Larger, Easy-to-Use Controls.** Fire alarm pull stations, extinguishers, and emergency buttons should have large, high-contrast controls operable with one hand and minimal force, without requiring tight grasping, pinching, or twisting.

**Accessible Mounting Heights.** Equipment must be installed within accessible reach ranges (typically 15–48 inches/380–1220 mm from the floor) for both standing and wheelchair users.

**Obstacle-Free Access.** Fire safety equipment must be placed in locations that are free from obstructions and provide clear floor space for wheelchair manoeuvring.

#### 2. Sensory Accessibility Features

**Audio Announcements and Alarms.** Fire alarms and emergency systems must provide loud, clear audio signals and voice announcements to alert people with visual impairments. **Visual Alerts.** Alarms must include high-intensity flashing lights or visual indicators for people with hearing impairments.

**Tactile and Braille Information.** Key controls, instructions, and signage must include tactile or Braille labels for users with visual disabilities.

**High Contrast Text and Signage.** All instructions, labels, and evacuation maps should use large, high-contrast fonts and backgrounds for users with low vision.

#### 3. Cognitive and Communication Accessibility Features

**Simple, Intuitive Operation.** Controls and instructions should be clear, logical, and require minimal steps for use.

**Pictogram Instructions.** Universal symbols and pictograms should be used for operating instructions and evacuation routes, aiding users with cognitive disabilities or language barriers.

**Accessible Emergency Communication.** Emergency communication systems (e.g., intercoms, PA systems) should provide clear, concise instructions in multiple formats (audio, visual, tactile).

#### 4. Accessible Escape and Evacuation Features

**Wide, Level Escape Routes.** Escape routes must be wide enough for wheelchair users, level, and free of barriers.

**Well-Lit and Marked Routes.** Emergency lighting and illuminated, high-contrast signage should guide users to exits, even in power outages.

Ministry of Home Affairs
DG, Fire Services
Fire Protection & Safety
Requirements
Fire Safety Regulations 01,

Tactile & Visual Accessibility

IS 2189: 2008, ISO 16018, IS 2189: 2008 (Audio-Visual Alarm Systems) IS 16018: 2012 (Wheeled Fire Extinguishers) IS 15683: 2018 (Portable Fire Extinguishers)

		Refuge Areas and Evacuation Aids. Designated refuge areas and, assisted and self-evacuation aids (e.g., evacuation chairs) must be provided and clearly marked for users who may require assistance.  Multiple Sensory Cues. Evacuation instructions and alarms should use a combination of audio, visual, and tactile cues to accommodate all users.  5. Digital and Web-Based Accessibility IS 17802 Part I & Part II Compliance. Digital fire safety interfaces (e.g., smart alarm panels, evacuation apps) must support screen readers, keyboard navigation, sufficient color contrast and descriptive alternative text for icons and images.	
18	Escalators and	Non-Negotiable Mandatory Rules for PwD	PRODUCT EXAMPLES
	Moving Walks	<b>POUR</b> Perceivable, Operable, Understandable, Robust.	(Indicative only)
	litering trains	Physical/Ergonomic:	Escalators
		a. Access & Lighting.	Walkalators
		i. Accessible location, clear floor space, step free pathway,	
	Ministry / QCOS / Mark	ii. Adequate space in front of & around Escalator or Moving Walks for ingress/egress.	
	1a. Ministry of Consumer Affairs, Food & Public	Iii. No barriers / obstacles. iv. Easily step on/off (Wheelchairs are not allowed on Moving Walks).	REFERENCES
	Distribution	v. Grab bar/ handrails throughout the length on either side.	Maharashtra Act, 2018
	1b. State Governments	vi. Adequate Lighting at entry & exit of Escalator or Moving Walks.	Indian Railways Escalator Spec
	(Electrical Inspectorates,)	vii. Step Demarcation Lighting at entry and exit (light is on during power out too), Bright,	(Draft)
	1c. Context Specific. Example	contrasting step edges.	(Braile)
	Ministry of Railways,	b. Size.	India
	, , , , , , , , , , , , , , , , , , , ,	i. Wide steps at least 0.85 m, enough for a person and one suitcase.	BIS
		Ii. Space enough for an Indian size 12 foot between the step seams.	IS 4591 (Part 1/Section 1):
	2.Bureau of Indian Standards	c. Position & Safety.	2020 - Safety Requirements
	(BIS)	i. Step free access.	
	3. ISI Mark	ii. Tactile Paving at entry indicates Forward/Up Direction; Tactile Paving at exit indicates	IS 4591 (Part 1/Section 2):
	Standarda	End/Down Direction.	2020 - Guide for Planning and
	Standards BIS	iii. Three horizontal steps at entry of Up/Forward Direction & exit of Down/End of Escalators	Selection
	IS 4591 (Part 1/Section 1):	or Moving Walks.	IS 4591 (Part 1/Section 3):
	2020 - Safety Requirements	iv. 1" wide Yellow strip all around each step, 2" wide Yellow strip at step intersections  v. Demarcate foot position (blue/white painted footmark) on the three entry steps near the	2020 - Inspection and Testing
	IS 4591 (Part 1/Section 2):	Escalator or Moving Walks. vi. Easily accessible handrails on vertical side walls on either side.	
	2020 - Guide for Planning	vii. Escalator or Moving Walks decelerates and stops in a gradual manner if exit is obstructed	
	and Selection	by people/luggage.	NBC, 2016 Vol 1,
		viii. Flange / Beading over gaps on the sides	NBC, 2016 Vol 2,
		Ix. Escalator incline not too steep	Part 8, Section 5B

