

KOMPAN PLAY INSTITUTE



PLAY FOR ALL

UNIVERSAL DESIGN FOR
INCLUSIVE PLAYGROUNDS

Content

Universal Design for Inclusive Playgrounds

INTRODUCTION

3

Equality in Play

4

Timeline of Inclusive Playgrounds

5

Universal and Usable Playgrounds

6-7

KOMPAN's Universal Playground Design Points

CASES OF UNIVERSAL PLAYGROUNDS

8-9

Case study: Play with purpose – Ballard Park, Ridgefield, USA

10-11

Case study: Signalling Play for all – Mungret, Limerick, Ireland

12-13

Case study: A great universal play design – Cologne, Germany

EXAMPLES OF UNIVERSAL PLAY DESIGNS

14

KOMPAN's Universal Play Equipment Design Points

16-17

Spinners and carousels

18-19

Springers and Seesaws

20-21

Bouncers and swayers

22-23

Swings

24-25

Sand and water play

26-27

Play panels & planters

28-31

Themed equipment, houses and structures

32-33

Robinia play pieces

34-37

Combination systems for 1 to 6-year-olds

38-39

Combination systems for 6 to 15-year-olds

40-41

Combinations with ramps

RESEARCH

42-43

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Universal design and the United Nations Declaration on the Rights of Persons with Disabilities

Most nations have signed the *United Nations Declaration on the Rights of Persons with Disabilities* (2006). The declaration recommends a universal design methodology as the most efficient way of ensuring equality of access to and use of public services and facilities. Universal design is design that welcomes all users, regardless of their disabilities and abilities, in one solution. Universal design implies an inclusive approach to public planning: that everyone should be able to access and use public services and facilities. Basically, no person is disabled, but the environment may be disabling in its design.



Equality in Play

“The underestimation of the abilities of people with disabilities is a major obstacle to their inclusion and to the provision of equal opportunities”

The State of the World's Children, 2013, Children with Disabilities, UNICEF 2013

“It needs to be thrilling. And these children want to be with their friends.”

These words of one of the specialist care givers the KOMPAN Play Institute interviewed during playground tests describes play motivation precisely. The description holds true for children with and without disabilities

Equality in public play

Equal possibilities for outdoor play is a main obligation for our communities. This implies equal access to playgrounds for all citizens, including children or parents with disabilities. However, many struggle with the guidelines and directions for planning for inclusion, especially in the area of leisure activities such as playgrounds. Some even struggle with a lack of guidelines.

Providing access is the least of the challenges. Motivating and including all users by offering relevant, usable solutions is the real challenge: very specialised play designs may stigmatise rather than being inclusive. Highly accessible spaces are sometimes totally unthrilling: they are accessible, but boring.

Striking the right balance and helping to create truly inclusive spaces for all to use is the aim with this publication.

Why plan universal playgrounds?

Everyone benefits from playing together – across ages, genders, nationalities and abilities. Studies show that children with disabilities who play with typically developing children grow and develop their understanding of their own abilities and strengths and gain a positive self-image. For typically developing children, direct contact with peers with disabilities has a positive effect on their empathy and tolerance. Additionally, play solutions for all make it possible for all children to interact. This decreases loneliness and fear of contact.

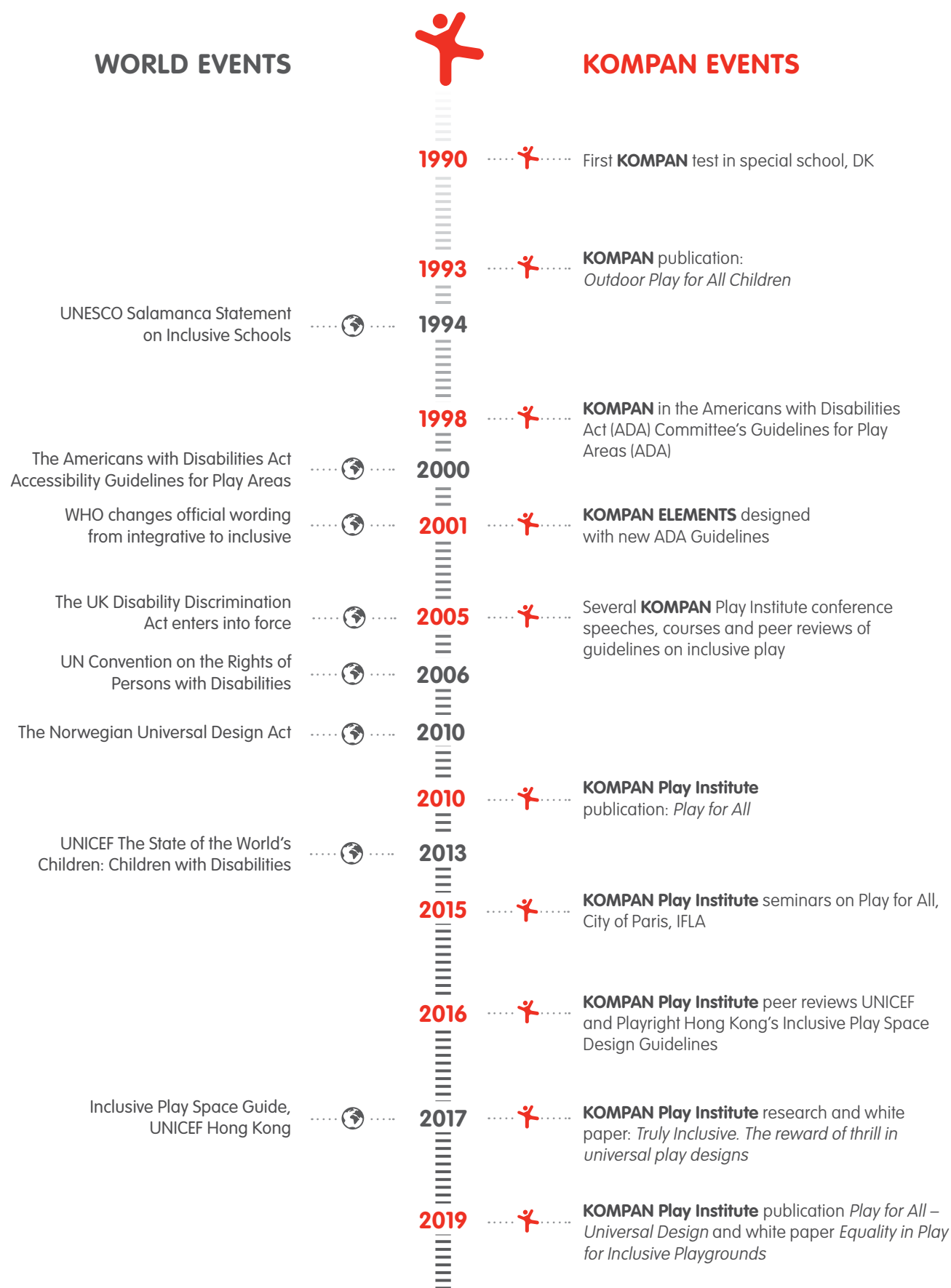
It's in KOMPAN's DNA to make universal design

KOMPAN has more than 40 years of experience from designing play solutions for all, including children with disabilities. Over the past five years, the KOMPAN Play Institute

has intensified its observational studies and revisited the core insights of universal play, and in this publication we have collected these observations to share insights and new research on accessible, inclusive and universal play equipment and playgrounds, while also presenting a number of recommendations for planning. Focus on usability, thrill and play relevance makes the playgrounds great.

Enjoy!

Timeline of Inclusive Playgrounds



Universal and Usable Playgrounds

Universal Design that Unites in Play

In our time, people with disabilities are accepted as equally important in society. The intention of the United Nations Declaration on the Rights of Persons with Disabilities from 2006 is, among other things, to make public services and facilities equally usable for all citizens, including citizens with disabilities. This often gives rise to questions: does inclusion require highly specialised equipment? What if such equipment constitutes a safety risk outside of supervised areas? How do we include users with learning disabilities?

KOMPAN has engaged in testing and development activities with children with disabilities ever since the early 1990s. The first KOMPAN universal design tests were carried out in cooperation with a school for children with disabilities in the early 1990s. The findings were clear: all children are different, but children with disabilities share the primary desire to play of all children. The observations paved the way for the first publication on play equipment for children with disabilities, the 1993 *Outdoor play for all children*. The publication is still fundamental to the KOMPAN design philosophy.

"All children can do more than we think"

Outdoor Play for All Children, KOMPAN 1993

Children with disabilities, just like all other children, love the thrill of physical play and the joy of playing with others. Playground planners need to positively plan with this in mind and avoid underestimating the abilities of children with disabilities. The underestimation of children with disabilities is a major obstacle to their inclusion. Ever since the UNESCO Salamanca statement on inclusive schools (1996), the word 'inclusive' has replaced the word 'integrative' in the way societies plan for people with and without disabilities. (See illustration in top right corner).

Accessible and inclusive

An inclusive playground is an accessible playground. The design focuses on people's abilities and caters for a wide scope of ability levels. An inclusive playground is accessible. This implies that all users, regardless of any disabilities, can get to and use, to the widest extent possible, the play facilities, together. Making accessible, inclusive playgrounds requires as a minimum that paths around

and in the playground can be used by all, including e.g. wheelchair users. The paths must lead up to and around the playground equipment. Edges of functionality should be signalled, e.g. using colour and/or material contrasts. This is especially helpful for users with learning or cognitive disabilities.

Usable and thrilling

For the playground to be inclusive, too, it must offer fun, meaningful play experiences for all. The mission of inclusive play is to unite everyone and all abilities in play. The playground needs to offer different thrill levels, for wild as well as more timid players. In a truly inclusive playground, everybody cannot always enjoy all play experiences. But everyone can enjoy some meaningful play experiences, within the scope of thrilling and social play.

KOMPAN Play Institute research

concludes that the main attractions in playgrounds are thrilling activities and social interaction. This goes for children of all abilities. During the last five years, the KOMPAN Play Institute has conducted several observations of school and preschool playgrounds for children with disabilities as well as interviews with teachers from schools for students with disabilities, all of which have confirmed this.

Universal design

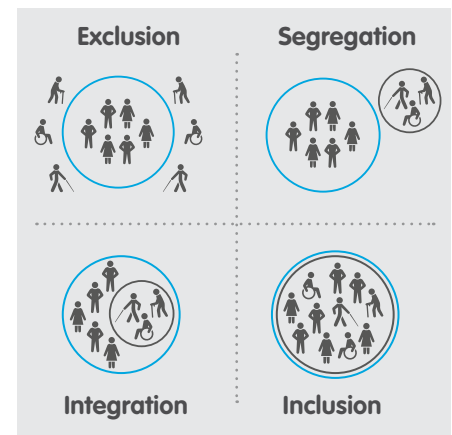
Inclusion and universal design are about what people of all abilities can contribute, instead of what they cannot do. People of all abilities should have the possibility not only of accessing, but also of being included in public playgrounds. The best way of achieving this is by working with universal design principles.

The universal design principles were developed in the 1990s by groups of practitioners. The principles have become widely acknowledged as a way of working with facilities that everybody can use, to the widest possible extent.

