Toilet design for visually impaired elderly persons

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Visual impairment

- Macula degeneration
- Glaucoma
- Cataract
- Diabetes
- ………………
Normal Vision
Macula degeneration
Cataract
Diabetes
Orientation

1. Know where you are
2. Find the way to the goal
3. Understand when you have reached the goal
Requirement for orientation

- General view of the environment
- Landmarks (beacons) in the environment
- No confusing parts in the environment
- Reduced the number of risks
Statement (1)

Many visually impaired have difficulties to observe the differences on

colours

OR

some colours
Statement (2)

• No recommendations of colour or colour combinations.

• The most important things are the combination between black and white in the environment
How to facilitate the orientation

• Using contrasting colours
• Most important for visually impaired is using lightness contrast
• Using a “sufficiently” level of illumination
Two simple and important tools

- NCS scale
- Luxmeter
NCS scale

Using the differences in the grey scale
NCS scale
Using NCS scale

1. Put the lightness meter on the test surface you wish to measure
2. Determine which of the lightness meters grey samples corresponds best with the test surface. Peer with your eyes.
3. Read the \( v \) factor
4. Repeat 1, 2 and 3 for the other test surface
5. A difference in 0.40 or more is acceptable for visually impaired
Luxmeter

• Measuring the illuminance in Lux

• Recommended level 300 lux in rest rooms for the elderly
Luxmeter
The way to the rest room

• Orientation assistance in the floor
• Remark the red doors in the end of the corridor
“Developing Friendly Rest Rooms for the elderly and the disabled people”
FRR Final Conference Vienna, 17\textsuperscript{th} March 2005
Stairs

“Developing Friendly Rest Rooms for the elderly and the disabled people”
FRR Final Conference Vienna, 17th March 2005
Recommendations (1)

- Choose material with high lightness on walls with windows and the window frame to decrease the risk for dazzling from the windows.

- No big mirrors but ..........
Recommendations (2)

• Use different lightness contrast on
  
  * door - door handle
  
  * wall – door frame
Recommendations (3)

- Darker floor than walls
- Floor/wall and wall/ceiling “can” be delimited by a strip in a divergent lightness
“Developing Friendly Rest Rooms for the elderly and the disabled people”
FRR Final Conference Vienna, 17th March 2005
Recommendations (4)

• Indirect light

• Frosted glass on the globe/lamp chimney

• Individual level of the illumination
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Positions in the rest room were a high level of illuminance are recommended

• Entrance
• Toilet
• Sink

For both sitting and standing people
A last recommendation

At least 2 lamps
Why?
If one is not working!!!!
Advice: 2 different circuits!!!!
Thank you!!!!!!