IS 4591 (Part 1/Section 3): 2020 - Inspection and Testing

NBC, 2016 Vol 2, Part 8, Section 5B

- x. Emergency buttons at both ends, Clearly marked Emergency buttons
- xi. Slower/Reduced Speed Option button at entry for PwD, Elderly and children
- xii. Alternative option to go Up/Down. Directions to the nearest lift.
- **d. Time.** Slower/Reduced Speed Option button at entry for PwD, Elderly and children **Sensory.**

#### a. Tactile.

Informational Textures/Tactile/Braille buttons/markings on either side at entry and exit indicating the same.

#### b. Visual.

- i. Clear Visual and Audible Alarms
- ii. High-contrast/Large print, visual indicators/information at entry/exit of Escalator or Moving Walks

#### c. Audio.

i. Beep/Alarms at entry & exit for Direction of movement. Distinct Audio beep - Forward/Up Motion, Distinct Audio beep - End/Down.

Ιi.

- Iii. Move/step away from beeping sound at the entry of Escalator or Moving Walks.
- Iv. Move towards beeping sound at the exit of Escalator or Moving Walks.

#### Cognitive/Communication.

- **a. Simplicity.** Simple instructions, Large Print, High Contrast, accessible signage, understandable, simple language, pictograms, diagrams, visual indicator.
- c. Emergency Communication.
- i. Emergency audio announcement that is calming.
- ii. Eq: 'This Escalator is stuck temporarily, Please use the steps to climb up the exit.' OR
- iii. 'This Moving Walk is stuck temporarily. Please walk to the end and exit'.

**Digital/Web.** IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alternative text.

**Additional/Legal.** Independent operation, accessible route, regular inspection, safety code compliance.

Comply with Escalator or Moving Walks related IS Standards,

IS 4591 (Part 1/Section 1): 2020 - Safety Requirements

IS 4591 (Part 1/Section 2): 2020 - Guide for Planning and Selection

IS 4591 (Part 1/Section 3): 2020 - Inspection and Testing

NBC, 2016 Vol 2, Part 8, Section 5B

**Standards.** BIS and or NBC needs to define 'Accessible Escalator & Moving Walks Purchase Guidelines'. 'Escalator & Moving Walks' Procurement / Purchase Departments to mandatorily follow 'Accessible Escalator & Moving Walks Purchase Guidelines'.