1. Equitable use
2. Flexibility in use
3. Simple and intuitive to use
4. Perceptible information
5. Tolerance for error
6. Low physical effort
7. Size and space for approach and use

*Seven Principles of Universal Design
(Ron Mace et al, 1997)*

Accessible, inclusive and universal playground design



In a playground context, principle 6, low physical effort, is less relevant when it comes to the actual play equipment. A high thrill level often involves physical effort and is one of the very motivations of great play equipment. However, some users may end up exhausted if getting to the play activity is physically tiring. Limiting the distances to the fun part of the physical effort is a good playground design principle.





KOMPAN's Universal Playground Design Points

Once play areas are accessible, the important next step is to make them relevant. Play relevance covers everything from the immediate fascination with or wow of a new design, to retention and time children want to stay, and, not least, the developmental benefits of playing in the play area

Accessibility, inclusion, universal design and usability

An accessible, inclusive and universal playground design should take into consideration the widest possible range of users: children with and without disabilities, parents and care givers with and without disabilities. Showing consideration for all users also means taking account of physical, cognitive and sensory abilities and disabilities.

Accessibility

Accessibility is a minimum requirement. This means access for wheelchairs and walkers, firm safety surfacing around and firm pathways to play activities.

Inclusion and universal design

To cater for a range of users requires a playground infrastructure offering multiple ways

of access, e.g. hills with a gradient that is not too steep as well as stairs or nets as entrances.

Functional division

Boundaries between activities and transition areas can be highlighted using different colours or materials as an alternative to kerbs or fences. Wild and quiet activity areas should be separated and clearly marked. Last but not least, the location of the play area has a big impact on user numbers: there should preferably be parking, public transport options and lavatories nearby.

Usability

The play equipment should be usable: Usability means that the widest possible number of children and adults with and without disabilities can use the play equipment

themselves. They may not be able to enter themselves, but once installed in the equipment, they can use it themselves to derive cognitive input from play events.



Universal Playground Design Points

1. ACCESSIBLE, INCLUSIVE ROUTING AND INFRASTRUCTURE

- Accessible surfacing to and around activities
- Clear design signals, possibly signage
- Provide alternative accesses and exits to the play area and the play equipment: Make boundaries, fencing and hedges that allow for visual and physical access. Avoid kerbs, narrow entrances, high door knobs

4. SUPPORT THRILLING AND CHALLENGING PLAY

- Offer activities that 'thrill and tickle the stomach': spinning, swinging, swaying, bouncing, gliding, sliding
- Offer graded play challenges – activities that are easy and/or harder to master
- Offer variations of thrill: physical, social, cognitive as well as sensory: stimulate the senses of touch, hearing and smell

2. ACCESS TO RELEVANT GROUND-LEVEL ACTIVITIES

- Accessible surfacing around play activities, e.g. spinners, swings, sand play items etc.
- Scan for varied access possibilities into/onto play activity
- Scan for support of varied body positions in/on play activity

5. SUPPORT SOCIAL INTERACTION

- Offer activities that can be undertaken together with others
- Offer 'two-of-each' parallel play options for training social skills
- Work with transparency in playground and play equipment designs to support visual contact in play and possibility of interaction between levels and distances

3. ACCESS TO RELEVANT ELEVATED-LEVEL ACTIVITIES

- Consider access and egress motivation and possibility of elevated-level activities
- Consider the thrill levels achieved on elevated level
- Consider the social benefits of elevated level

6. VARIATION IN PLAY ACTIVITIES

- Provide wild as well as quiet activities
- Provide physical, social and cognitive-creative activities
- Provide room for breaks, seating and for retraction from play



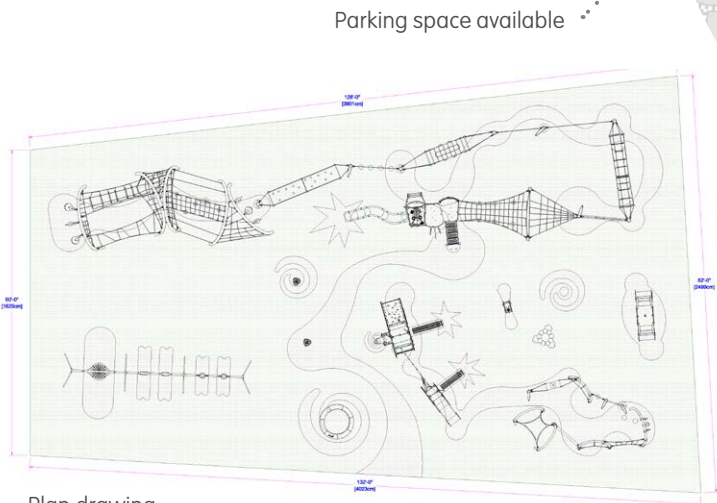
^The whole family can feel included in play'

The Imagination Station Ballard Park, Ridgely, USA

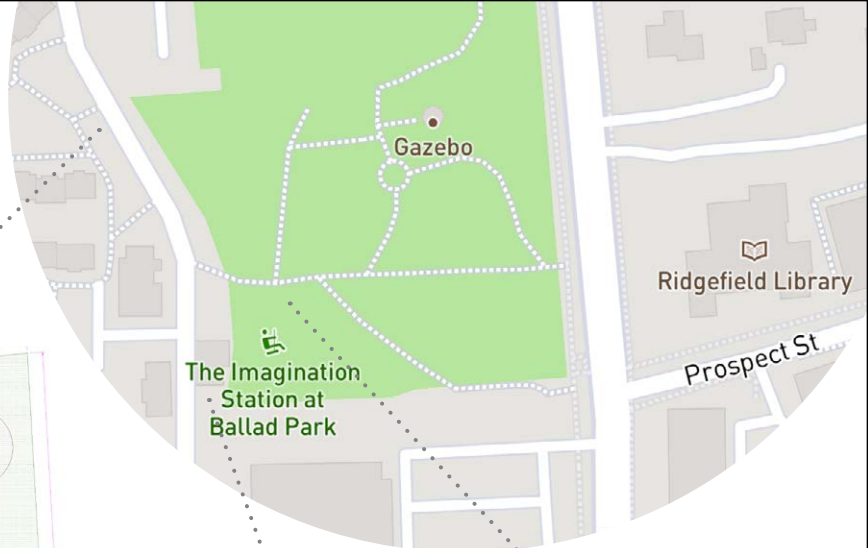
PLAY WITH PURPOSE

- The section of the playground for younger children features responsive and varied ground-level activities
- The older children are offered vast and varied opportunities for climbing, spinning, rocking and swaying
- The whole family can feel included in play
- The Supernova accommodates a wide variety of user ages and abilities

LOCATION INFRASTRUCTURE



Plan drawing



Alternative Highschool

The Imagination Station Playground

From the choice of the location and down to the tiniest detail in the selection of equipment and the layout of surfacing, the Imagination Playground is inclusive and built on universal design principles.

The playground offers a wide variety of ground-level play activities as well as options for interesting elevated-level play.

The overall transparency of activities facilitates communication and interaction between children and adults at elevated and ground level, encouraging more cautious children to play as well as making it easier for parents to communicate with children above ground level.

Inclusive playgrounds are occasionally thought to be a success only when they feature ramps or special equipment for wheelchair users. However, the Ridgefield planning group, after some consideration of the public's response, decided to arrange all the main activities at ground level, eliminating the need for ramps or specialised solutions.

There are functional as well as aesthetic and monetary reasons for taking this approach. The play experiences of quite a number of wheelchair users are not enriched by ramps since any thrilling egress activities can only be accessed by leaving the wheelchair.

Those who cannot leave their wheelchair do not get to enjoy additional play activities with their friends from having a ramp. Those who can leave their wheelchair to use the egress activities generally face the challenge of having to get back to the chair, because it needs to be left at the elevated level. So, ramps are not always the most play-efficient or inclusive way of using the playground space.

Starting with fun and interesting ground-level play activities, accessibility and inclusivity are top of mind from the outset. Physically thrilling play and social interaction are the two most sought-after success criteria, according to the KOMPAN Play Institute's research

on children with disabilities and their care givers. That goes for typically developing children, too. When designs centre around varied, physically responsive play activities with room for more children, the success criteria of thrilling physical and social play are widely met. The Ballard Park playground features spinning equipment, seesaws, swings and springers to accommodate this. But it not least features a wide range of specially designed climbing structures based at ground level and featuring slanting, swaying ropes, nets and hammocks.

The overall plan of the playground is supported by patterns in the surfacing, with a red 'stream' leading children from one activity to the next within the zone of play intended primarily for their age group. Red surfacing patterns are also used under the equipment. Under the spinning equipment, a spiral signals the rotating movement, making it easier for children to foresee the action.

The design concept involved consultation between the Ballard Park playground committee and a number of physiotherapists and parents of physically disabled children as well as parents of children with Autism Spectrum Disorders.

The committee received overwhelmingly positive feedback on the all-inclusive nature of the play structures. The rope structures were perceived as a cost-effective solution for families, enabling them to supplement therapy sessions for their children in a playful and social atmosphere.

In the words of the Imagination Station Committee: "Our motto for this play space is 'Play with Purpose'. No matter what your ability levels are, or what your play preferences are, you will find play equipment at the Imagination Station that will challenge your thinking and challenge your physical and emotional abilities.(...) We are proud to call it our own."



▲ "The older children are offered vast and varied opportunities for climbing, spinning, rocking and swaying"



Mungret Autism-friendly Playground, Limerick, Ireland

SIGNALLING PLAY FOR ALL

- Signage assists children with autism
- Quiet retraction areas are provided
- Plenty of balance-stimulating ground-level activities, including a wheelchair-accessible carousel
- Varied bridges and sloping surfacing provide variation in levels for all

LOCATION INFRASTRUCTURE



Plan drawing



Parking space
available

Mungret Playground

When cities plan for universal design and inclusion, mobility impairments are often the centre of attention. However, planners are increasingly considering the usability of playgrounds for people with cognitive and social-emotional disabilities also, as the number of children diagnosed is growing. In the USA, the Center for Disease Control and Prevention estimates the prevalence of autism to 1 in 88 children.

In Mungret, Ireland, Liam Mulcahy, founder of Sophie's Journey Foundation and the father of a girl with disabilities, has initiated an amazing autism-friendly playground. With guidance from Autism Ireland, the city council of Limerick and KOMPAN Ireland, a playground design that welcomes users of all abilities, and particularly children with Autism Spectrum Disorder, has been realised.

The playground has ample parking as well as lavatory facilities. The infrastructure of the playground includes surfacing with clear routing guidance. Families can enter from the parking areas either straight into the toddler area or into wilder activities in the section for older children, or they can enter from the park. The playground is fenced to create a sense of security for families and children, who feel confident knowing the boundaries of the activity areas.

The surfacing signals are consistent, having

circular signs around spinning activities, and the boundaries of all activities are highlighted with a contrasting colour in the surfacing, to let children know when they are entering a play activity area. Some of the area is undulating with small hills, adding to fun balance and spatial stimulation when children play. These motor skills are important for all children, but in particular for children with autism. Additionally, children who use wheelchairs like to have challenges going up or down slopes, adding thrill and challenge. There is a variety of ground-level activities, including different ways of spinning. These are pooled into activities that enable social interaction without direct physical contact, e.g. multi-seesaws with big platforms, and groups of spinners or springers that face each other. A variety of swinging options are pooled together, including a wheelchair-friendly swing. The various sections of the playground are connected by bridges, again designed for varied levels of difficulty and wheelchair usability.

