

A close-up photograph of a young woman with light brown hair and blue eyes, looking slightly to the left. A semi-transparent blue rectangular overlay is positioned on the right side of her face, containing the title text. The background is a soft, out-of-focus blue.

# AUTISM AND INCLUSIVE EDUCATION

# CHALLENGES OF AUTISM IN EDUCATION

Inclusion of children with ASD (Autism Spectrum Disorder) at school is a major challenge today.

Although there is much disparity throughout Europe, on average the number of children with special educational needs significantly drops with each academic level.

Academic establishments must therefore address these issues, especially in secondary and further education.

Given the challenges and how the built environment affects them, we wanted to get a better understanding of autism, how the environment impacts the way autism is manifested and how we can all help design more inclusive environments.



Autism prevalence  
has increased  
**24%**  
since 2000

Source: WHO- Global prevalence of autism:  
A systematic review update. Zeidan J et al.  
Autism Research 2022 March.

## WHAT IS NEEDED TO CREATE INCLUSIVE SCHOOLS FOR ASD CHILDREN?



Teachers trained to cater  
for their specific learning  
needs



Inclusive spaces adapted  
to children with sensory  
sensitivity



## BETTER UNDERSTANDING THE DIFFICULTIES OF AUTISM

**Autism is a neurodevelopmental disorder** characterised by **difficulties in communication and social interaction** combined with **repetitive behaviours** and **restrictive interests** and activities.

Most people with autism present sensory processing deficits, often combined with **hypersensitivity issues** when confronted with an **unsuitable environment**.

## AUTISM – COMMON SENSORY CHARACTERISTICS



**Auditory**  
hypersensitivity



**Visual**  
hypersensitivity



**Tactile**  
hypersensitivity

Difficulty adjusting to,  
filtering and ordering stimuli



**Sensory overload**



**Behavioural disorders**

## THESE LEAD TO A NEED TO ADJUST THE ENVIRONMENT

A NEED TO  
**REDUCE NOISE  
DISTRACTION**



A NEED TO  
**REDUCE VISUAL  
DISTRACTION**



A NEED FOR  
**ROUTINES  
AND RITUALS**



A NEED FOR  
**A COMFORT  
ZONE**



# HOW TO USE FLOORS, DESIGNS AND COLOURS FOR AN AUTISM-FRIENDLY ENVIRONMENT



01

## Sequencing spaces to make them logical and predictable



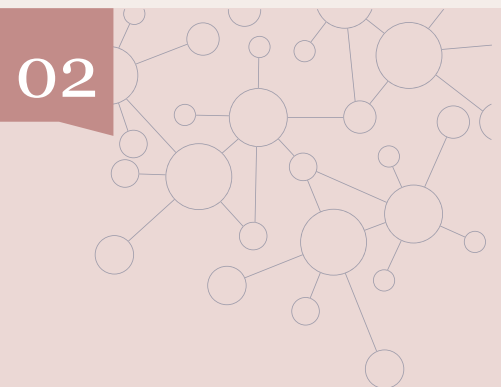
1 space = 1 unique and clearly-identified function



Coherent, simple and highly functional signage



General overview of the space



02

## Reducing sensory stimuli



Reducing noise distraction



Reducing sources of glare



Reducing visual distraction



03

## Enabling students to recalibrate their senses



Designing transition zones to be as smooth as possible.



Providing respite spaces.

- ✓ **Floor zoning** using different surfaces or colours. Use multiple colours and strong contrasts with caution.
- ✓ **Colour codes** on the walls and floors, ensuring to keep colours to a minimum.
- ✓ Use **signage** on floors.
- ✓ Smooth transitions by **avoiding settings that use too many different or contrasting colours** and materials from one space to the next.

- ✓ Soft flooring such as vinyl and lino **reduce impact noises** more than tiled or resin flooring.
- ✓ Select **acoustic** options for floorings, or **absorbent materials like carpet**.
- ✓ To reduce sources of glare, choose floors with **LRV from 20 to 60%**.
- ✓ Choose floorings with **plain or semi-plain patterns** and avoid busy patterns, geometric shapes and high-contrast designs.
- ✓ Opt for **natural soothing tones** that don't detract attention. Floorings with bright and saturated colours should be used with caution.

- ✓ Smooth transitions by using **low stimulation** designs, acoustic reduction, zoning and signage.
- ✓ Use floors with **no visual stimulations**, good soundproofing, warm and soft effects, and **reassuring and enveloping colours**.



# COULD INCLUSIVE DESIGN FOR AUTISM BE GOOD FOR EVERYONE?

Think about it....

*Who enjoys working under flickering and crackling fluorescent lights?*

*How would you feel if you were lost on a campus or in the maze of corridors at high school?*

*What does it feel like to be blinded by the sun or trying to focus on a speaker when you're distracted by glaring lights?*

Adapting the environment to make it more inclusive for people with ASD also means removing or reducing these disturbances for everyone. This makes it a more pleasant environment for us all.



**This document is an extract of a Tarkett study based on :**

- Analysis of countless reports and scientific studies about inclusion and autism, particularly the inclusion of autistic students
- Consultation and interviews with 11 experts or people affected by autism
- Observations in the field

To read the full study, please contact your local representative.

**Human-Conscious Design™**

Tarkett Human-Conscious Design™ is our pledge to stand with present and future generations.

To create flooring and sports surfaces that are good for people and the planet. And to do it every day.

We deliver on this through the synergy of three commitments:

1. Deep human understanding
2. Conscious choices. For people and the planet
3. With you. Every step of the way