# 19 Security Check Apparatus & Procedures

(\*Focus on Accessibility features)

#### Ministry / QCOS / Mark

- 1a. Ministry of Home Affairs (MHA)
- 1b. Ministry of Civil Aviation
- 1c. Ministry of Consumer Affairs, Food & Public Distribution
- 1d. State Police and Security Agencies
- 2a. Bureau of Indian Standards (BIS)
- 2b. Bureau of Civil Aviation Security (BCAS)
- 2c. Atomic Energy Regulatory Board (AERB)
- 3. (BIS) ISI Mark, AERB (X-Ray Scanner)

#### Standards

BIS

IS 14132:1992 Door Frame Metal Detectors (DFMD)

IS 12126:1987 Hand Held Metal Detectors (HHMD)

AERB, Radiation safety for Baggage Scan Table (X-ray)

Apparatus/Procedure	Ministry/Authority	Certification/Mark	Key Standard/Requirement	
Door Frame Metal Detector	MHA, BIS	ISI, CE, ISO 9001	IS 14132:1992, MHA QRS	
Hand Held Metal Detector	MHA, BIS	ISI, CE, ISO 9001	IS 12126:1987, MHA QRs	
Baggage Scan Table (X-ray)	MHA, AERB, BIS	AERB, CE, ISO 9001	AERB Certification, MHA QRs	
Security Personnel	MHA, State Police/BCAS	Training Certificate	MHA/BCAS Guidelines	
Pat-down Procedures	MHA, State Police/BCAS	Training Certificate	MHA/BCAS Operational Protocols	

#### Non-Negotiable Mandatory Rules for PwD

#### # 1. Door Frame Metal Detector (DFMD)

POUR Perceivable, Operable, Understandable, Robust.

**Physical Accessibility/Ergonomic:** 

**Step-free access:** Flat, unobstructed surface for mobility device users.

Minimum clear width: At least 32 inches (approx. 81 cm) to easy pass through

Height clearance: Sufficient for tall users and mobility aids (min. 200 cm recommended).

**No threshold or lip:** Entry and exit must be flush with the floor.

Visual and tactile cues: Contrasting colors/tactile markers - entry/exit for low vision users.

Audible and visual alarms: Both types of alerts for users with sensory disabilities.

#### **Operational Features:**

**Speed-independent detection:** Must function reliably regardless of user pace, including slow movement by people with disabilities.

**Medical safety:** No interference with pacemakers, cochlear implants, or other medical devices; health certificates required.

Accessible controls: Any user-facing controls should be reachable from a seated position.

### # 2. Hand Held Metal Detector (HHMD)

**Physical & Procedural Accessibility:** 

**Lightweight and ergonomic:** Easy for security staff with disabilities to handle.

**Non-contact operation:** Scan without physical contact, respect personal space and dignity. **Sensitivity adjustment:** Use for prosthetics or metal implants; avoid unnecessary alarms. **Training for staff:** Security personnel must be trained in using HHMDs with sensitivity,

prioritise PwD, especially for people with metal implants or assistive devices.

# # 3. Baggage Scan Table (X-Ray Scanner, Conveyor, Trays) Physical Accessibility:

#### World

Door Frame Metal Detectors (DFMD), CE, ISO 9001

Hand Held Metal Detectors (HHMD), CE, ISO 9001

Baggage Scan Table (X-ray), CE, ISO 9001

CE - Indicates compliance with EU safety, health, and environmental protection standards

#### India

IS 14132:1992 Door Frame Metal Detectors (DFMD)

IS 12126:1987 Hand Held Metal Detectors (HHMD)

AERB, Baggage Scan Table (X-ray)

MHA Qualitative Requirements (QRs)- Technical and operational specifications for procurement and use in government/security agencies

Security Personnel: MHA/BCAS, State Police/BCAS (for airports) - Guidelines, Operational Protocols, Pat-down procedures, Training Standards & Certification, Special,

#### **Security Protocols**

MHA: Apparatus & Procedures, Operational protocols

Ministry of Civil Aviation: Equipment Guidelines, screening procedures

State Police & Security Agencies: Implementation, Training, Procedures, Compliance for security personnel **Access & Lighting.** Accessible, clear floor space, step free pathway, No barriers / obstacles, easily step / wheel oneself, grab bar/ handrails, adequate space to access, return from X-Ray Scanner Table. Adequate Lighting.

**Space.** Min 60" diameter/T-turn space, manoeuvrable (Access, Return) easily, wheelchair accessible.

**Position & Safety.** Demarcate wheelchair position adjacent to X-Ray Scanner Table to place personal objects, laptop/tablet/mobile, jackets, shoes, belt, bags in the tray & on the table.

Time. Safe wheelchair entry/exit - ensure adequate time for necessary actions.

**Height adjustable or dual-height:** Allow for use by people standing or in wheelchairs. **Lightweight trays:** Easy to lift and manoeuvre, with handles or grips for users with limited dexterity.