The playground layout and activities are designed to accommodate children with autism. But through considering users with a range of disabilities, the result is better for everyone. In Mungret they now have a truly fun, truly inclusive state-of-the-art playground for all.

Play considerations for children with autism

Children with autism respond differently to sensory input than typically developing children. There are, generally speaking, two reactions to sensory input.

With under-sensitive users,

"encourage activities that help develop the vestibular system. This can include using rocking horses, swings, roundabouts, seesaws, catching a ball or walking smoothly up steps or kerbs". As for body awareness, under-sensitive users tend to have difficulties with boundaries. This can be helped by highlighting the boundaries, or by clearly marking where activities start and stop, e.g. through the consistent use of safety surfacing colours to help children navigate.

With over-sensitive users,

avoid activities that are hard to stop. Likewise you should choose activities where the head is upright and the feet on the ground. As for body awareness, you can help by encouraging fine motor activities, such as manipulating small objects, e.g. lacing boards.

* National Autistic Society in the United Kingdom,
www.autism.org.uk



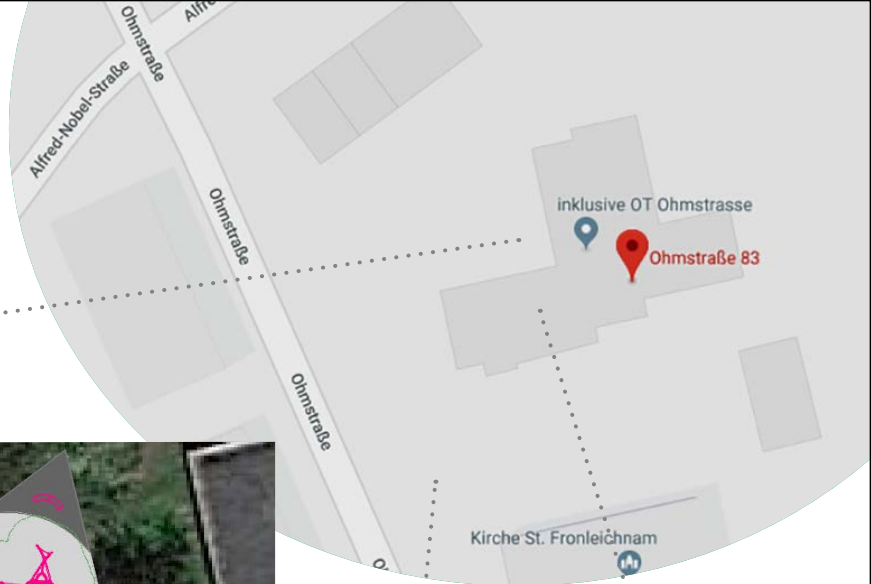
‘Piece of Good Fortune’ playground, Cologne, Germany

A GREAT UNIVERSAL PLAY DESIGN

- Location close to housing
- Amenities such as a café and lavatories
- Richly varied ground-level activities
- Transparent layout to facilitate orientation
- Ample space for relaxation and breaks



LOCATION INFRASTRUCTURE



Parking space
available

Inklusive Offene Tür
Ohmstraße 83
Köln Porz

Plan drawing

"Inclusion means that every person belongs. In an inclusive playground, all children – with and without disabilities – are welcome. All children can have fun and get to know one another through play. Everyone benefits from that: when inclusion is lived out from early on, our children will grow up without barriers in their mindsets."

Aktion Mensch (meaning human action), is Europe's biggest fundraiser for people with disabilities. One of its important missions is to make Germany more inclusive, especially in the playground area. The organisation found that there was a lack of inclusive and accessible play areas.

This started a fundraising initiative in cooperation with Procter & Gamble (P&G), the REWE chain of grocery stores and Aktion Mensch, 'Stück zum Glück', (meaning piece of good fortune). Over a period of three years, 40 inclusive playground projects are planned across Germany. The first playground opened in June 2018 in Cologne.

The 'Piece of Good Fortune' playground in Cologne focuses on what older children can do, not what they cannot do. Taking this as the starting point of your planning means identifying common traits of play. All activities have the potential of both tickling the stomach and offering opportunities for social interaction. Play activities are based at ground

level or accessible from ground level, thus enabling for the inclusion of older children with physical disabilities. There is a choice of dynamic activities, such as bouncing, swaying, spinning and rocking activities, as well as stable activities. All the activities facilitate thrilling play and social interaction. The transparency of the play-

ground makes it easy to get an overview of the playground, navigate around it and, not least, communicate with friends. Not everyone may be able to do everything, but everyone can do something. And most definitely, the playground succeeds in motivating everyone to play – together.



▲ "And most definitely, the playground succeeds in motivating everyone to play – together."



Universal Play Equipment Design Points

1. GROUND-LEVEL USABILITY

- Activity offered at ground level or from ground-level access point

2. RESPONSIVE OR THRILLING

- Physical: responsive and/or stomach-tickling, e.g. spinning, sliding, swaying, bouncing
- Social-emotional: motivates and facilitates social thrill or interaction
- Cognitive-creative: manipulative elements, sound, tactile or visual variety, explorative play items. One of these points, as a minimum, should apply to the play equipment

3. PLAY FROM ALL SIDES: 360-DEGREE DESIGN

- No rear sides: equipment can be entered from more sides
- More than one entrance and exit

4. TWO-SIDED PLAY ACTIVITIES ON PLAY PANELS

- Panels offer activities that can be used both from the inside and the outside, to engage children on both sides. This enhances and motivates social interaction

5. TRANSPARENCY IN DESIGN

- Clear colour and design signals. This supports orientation for a range of users.
- Transparent to the widest possible extent. This facilitates communication through, in and around equipment

6. MULTIFUNCTIONAL WHENEVER POSSIBLE

- Offers use with varied body positions
- Is equipped with several challenge levels
- Offers different play options at activities, e.g. a play panel next to a slide entrance. This enables different kinds of play contributions: everybody can engage in something





Spinners and carousels

Spinning and rotating train the sense of balance and spatial awareness. These crucial motor skills help children, for instance, to sit still on a chair. The training of the sense of balance is particularly important for children with autism, vision impairments or a range of physical disabilities. The following spinning items are examples of good universal designs. These spinning items can all be accessed and used from ground level.



Physical



Social



Cognitive

TIPI CAROUSEL

ELE400065

TOP FRAME

adds good support for standing, rising, holding tight, back support

SPACIOUS PLATFORM

with sides allows for various body positions, seated, lying, standing and for multiple users



SIDE SUPPORTS

ensures good grip for pushing, pulling or holding tight

SHALLOW LOW ENTRY

supports easy on-and-off for children with physical impairments

SPINNER BOWL

ELE400024

MULTIFUNCTIONALITY

- Can be turned by own body movements or with help from friends or care givers pushing
- Can be pushed also from a wheelchair position

THE SUPPORTIVE SIDES WHEN SEATED

supports a wide spectre of mobility impairments due to the high supportive sides

THE OPEN DESIGN

allows for assistants



SUPERNOVA

GXY916012

THE LOW AND HIGH END BELOW 60 CM

allows users of all abilities to access and use

THE OPEN DESIGN MEANS MULTIFUNCTIONALITY

- Children can play pushing or being pushed, lying, seated, standing, alone, together, and different ages and abilities
- Assistance and supervision are easy, from both sides
- Easy to get on and off

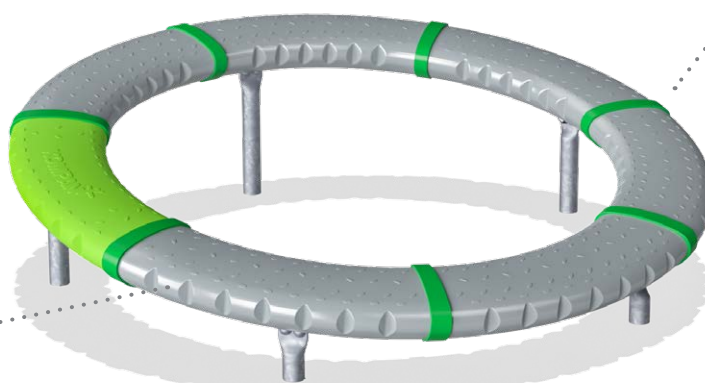
THE DIVISION INTO RING SECTIONS

designates personal space for users who need that

THE ROUND SHAPE

allows assistance all over

THE GROOVES support grip



SPICA

GXY8014

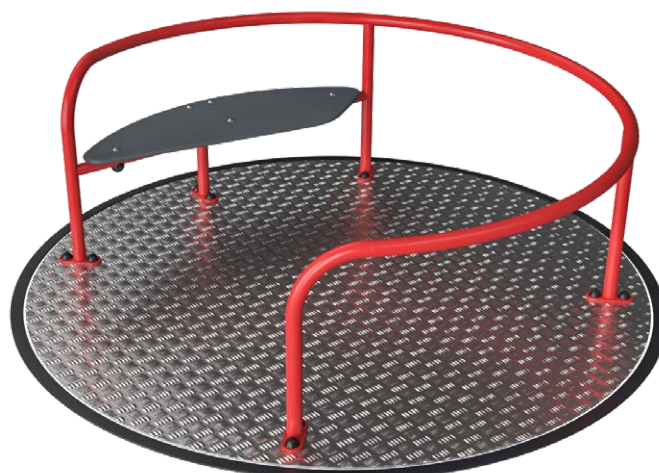
Seated or standing spinning with a good grip



SPINNER

KPL122

Spinning for all, including wheelchair users





Springers and seesaws

Rocking trains the vestibular system as well as the understanding of cause and effect. Apart from being great fun, rocking trains crucial motor skills such as the sense of balance. This crucial motor skill helps the child, for instance, to sit still on a chair. The following rocking items are examples of good universal design: they can all be accessed and used from ground level.