#### # 4. Security Personnel Using Metal Detectors

#### **Training & Etiquette**

**Mandatory accessibility training:** All security staff must be trained in disability etiquette, non-discrimination, and reasonable accommodations.

**Respectful communication:** Staff must communicate clearly, offer assistance, and respect privacy and dignity.

**Awareness of hidden disabilities:** Sensitivity to users with non-visible disabilities (e.g., implants, anxiety disorders).

**Prompt service:** People with disabilities must not be made to wait longer than others.

#### **Standard Operating Procedures (SoP)**

**Documented accessible procedures:** Written SoPs must specify alternative screening for people unable to use standard apparatus.

**Alternative screening options:** Private screening, hand scanning, or visual inspection as needed, always with consent.

#### # 5. Pat-downs and Screening for Wheelchair Users

#### **Accessibility & Dignity**

Private screening area: Available on request for those who need or prefer privacy.

**No forced transfer:** Users must not be required to leave their wheelchair unless absolutely necessary.

**Same-gender staff:** Pat-downs should be conducted by staff of the same gender, respecting cultural and personal preferences.

**Clear explanation:** Procedures must be explained in advance and consent obtained.

# prioritised protocols for screening PwD

**Sensitivity to medical devices:** Staff must be aware of and accommodate prosthetics, implants, and assistive devices.

#### Accessibility Features by Apparatus/Procedure

Apparatus/Procedure	Physical Accessibility	Information & Alarms	Staff Training & SoP	Dignity & Sensitivity
,,	,		Julian Hamming & John	Diginty & Scholartity
Door Frame Metal Detector	Step-free, min. 32" width, no threshold, visual/tactile cues	Visual/audible alarms, health safety	-	-
Hand Held Metal Detector	Lightweight, ergonomic	-	Sensitivity to implants, etiquette	Non-contact, respectful
Baggage Scan Table	Height adjustable, step-free, light trays	Accessible signage, safety	-	-
Security Personnel	-	-	Disability etiquette, prompt service	Respectful, clear communication
Pat-downs/Wheelchair	Private area, no forced transfer	-	Same-gender, consent- based	Privacy, sensitivity to devices

#### **Legal and Standards Reference**

Ensure universal access, safety, and dignity at security checkpoints, in compliance with RPWD Act, 2016. IS 17802 Part I & Part II Compliance, screen reader support, keyboard navigation, color contrast, alt text, error handling.

#### Note:

This pertains to only the accessibility part of any security check at institutions, merchant establishments, malls, offices, Railway Stations, Airports, event venues and such like places involving a simple security check on one's person and belongings for right of entry or a more elaborate/thorough check like at an airport. Security related scrutiny like for contraband goods, banned items, arms, explosives,..through devices/sniffer dogs/any other means to be as per security protocols.

Standards. Ministry of Home Affairs (MHA), Ministry of Civil Aviation, Ministry of Consumer Affairs, Food & Public Distribution through The Bureau of Indian Standards (BIS), Bureau of Civil Aviation Security (BCAS), Atomic Energy Regulatory Board (AERB), State Police and Security Agencies and any other department needs to update the standard, i.e IS 14132:1992 Door Frame Metal Detectors (DFMD), IS 12126:1987 Hand Held Metal Detectors (HHMD), AERB, Radiation safety for Baggage Scan Table (X-ray), security operations and protocols in line with the IS 17802 Accessibility for the ICT Products and Services, Part I & Part II standards.

#### 20 | Self Service Kiosks

(\*Focus on Accessibility features)

#### Ministry / QCOS / Mark

1. Ministries - Depends on context & Sector

2a. Bureau of Indian Standards (BIS) 2b. MeitY

3a. (BIS) ISI Mark,3b. BIS-CRS (Electronic / IT Hardware)3c. CompulsoryRegistration Scheme (CRS), MeitY

#### Sectoral Guidelines:

Banking - RBI Cybersecurity - MeitY Airports - BCAS Railway Stations - MoR Food/QSR - FSSAI Radiation - AERB

#### Standards

IS 17802, Accessibility for the ICT Products and Services, Part I & Part II

#### Non-Negotiable Mandatory Rules for PwD

POUR Perceivable, Operable, Understandable, Robust.