Physical



Social



Cognitive

CRAZY GANDER

M106

THE VERTICAL HANDGRIPS

ensure a firm grip at different heights

THE BROAD FOOT AND CALF SUPPORT

works for children with walking disabilities, as well as for all other children

THE SOFT BACK REST

has been developed to add soft, extra back support

THE CLOSED SIDES IN SEATED POSITION

ensure side support where the child is seated

THE LOW SIDES IN FRONT

facilitate transfer in and out of the Crazy Gander



MULTI SEESAW

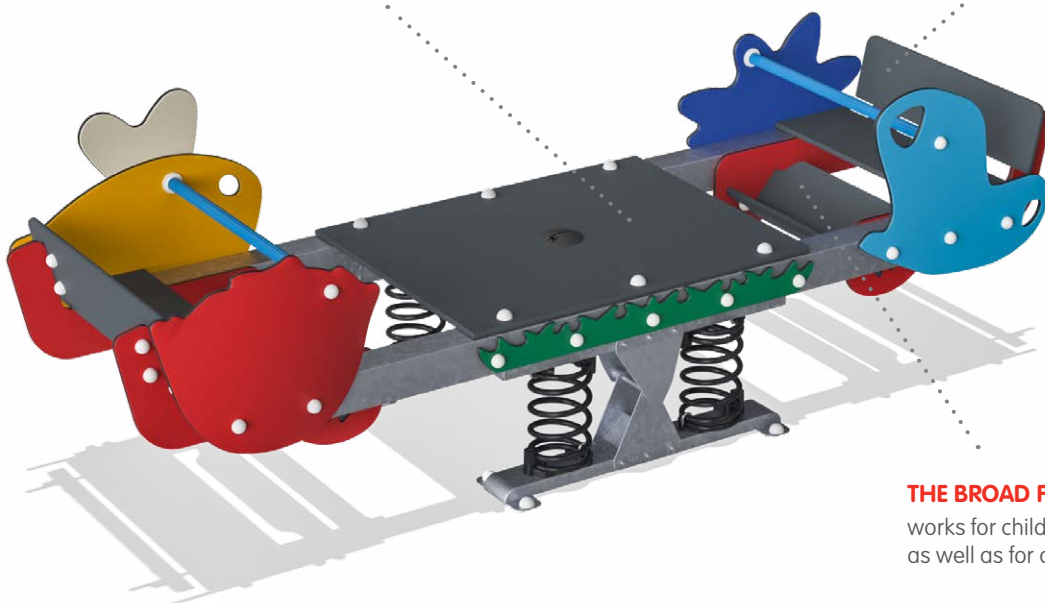
M18671P

THE BROAD PLATFORM IN THE MIDDLE

supports a range of body positions, lying, seated, standing. It is a roomy, rocking part of the Multi Seesaw. It is splendid for children who can only lie, and for adults initiating or supervising play or holding a child

THE BACK REST

adds extra support



THE BROAD FOOT AND CALF SUPPORT

works for children with walking disabilities, as well as for all other children

Bouncers and swayers

Bouncing and swaying movements add thrill, or comfort, depending on their intensity. Apart from training spatial awareness, rhythmic bouncing and swaying movements train the sense of balance. These products are examples of fun, universal items that sway or bounce.



Physical



Social

HAMMOCK

COR20502

THE WIDE AND LONG NET

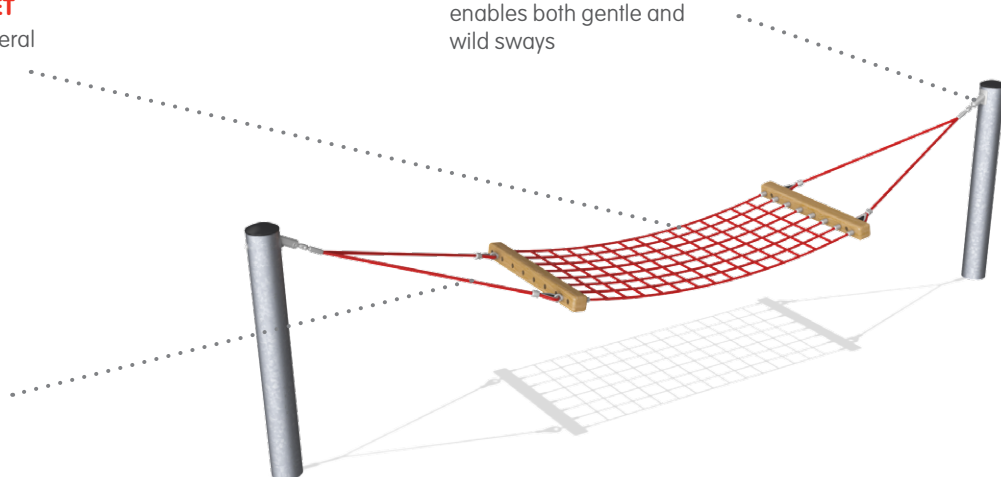
is spacious enough for several users as well as adult-sized users

THE SWIVEL POINT

enables both gentle and wild sways

THE ROPES

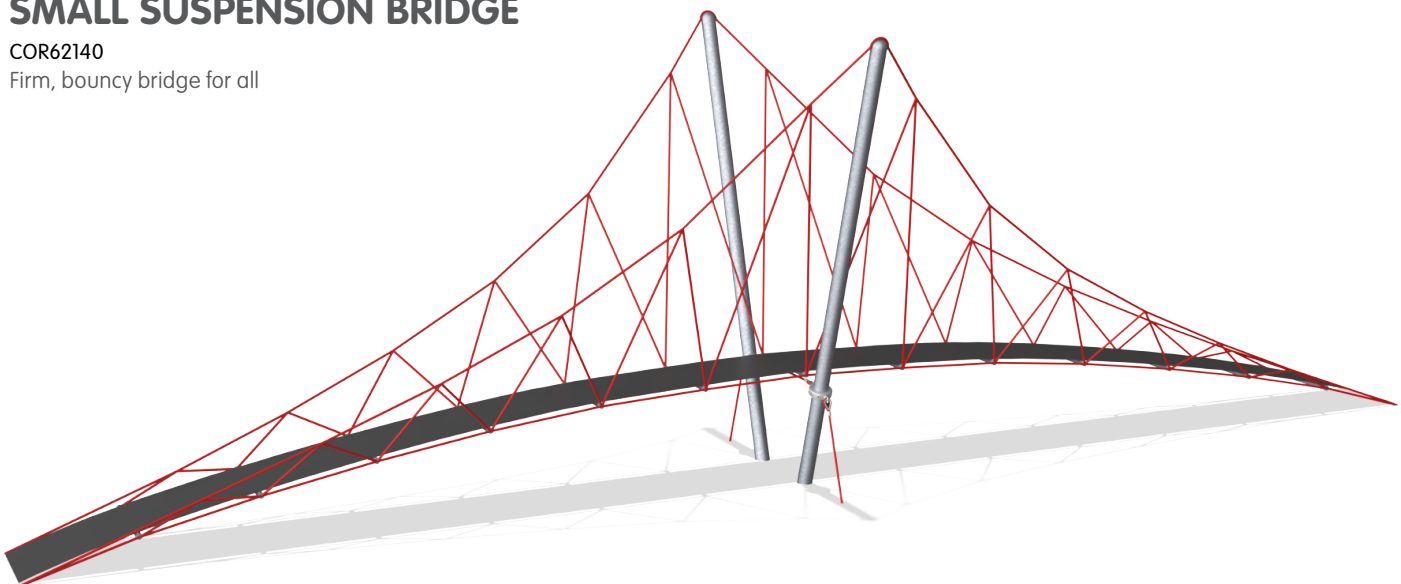
ensure a good grip for swaying the net



SMALL SUSPENSION BRIDGE

COR62140

Firm, bouncy bridge for all





MEETING POINT

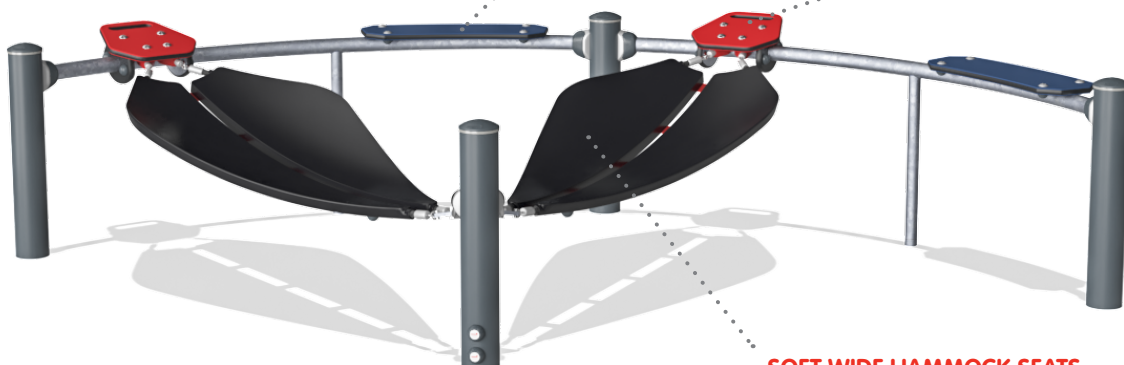
PCM701

FIRM SEATS

to add variation in tactility and seating options

HAMMOCKS

can be pushed sideways to be closer or further apart



SOFT WIDE HAMMOCK SEATS

to support users lying or seated



MEETING POINT

PCM704

Adds a retraction point for all ages and abilities. Transparency adds a feeling of security to the shelter.



HAMMOCK

PCM804

THE SOFT RUBBER SEAT

supports seated positions as well as lying on the stomach. For young children it supports lying on the back also.



THE SWIVEL AND SHORT CHAINS

allow gentle swaying



Swings

Swinging trains spatial awareness as well as the sense of balance. Spatial awareness is important, for example to judging distances and thus navigating traffic safely. For many children with motor disabilities, training of spatial awareness is particularly important.



Physical



Social



Cognitive

BIRD NEST SHELL SEATS

SW990091

THE RUBBER BUMPER

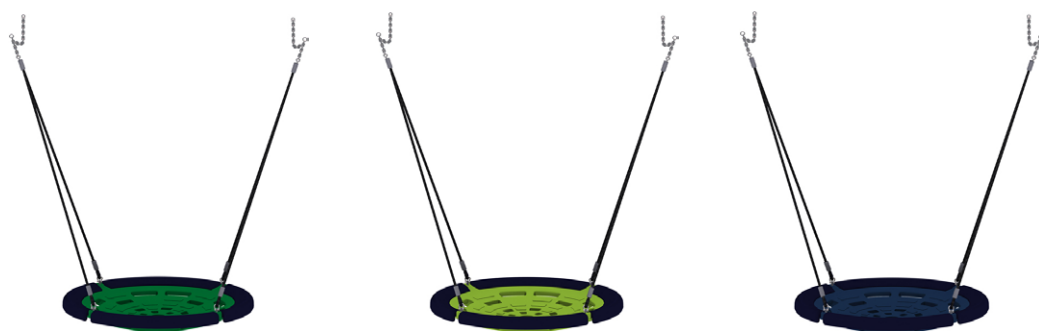
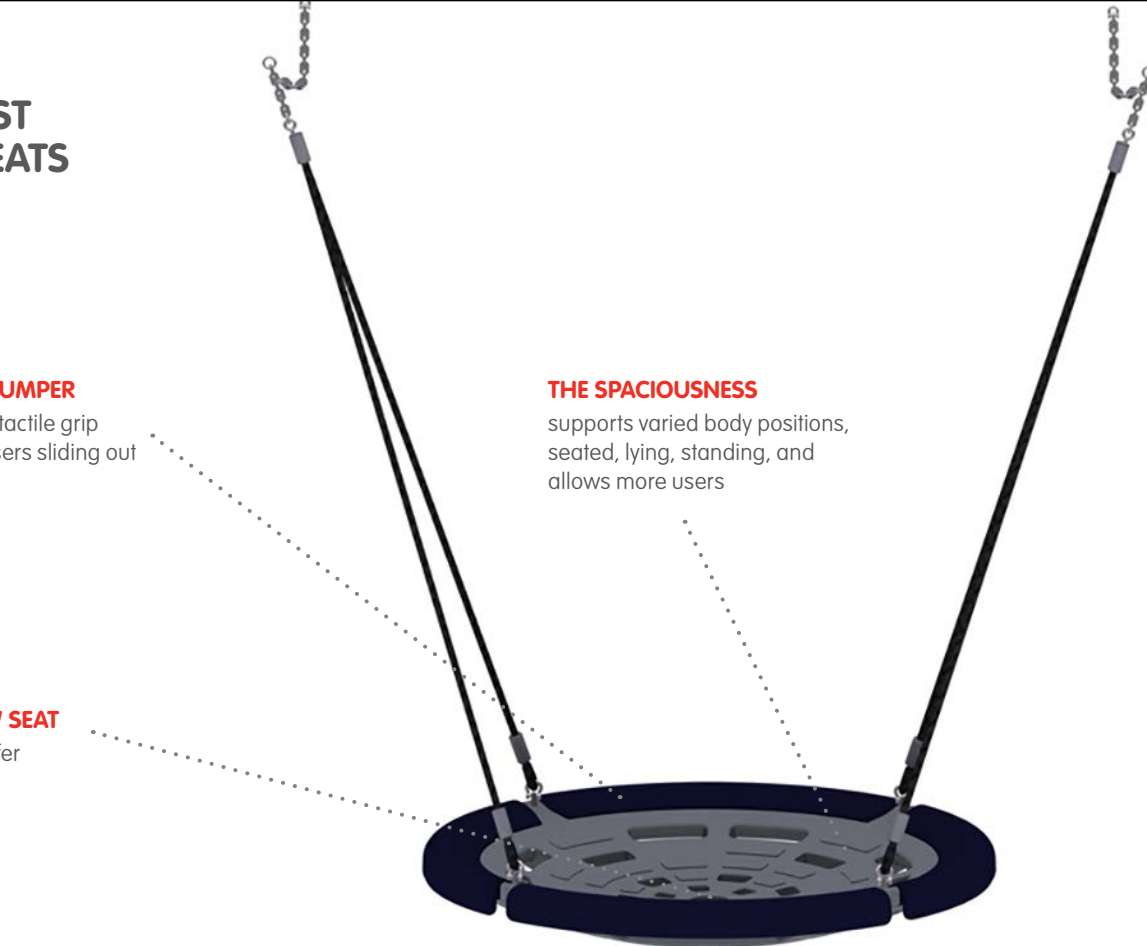
ensures a nice, tactile grip
and prevents users sliding out