**Physical Access.** Step-free, clear floor space (30"x48"), turn radius, tactile guidance, dual-height surfaces.

**Reach & Controls.** 15–48" reach range, one-hand operation, low force, tactile controls, alternative inputs.

**Digital Interface.** High-contrast, large/adjustable font, glare-free, text-to-speech, speech-to-text, screen reader, IS 17802 compliance.

**Audio/Visual Output.** Audio jack, adjustable volume, Braille/tactile instructions, accessible signage

**Assistance.** Hearing loops, magnifiers, staff support, regular maintenance, SOPs for assistance

**Information.** Plain language instructions, error handling, pictograms/icons, multi-format signage

**Legal Compliance.** IS 17802, Accessibility for the ICT Products and Services, Part I & Part II standards.

#### Note:

Institution | Primary Ministry/Authority Responsible

**Public Facing Government Offices.** Relevant line ministry (e.g., Ministry of Electronics & IT, Ministry of Personnel, Public Grievances & Pensions).

**Service Centres, Help Centers (e.g., Bangalore One).** State IT/Service Delivery Departments, Ministry of Electronics & IT.

**Telecom/Mobile Company Offices.** Department of Telecommunications, Ministry of Communications.

**QSR Restaurants (KFC, McDonald's, etc.).** Ministry of Consumer Affairs, FSSAI (for food safety).

**Ration Shops.** Ministry of Consumer Affairs, Food & Public Distribution.

**Financial, Banks.** Reserve Bank of India (RBI), Ministry of Finance. **Educational.** Ministry of Education, University Grants Commission (UGC). **Hospitals.** Ministry of Health & Family Welfare.

**Travel & Tourism.** Ministry of Tourism, Ministry of Civil Aviation (for airports). **Airports.** Ministry of Civil Aviation, Bureau of Civil Aviation Security (BCAS). **Railway Stations.** Ministry of Railways.

Important: For electronic and IT hardware components of kiosks, the Ministry of Electronics & Information Technology (MeitY) and the Bureau of Indian Standards (BIS) play a cross-sectoral role in setting standards and enforcing compliance.

#### **Detailed Accessibility Information**

**Accessibility Requirements for Self Service Kiosks** 

Below is a **comprehensive**, **categorised list of accessibility features required for Self Service Kiosks** in public and private institutions, compiled in line with major international and Indian accessibility laws and standards, including IS 17802 (India).

#### 1. Physical Accessibility

#### a. Step-Free Pathway & Clear Floor Space

**Step-free approach:** No steps, lips, or obstacles in the approach to the kiosk.

**Clear floor space:** Minimum 30 inches by 48 inches (approx. 760 mm  $\times$  1220 mm) for wheelchair users to approach, manoeuvre, and leave the kiosk.

**Turn space:** Sufficient space for a wheelchair to turn (at least 1500 mm diameter recommended).

#### b. Reach Ranges

**Forward reach:** Operable parts (touchscreens, buttons, card slots) between 15 inches (380 mm) and 48 inches (1220 mm) above the floor for forward approach.

**Side reach:** Controls accessible from side approach, not exceeding 48 inches (1220 mm). **Dual height options:** For service counters or kiosks with writing surfaces, provide options at both seated (750–800 mm) and standing (950–1100 mm) heights.

#### c. Knee & Toe Clearance

**Frontal approach:** Knee clearance of at least 680 mm under counters/tables for wheelchair users.

#### d. Pathway Guidance

**Tactile guiding indicators:** Tactile floor indicators to guide visually impaired users to the kiosk.

#### 2. Operable Parts & Controls

#### a. Accessible Controls

**One-hand operation:** All controls must be usable with one hand, without tight grasping, pinching, or twisting.

Low force: Operable with less than 5 pounds (22 N) of force.

Tactilely discernible controls: Buttons and keypads must be tactilely identifiable.

#### **b.** Alternative Input Methods

**Touch, physical buttons, and voice:** Multiple input options (touchscreen, physical buttons, voice commands, joysticks).

**Audio jack:** For private audio output (especially for visually impaired users).

#### 3. User Interface & Digital Accessibility

#### a. Visual Accessibility

**High-contrast display:** Text and background must have high contrast for readability.

Large, adjustable font: Allow users to increase font size.