THE SPACIOUSNESS

supports varied body positions,
seated, lying, standing, and
allows more users

THE SHALLOW SEAT

facilitates transfer



YOU & ME SEAT

SW99012

THE BIG OPENING

and wide leg opening facilitate
lifting the child into and out of
seat

THE SOFT BACK REST

adds extra support

THE EASY ENTRANCE

and-exit seat eases support
of the child in closed seat



Sand and water play

Sand and water play is pure sensory stimulation. These play items offer great combinations of shift-able and manipulative activities that stimulate cognitive-creative skills, e.g. the understanding of material characteristics as well as cause and effect.



Physical



Social



Cognitive



Creative

OASIS GRAVEL PIT

NRO532

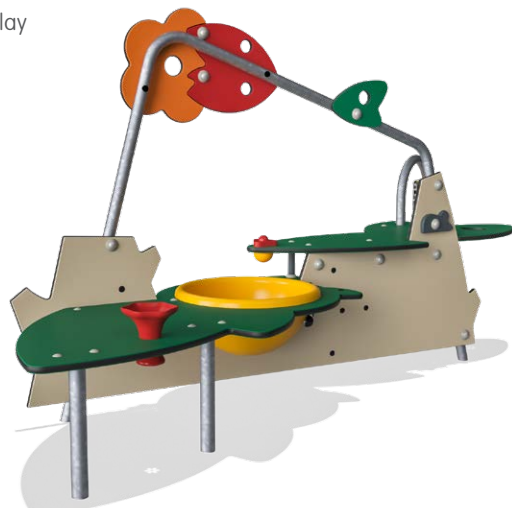
Rich manipulative and cognitive play stimulation



SAND & WATER WORK STATION

MSC5419

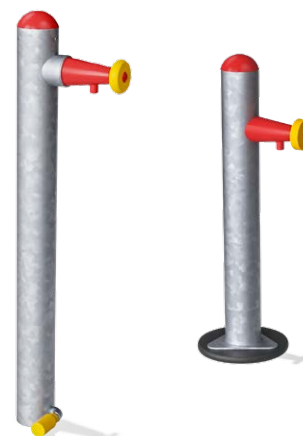
Lots of sand play stimulation



WATER TAP

M593

Push button: water streams release and water stops.
Treat for understanding object permanence.
Can be used by all





WATERFALL AND CHAIN

M591

THE STAR-SHAPED

structure creates a frame enabling eye contact throughout, facilitating social play and cooperation. Room for many, and for retraction

THE WATER FOUNTAIN

opens when pushed with your hand, elbow, foot, chin or shoulder. Placed to be reachable from a seated position also. Trains the cause-and-effect understanding of the child

THE FUNNEL

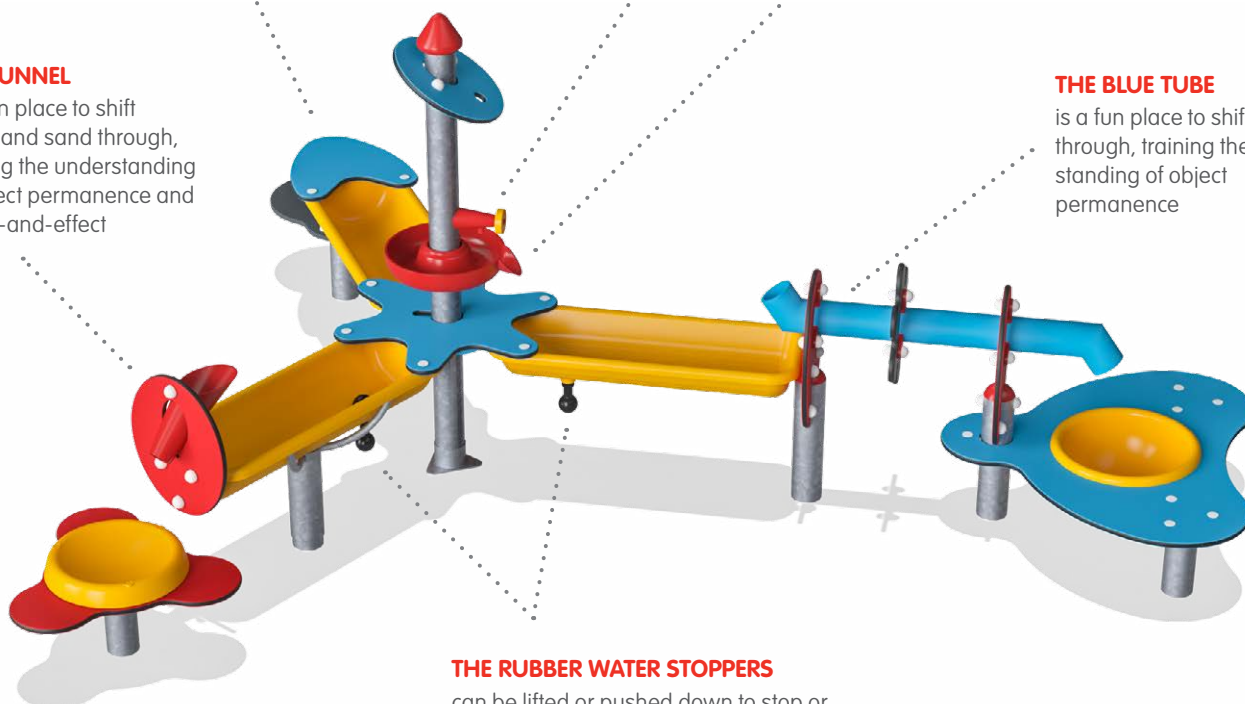
is a fun place to shift water and sand through, training the understanding of object permanence and cause-and-effect

THE WATER DISPENSER

can be turned to pour water into the three basins, training the child's logical thinking

THE BLUE TUBE

is a fun place to shift water through, training the understanding of object permanence



THE RUBBER WATER STOPPERS

can be lifted or pushed down to stop or start the flow of water from the basin



Play panels & planters

Play panels with sensory elements such as varied tactile, auditory or manipulative activities, attract children and can be played by all. The play panels are categorised as cognitive-creative play items because they stimulate logical as well as creative thinking and can be changed and shifted.



Social



Cognitive



Creative

MUSIC PLAY PANEL

PCM000708

THE MUSIC PIPES

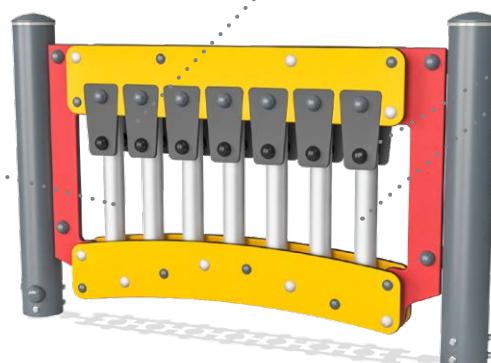
offer sensory variation with a tuned and tonal sound outcome. The pipes sound when hit with hands or sticks. The pipes are hollow, and small items can pass through them. The pipes are tuned to create a recognisable tonality (from the left: G, A, BB, C, BB, A, G)

THE BLACK RUBBER FLAPS

can be plunked to sound the pipes

MATERIAL AND TACTILE VARIATION

adds sensory versatility: tactile as well as auditory stimulation



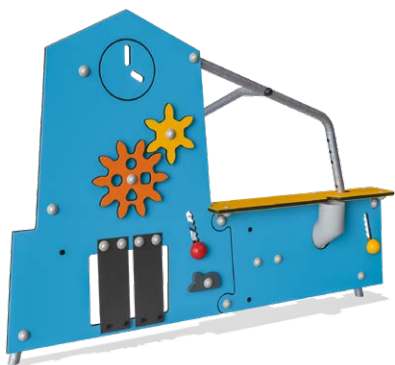
GROUND LEVEL ACCESSIBILITY

and height make the panel accessible for all and allow a number of users to interact from both sides

CREATIVE WORKSHOP

MSC540800

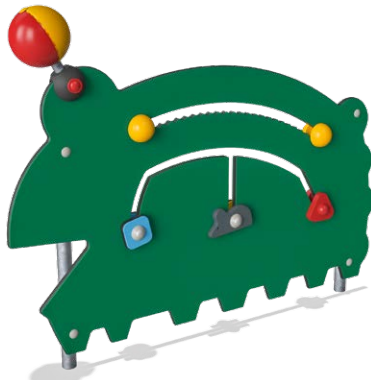
Lots of tactile details to explore



CATERPILLAR

MSC5406

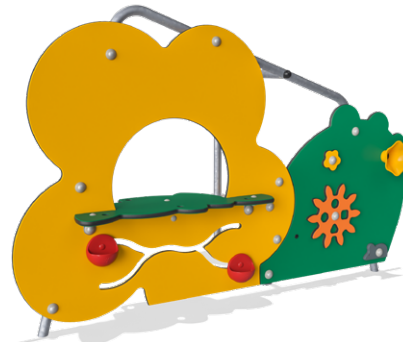
Sensory variation in materials and sound



MAGIC FLOWER

MSC540700

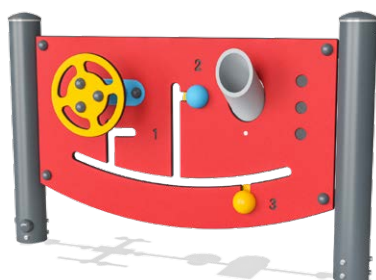
Play space creator with rich sensory details



MANIPULATIVE PLAY PANEL

PCM000608

Rich sensory cause-and-effect details



CHALK BOARD

PCM001108

Drawing for the outdoor classroom



DRAWING WINDOW

PCM001408

Cooperate with others drawing from the opposite side



MIRROR PANEL

PCM000808

Mirrors attract and support understanding of self



VEGETABLE GARDEN BOX

M28101

Planters with four sections



BOX PLANTER WITH WINDOW

M28001

Watch roots of plants through doors





Themed equipment, houses and structures

Themed play equipment, such as play houses and ships, supports dramatic play and an understanding of the world. It makes children recognise, imagine and wonder. Thus themed equipment encourages and stimulates communication, training language and literacy, as well as imagination and socialising skills.



Physical



Social



Cognitive



Creative

GIRAFFE FOREST

MSC5416

THE BROAD TABLE PLATFORM

The Giraffe design is transparent: the no-roof design means ample opportunity for being seated and for informally supporting or supervising play for care givers



MANIPULATIVES

enable differently textured activities that can be handled from both sides and are within reach for all

EYES AND MANE

are tactile features which were developed to produce an emotional impact: the eyes and the short-haired mane evoke an emotional reaction, padding the neck and looking into the eyes of the giraffe



THE SOFT TAIL

can be pulled from one side to the other, thus disappearing from sight for toddlers. This peek-a-boo-like game is highly popular with young children and trains their understanding of object permanence, helping them to realise that things exist even if they cannot see them

PEEPHOLES

The differently shaped and sized crawl or peep-through holes train the understanding of sizes and spaces when children climb through or talk through the holes under the platform. The different shapes – triangular, rectangular, circular etc. – can be used to stimulate an understanding of shapes and space in young children

SHIP

MS32

TRANSPARENT DESIGN WITH MANY PEEPHOLES

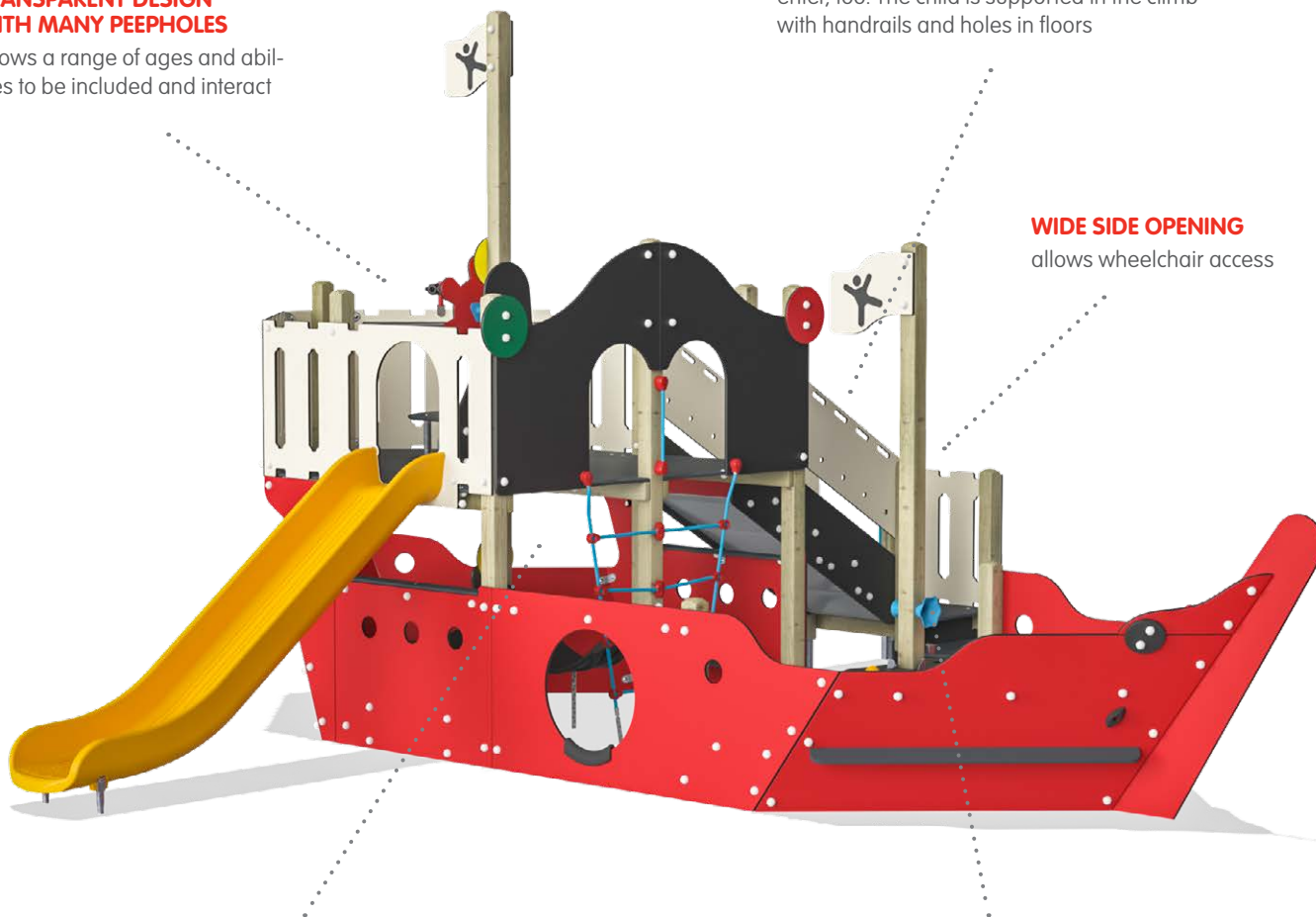
allows a range of ages and abilities to be included and interact

SPACIOUS, ACCESSIBLE STAIRWAY

The accessible stairway allows helpers to enter, too. The child is supported in the climb with handrails and holes in floors

WIDE SIDE OPENING

allows wheelchair access



ROOM WITH BENCHES UNDER DECK

includes a swaying hammock and benches along the sides

THEMED SENSORY ELEMENTS

such as the steering wheel and the manipulative megaphone, trains cause-and-effect understanding and supports dramatic play

PLAYHOUSE WITH OUTSIDE DESK

PCM001700

Many tactile play events



RED HOUSE

M7000

Socialising and manipulative items



DOUBLE HOUSE

MSC5415

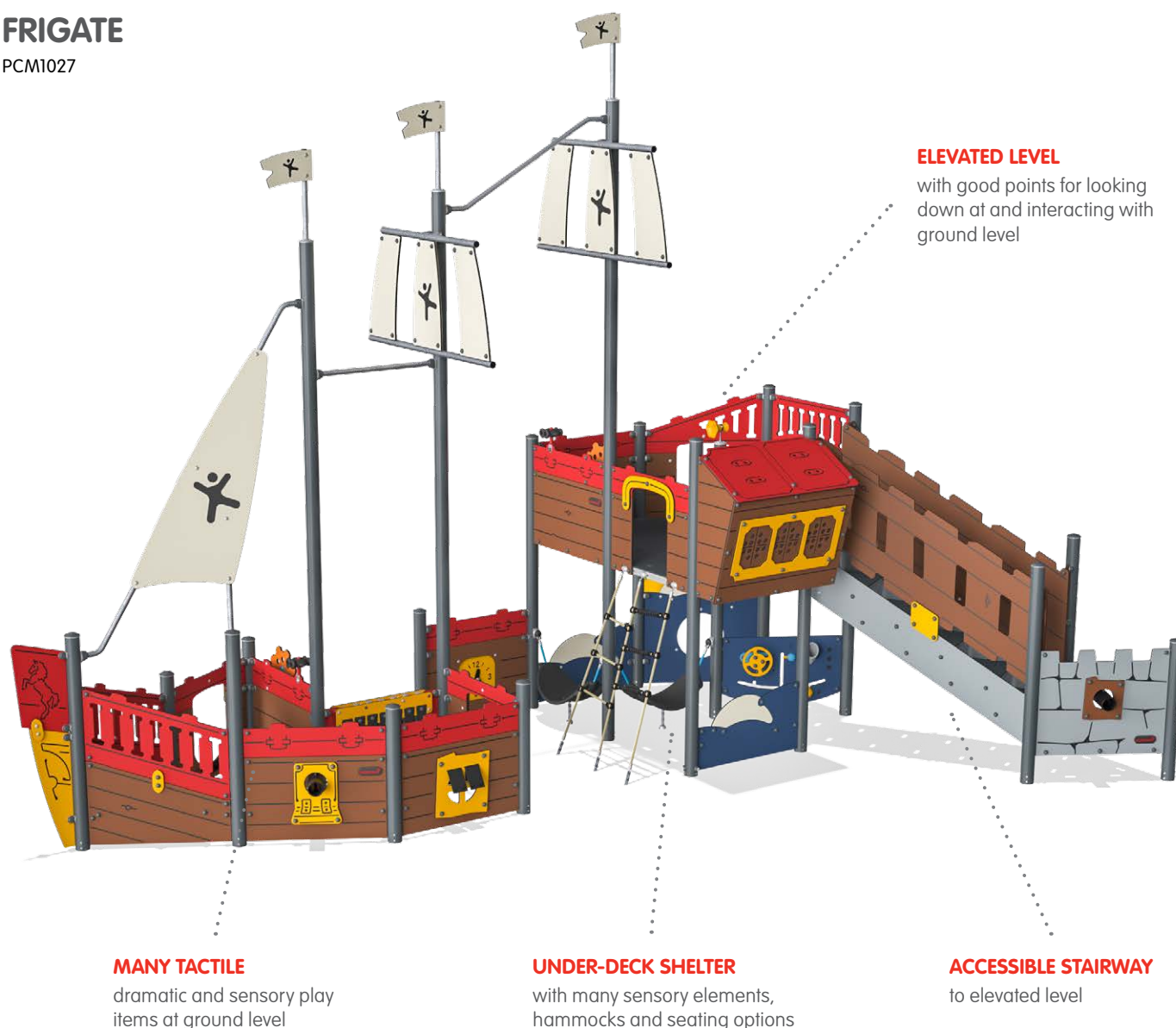
Spacious, open dramatic-play motivator





FRIGATE

PCM1027





Robinia play pieces

The natural materials and soft colours of Robinia work wonders for many children with sensory disabilities. The variety of activities is rich, spanning sand play, dramatic play and not least physical play. These products are all accessible from ground level and usable at ground level.



Physical



Social



Cognitive



Creative

ROBINIA COMBINATION

NRO528

THE BUCKET IN CHAIN AND SAND WHEEL

train logical thinking and fine motor skills

THE BENCHES AND SAND PLAY TABLE

provide a seat for children who need a rest, or for care givers

THE SEMI-OPEN PORCH

eases entry and affords an overview of the whole product. Caters for large numbers of users inside as well as outside the house

A VARIETY OF ENTRY POINTS

provide varied access



GAS STATION WITH PUMP

NRO513

Dramatic and sensory play



FOREST LAKE BOAT

NRO520

Dramatic play and socialising



FOREST SHOP

NRO407

Dramatic play and socialising



OASIS SAND HUT WITH TWO TABLES

NRO526

Sand play and socialising



WATER CHANNEL WITH SPLASH TABLE

NRO508

Sand-and-water manipulative, sensory play



PLAYHOUSE WITH ROOF

NRO402

Ground-level dramatic play



THE WIZARD'S HIDE AWAY

NRO409

Elevated dramatic play



OASIS SANDWORKS

NRO530

Sand manipulative play and cognitive stimulation





Combination systems, 1 to 6-year-olds

These combination play systems offer varied ground and elevated-level physical play activities, as well as manipulative and dramatic play corners. They cater for a lot of children, with varied abilities.