**Glare reduction:** Screens should minimize glare.

#### b. Audio & Speech

**Text-to-speech:** On-screen text must be readable via speech output for users with visual

disabilities.

**Speech-to-text:** For users who cannot type. **Volume control:** Adjustable audio output.

#### c. Screen Reader Compatibility

**Software support:** Kiosks must be compatible with screen readers and other assistive technologies.

**Braille instructions:** Provide Braille or tactile instructions for navigation.

#### d. Clear Language & Error Handling

**Plain language:** Use simple, jargon-free instructions.

**Error messages:** Immediate, clear guidance on correcting errors.

#### e. Compliance

IS 17802 Accessibility for the ICT Products and Services, Part I & Part II standards.

#### 4. Assistive Devices & Support:

#### a. Assistive Technologies

**Hearing enhancement systems:** Induction loops or similar for users with hearing aids. **Provision for magnifiers, wheelchairs:** Readily available assistive devices at service points.

**Human support:** Staff trained to assist users with disabilities.

#### 5. Information & Signage:

**Accessible signage:** Use large print, Braille, and tactile pictograms to indicate kiosk location and functions.

**Icons/pictograms:** Universally recognised symbols for available facilities.

#### 6. Maintenance, Training, and SOPs:

**Regular maintenance:** Ensure all accessibility features are functional and well maintained. **Staff training:** Personnel must be trained in disability etiquette, operation of assistive features, and providing respectful assistance.

**SOPs:** Documented procedures for supporting users with disabilities, including alternatives if the kiosk is not usable.

#### 7. Legal and Standards Compliance:

**POUR:** Perceivable, Operable, Understandable, Robust interfaces Step-free access, reach ranges, tactile controls, speech output, clear floor space Reasonable adjustments, accessible information, non-discriminatory procedures Equal access, dignity, prompt service for persons with disabilities.

IS 17802. Accessibility for the ICT Products and Services, Part I & Part II standards.

**Category.** Feature/Requirement

**Physical Access.** Step-free, clear floor space (30"x48"), turn radius, tactile guidance, dual-height surfaces

**Reach & Controls.** 15–48" reach range, one-hand operation, low force, tactile controls, alternative inputs

**Digital Interface.** High-contrast, large/adjustable font, glare-free, text-to-speech, speech-to-text, screen reader, IS 17802 compliant.

**Audio/Visual Output.** Audio jack, adjustable volume, Braille/tactile instructions, accessible signage

**Assistance.** Hearing loops, magnifiers, staff support, regular maintenance, SOPs for assistance

**Information.** Plain language instructions, error handling, pictograms/icons, multi-format signage

**Legal Compliance.** IS 17802 Accessibility for the ICT Products and Services, Part I & Part II standards.

These requirements ensure that self-service kiosks across all sectors in India are accessible, inclusive, and usable by all, regardless of ability or disability.

## **Enhanced Implementation and Enforcement Framework**

### **Legal and Regulatory Backing**

Explicit reference to Section 40 of the RPwD Act, 2016 Harmonisation with BIS standards and alignment with international frameworks such as the UN CRPD.

### **Monitoring and Oversight**

**Ministry of Social Justice and Empowerment:** Central authority responsible for overall monitoring and enforcement.

Bureau of Indian Standards (BIS): Develops and enforces technical standards for accessibility.

Chief and State Disability Commissioners: Monitor local implementation and report non-compliance.

Consumer Protection Authorities: Address complaints related to inaccessible products under the Consumer Protection Act.

**National Disability Authority:** Conducts periodic accessibility audits and manages a centralised grievance redressal system.

### **Quality Control and Assurance**

### 1. Mandatory Testing and Inspection:

Establish a process for pre-production, in-production, and post-production quality checks. Accredited testing agencies will ensure that products comply with the specified accessibility standards.

### 2. Certification of Compliance:

Require periodic certification renewal to maintain market approval.

Certifications must be issued by BIS or other authorised bodies.

### 3. Random Sampling and Market Surveillance:

Conduct random sampling of products available in the market to ensure ongoing compliance.

Develop penalties for discrepancies discovered during quality control checks.

### 4. Accreditation of Testing Bodies:

Ensure that testing agencies are accredited to national or international standards like ISO/IEC 17025 (Competence of Testing and Calibration Labs).

### **5. Complaint Mechanism for Quality Issues:**

Establish a public grievance mechanism for reporting quality or accessibility concerns about products.