Physical



Social



Cognitive

COMBINATION

PCM300400

BANISTERS

the transparency and closeness of the banisters provide upper-body support when passing and facilitate social interaction between inside and outside of structure



LOOP BETWEEN ENTRY STEP AND SLIDE MOUTH

perfect for proximity of assistive devices after sliding

THE LEVELS ADD CHALLENGE

and develop spatial awareness. Skid-preventing bars work as handgrips for children crawling

THE OPEN ENTRANCE AT GROUND LEVEL

supports interaction between inside and outside and eases access



THE GROUND-LEVEL PLAY PANELS WITH VARIED PLAY

facilitate interaction between inside and outside, add cognitive and sensory dimensions to play and encourage dramatic play

THE SUPPORTIVE STEP

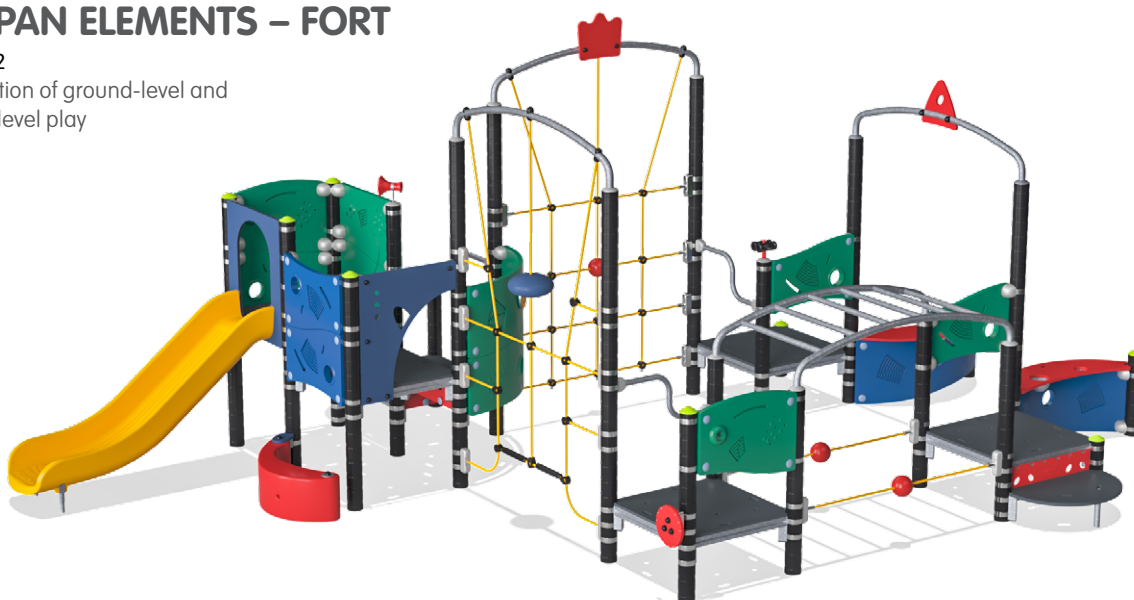
eases entry – gripping holes in floor provide hand support



KOMPAN ELEMENTS – FORT

ELE400232

Rich variation of ground-level and elevated-level play



LITTLE MERMAID

MSC6430

Rich dramatic and social play stimulation



TODDLERS' CASTLE

MSC5417

Varied play for all



COMBINATION

PCM200410

THE U-NET

offers great variation in body positions: climbing, swaying, lying, sitting, standing. The transparency facilitates communication between inside and outside. The net can be swayed by peers or care givers on the outside, accommodating children lying

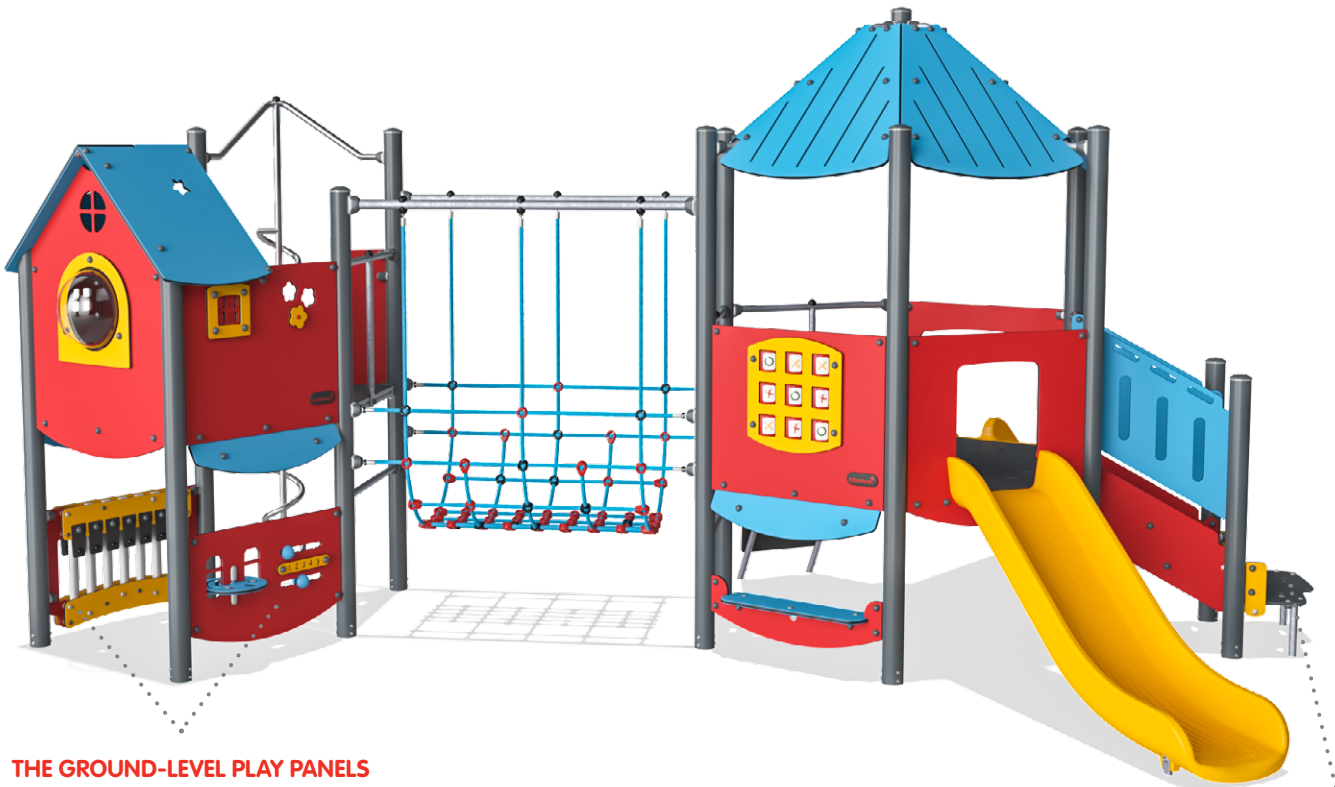


THE INCLINED CLIMBING WALL

offers a supportive entrance climb

THE CURLY CLIMBER

is a great way to glide down and rotate, seated on the winding steel tube and supported by a good grip of the pole



THE GROUND-LEVEL PLAY PANELS

offer intense auditory and tactile play stimulation with the music panel. Dramatic and cognitive play is motivated, encouraging insights into object permanence

THE ACCESSIBLE STAIRWAY

has a transfer platform to facilitate entry and offer a break. Holes in the floors and side panels offer grip support. There is room for adult care givers



Combination systems, 6 to 15-year-olds

For older children, the ground-level responsive, moving play items in the GALAXY and ELEMENTS structures are extremely appealing. They offer thrilling, interesting activities to explore from ground level. They are transparent and have many break points, making it possible to still socialise while taking a break from the heavy physical play.



Physical



Social



Cognitive

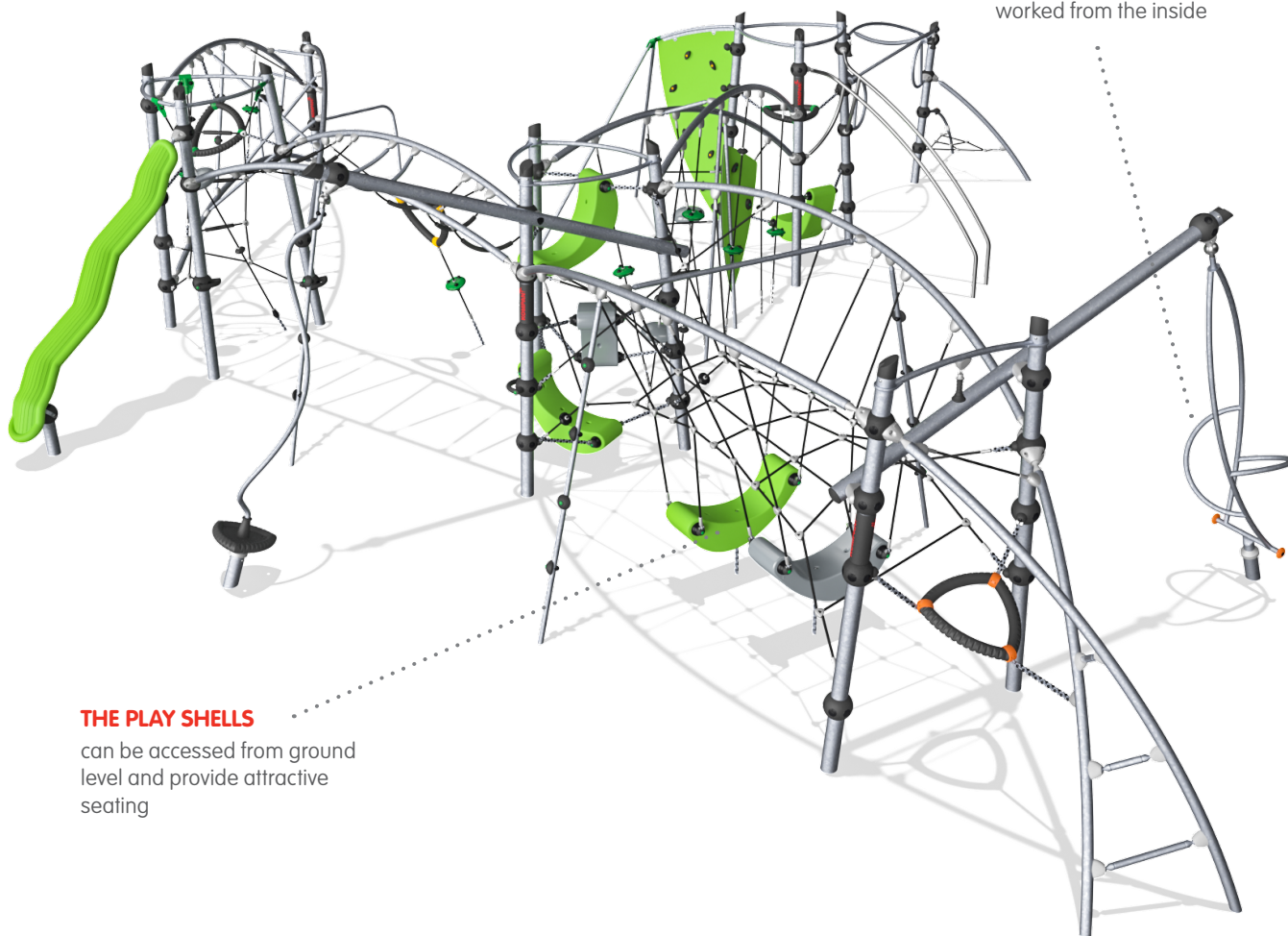
KOMPAN GALAXY EMERIDO

GXY953

The transparency of the design and the spread-out activities create a centre of play everywhere, facilitating communication with peers throughout the structure

THE MUSCA SPINNER

can be used from a seated position and pushed from the outside or worked from the inside



THE PLAY SHELLS

can be accessed from ground level and provide attractive seating

KOMPAN ELEMENTS

ELE500010

The usability on the inside as well as the outside provides a rich play ability throughout the structure

THE ROCKING HORIZONTAL ROPE ACTIVITY

supports both seated, lying and standing positions

THE ACCESSIBLE STAIRWAY

features holes in floors and side panels for extra grip support. The stairway can be climbed on the outside thanks to climbing cleats and holes in panels.