Prompt investigation and corrective actions must be mandated.

### 6. Quality Audits by Manufacturers:

Manufacturers must conduct internal audits of their production processes to verify compliance with accessibility standards.

### **Stakeholder Involvement**

Mandate consultation with organizations representing persons with disabilities (OPDs) during product design and testing phases.

Organize public awareness campaigns to educate consumers and manufacturers about accessibility norms.

### **Compliance Mechanisms**

Require companies to publish annual accessibility compliance reports.

Impose graded penalties for non-compliance, including fines, product recalls, and public disclosure.

### **Incentives for Compliance**

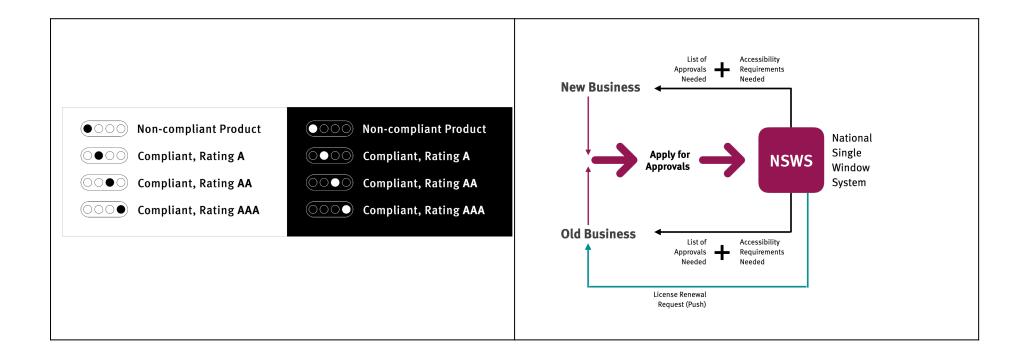
Provide tax benefits and recognition programs for manufacturers who achieve early or exceptional compliance. Facilitate export readiness by harmonising products with international accessibility standards.

### 3 Ideas to Hasten Adoption of Accessibility

1. Capturing the needs of PwD. There is a need to conduct some research to really understand the needs of PwD. From the list of 21 disabilities, 6 'Personas' could be created with multiple disabilities. Mapping out 'Day In

The Life of' each of these different 'Personas' will help effectively capture the requirements, friction areas in products, environments and services. These needs could be categorised as Physical (Product), Physical (Infrastructure /System), Physical + Digital and Digital.

2. A Visual Indicator of Accessibility Compliance. Accessibility certification as a distinguishing market leadership / positioning. A set of 4 sequential dots could indicate compliance with accessibility standards / certification. The path from a conventional product to an outstanding example of a Universally Accessible product. This could work across products - Physical, Physical + Digital and Digital, across all 6 groups. The indicator can be tactile, either black or white on a Physical, Physical + Digital and Digital product. It can be visual only on pure digital content / websites. See Image 1: Visual Indicator of Accessibility Compliance.



**3.** Accessibility Compliance Acceleration through Ai: it will no doubt take a lot of time to formulate the communication, explain the concept of Universal Accessibility, products/environments or services that a larger number of people could use. There is the need to educate manufacturers / importers on how to go about designing or creating accessible products and provide them with information on what permissions or certifications are needed for Accessibility.

This is where the National Single Window System or NSWS (<a href="https://www.nsws.gov.in/">https://www.nsws.gov.in/</a>) comes in handy. Currently, new businesses, according to their requirements, apply for approvals through the NSWS and through the 'Know Your Approvals' (KYA) get information on what approvals are needed from which government departments. We could piggyback on this system, ask businesses, new and old to use this system for approvals / renewal of certifications. Once they apply, along with the list of approvals needed, we could provide businesses in each domain with Accessibility related information - the requirements, Level A to Level AAA, best practices in product development, examples of great accessible products from the world over. Links to information, contacts of firms, consultants that can help them achieve accessibility for their particular products. In effect, this would be a customisation for Accessibility compliance. See **Image 2:** NSWS workflow.

### **Conclusion**

By integrating legal, regulatory, and technical elements, it ensures a balance between inclusivity, practicality, and global competitiveness.

### Note:

Updated & Edited by Arun Koormamtharayil, 09:45 am, 09th July, 2025