SEATING AND REST

rest and retraction point at stairway and under platform

Combinations with ramps

For some playgrounds, ramps are the best way of ensuring accessibility and usability. When designing public playgrounds with special or therapeutic equipment, try to integrate them fully in the solution, rather than isolating them.



Physical



Social



Cognitive



Creative

COMBINATION

PCM3011

CORNERS FOR PLAY BREAKS

spacious turning space designed for breaks and playful communication with the outside through talking tubes and binoculars

GREAT SOCIAL AND COGNITIVE PLAY

cooperative play and communication

INTEGRATED SENSORY AND SOCIAL PLAY

inner court play area with soft hammocks for parallel play and gentle rocking, bench table for a firm seat and music panel

GREAT PHYSICAL PLAY VARIATION

physical activity platform with three different types of sliding, supportive of different abilities

EASE OF ACCESS FOR ALL

flexible ramp with good hand-holds at two heights

COMBINATION

PCM1020

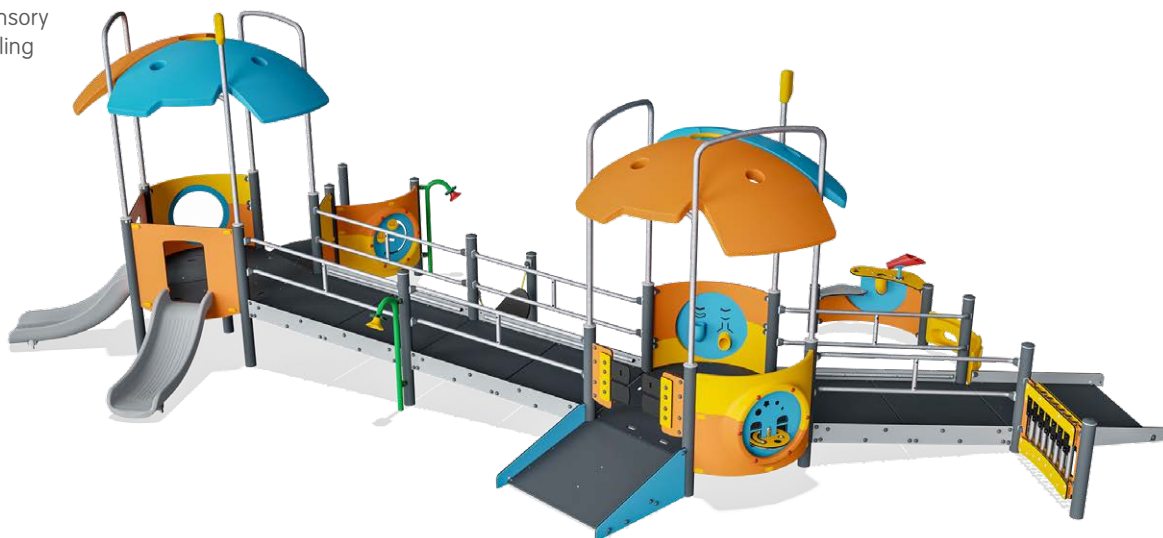
Dense play value and corners for all with thrilling as well as tactile activities from 1 year and up.



COMBINATION

PCE2006

Rich variation in ground-level play value with sensory as well as stomach-tickling play for all



COMBINATION

PCE3051

Levelled play for all with wide variety of physical as well as sensory play experiences for a wide age span



COMBINATION

PCE6104

Immense variation in physical thrill, socialising and retraction points for quiet play for older children of all abilities



KOMPAN Play Institute

White papers

Truly inclusive? The reward of thrill in universal play designs

To which degree can non-specialised, age-appropriate play equipment and playgrounds motivate play and be used by children with mobility and learning disabilities?

KOMPAN Play Institute set out to find answers to this question. The aim was to make playgrounds more inclusive and motivating for all children by drawing upon universal play formulas that unite children in play. Based on play observations of 1) 4 to 6-year-

old children with disabilities in their kindergarten, and 2) interviews with their teachers, we gained a series of insights:

Good inclusive playgrounds are not necessarily much more complicated, nor time and space-consuming than other playgrounds. They can function as physiotherapy for a wide range of children with physical disabilities.

Play preferences

- Formal, physical play is by far the most frequent and most popular play type. The children wanted physically thrilling activities.
- Being with friends and socialising was as important as thrilling activities.
- The children preferred play equipment that they could use independently. They also very much liked being able to enter play equipment independently.

Equality in playgrounds for children with disabilities?

"Physical activity (PA) participation is widely recognised as a critical component of health and development for disabled and non-disabled children".

National Institutes of Health, USA 2016, Frontiers in Public Health,

Today, politicians and tycoons alike voice their support of more social equality. They do so on an informed basis: Equality is the way to happier, healthier and more sustainable societies. The United Nations list equality as one of their 17 Sustainable Development Goals. But not everyone is equal when it comes to having access to primary health promoters such as outdoor playgrounds.

Leisure activities are the hardest to access and use by citizens with disabilitiesⁱ. Since physical inactivity is one of the four biggest contributors to premature deathⁱⁱ, the accessibility to public leisure areas, such as playgrounds, is crucial. Apart from the obvious health benefit of playgrounds, there is a considerable social-emotional benefit: play between children with disabilities and typically developing children supports the areas of self-efficiency, tolerance and empathy of both user groupsⁱⁱⁱ.

Survey of playground use

It is well-known that playgrounds motivate physical activity in children very efficiently, in a fun way^{iv}. The KOMPAN Play Institute wanted to know more about children with disabilities and playground play. We worked with parents from Nørrebroergskolen, a Danish school for children with disabilities^v. The main target of the survey was to establish an understanding of children with disabilities and

- the extent of playground use and the correlation with playground proximity,
- the accessibility and usability of favourite playground activities, and
- the success criteria for the preferred playgrounds

Inequality in playgrounds

47% of all the families visited a public playground less than once a month. 57% of wheelchair-using children never or rarely visit a public playground.

The proximity of the playground is decisive for the frequency of use. Most respondent use the playground 2-4 times a month, and 71% live within a five-minute walk of the playground.

Playground accessibility and usability

Children in wheelchairs have less than half the chance of being able to access and use their nearest playground, compared to non-wheelchair users, 71% of the wheelchair users found their nearest playground almost inaccessible, and 86% of them found their closest playground to be below average in terms of accessibility.

The inequality in access is grim. But the usability of the actual play equipment is worse. 93% of the wheelchair users estimate the usability of the play equipment in their nearest playground to be below average. In comparison, 59% of the total respondents score the usability as being below average.

Favourite playground characteristics

When choosing which playground to visit, a decisive factor is accessible surfacing. It is almost equally important that the child has favourite play activities in the playground. Additional well-liked playground characteristics are

- the variety of play equipment, and
- the fact that the whole family has something to do in the playground.

How to best design for children of all > abilities? That is a research question that the KOMPAN Play Institute is keenly looking into. Over the later years, the research has resulted in a series of insights and recommendations. These white papers can be freely downloaded from our website.



- Being able to access a play unit independently does not automatically imply that play activities can be used independently. The popular activities were evidently the ground-level solitary play activities, which 50% of the children could access and enter independently, and which all children could use independently.

Thrill as a motivator

Physical thrill is a main reward and attraction

to the observed children with physical disabilities. That thrill made the children take leaps of learning through play, both physically, socially and cognitively. Our observations indicated, however, that the attraction of spending time with peers may overshadow the thrill of a given physical attraction. In short, the thrilling activity needs to be accessible where peers are present. Isolating it in a separate part of the playground meant that it was not used.



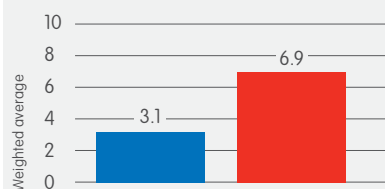
Success criteria for equality in play

To increase equality, the KOMPAN Play Institute survey reveals some success criteria, among others:

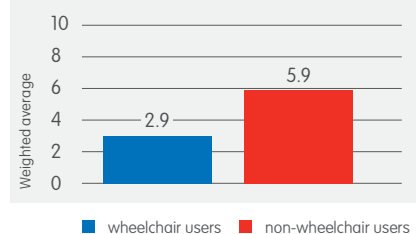
- To increase the frequency of use, accessible, usable playgrounds should be close-to-home.
- Playgrounds should have accessible surfacing. In a wider context, this also helps care givers or grandparents with mobility impairments.
- Playgrounds should have equipment that is usable for children with disabilities. A KOMPAN Play Institute study shows that this means activities based at ground level^{vi}.

- The variety of play activities and activities for the whole family make playgrounds attractive to visit and use.

Average 'Accessibility' score for the nearest playground for users with or without wheelchairs, 10 being fully accessible



Average 'Usability' score for the nearest playground for users with or without wheelchairs, 10 being fully usable



i Disability statistics – barriers to social integration, Eurostat 2015

ii The Lancet Series on Physical Activity, 2012

iii Frontiers in Public Health, Sept. 2016, vol. 4, art. 187, Ross et al.

iv The Relationship between built park environments and physical activity in four park locations. *Journal of Public Health Management and Practice*, 2008; 14(3): E9-E16, Shores KA, West ST.

v 54 families with children aged 6-16 years from across the Danish island of Funen participated in the digital survey. All the children had cognitive disabilities, 11% of the children used walkers or other assistive devices for walking, and 26% of the children were wheelchair users. 36% of the wheelchair users could move around without a wheelchair (e.g. using other assistive devices such as walkers).

vi Truly Inclusive? White paper from the KOMPAN Play Institute, Jeanette Fich Jespersen, 2018



UNIVERSAL DESIGN FOR INCLUSIVE PLAY

This publication showcases a series of guidelines, insights and research on planning successful playgrounds for all users, with or without disabilities. These insights are exemplified with practical cases of how to plan as well as a number of examples of great play equipment for all.



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