Play equipment for young children



# **Development of Tiboo**

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## The concept developed by our designers

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Proludic



## Our creativity has been rewarded!

2001: Etoile du Design2004: Janus de l'Industrie

2006: A panel of specialists includes the TIBOO range in the

selection for the Design Observer 2006



## Why the Tiboo range?

Proludic's knowledge of outdoor play equipment made us aware of the limited availability of equipment on the market for young children from 1 to 3 years old. This was confirmed during surveys carried out amongst specialists dealing with young children.

Proludic's objective of meeting the needs of very young users in the field of play activities while taking into account the wishes expressed by the specialists dealing with young children, led it to design and develop the TIBOO range: a range of play equipment for young children, for installation in crèches, nursery schools and playgrounds with free access for children from 1 to 5 years old.

To develop this concept, we worked closely with childhood specialists such as: headmistresses of nursery schools and crèches, paediatric nurses, psychomotricians and psychologists. These special contacts enabled Proludic to understand the specific needs of very young users and older users alike in the age group, and draw up a full set of specifications to develop the TIBOO range.





## Data on children's motor evolution

Many factors come into play to stimulate children's motor and psychomotor development.

There are three laws that characterise children's motor evolution: differentiation, variability, and succession.



## 1 Differentiation

At the earliest stages, a baby's motricity is global and generalised throughout the whole body. Motor activity is then refined, to become increasingly fine-tuned, elaborate and localised.

A baby moves from involuntary to voluntary motricity.

## Variability

A child's psychomotor development evolves towards progressive improvement. This progress is not uniform or continuous. The development process goes through phases of fast progress, but it also involves periods of stagnation, halts, or even regression, that can be followed by fresh development.

## 3 Succession

Psychomotor development is governed by two fundamental laws.



#### Cephalo-caudal law

The closer the muscles in the axis of the body are to the cephalic region, the earlier they are brought under voluntary control. This descending law is shown by a series of stages in static coordination.

Thus muscular control moves down from the head towards the feet. The face muscles are controlled first, for example, and then a baby can lift its head, before being able to sit up.



#### Proximo-distal law

The closer the limb muscles are to the axis of the body, the earlier they are brought under voluntary control. This law is shown by a series of stages in fine coordination.

Thus control moves from the centre of the body to the peripheral regions. Children control their arms first, followed by their hands, and then their fingers.

(This information is taken from a study carried out by the Pitié Salpêtrière teaching hospital in Paris)







# The stages in psychomotor development in children from 8 months to 5 years of age

Up to the age of 5, children go through numerous stages to develop their motor, sensory and cognitive skills.

The main stage is the transition from moving "on all fours" to "standing up". To design the TIBOO range, our Research and Development team studied and noted the various stages of children's development from 8 months to 5 years of age.

(This information is taken from a study carried out by the Pitié Salpêtrière teaching hospital in Paris)









#### 8 months:

Children can stay in a seated position on their own. They can change their position to reach an object. They can roll over to move.

Their index fingers are better controlled and used more precisely.



## 10 months:

Children start to stand up and take a few steps; they fall down frequently.

Their prehension is more finely mastered.



#### 9 months:

Children can turn round on their bottoms.

They learn to crawl and start moving backwards.

They can now hold small objects between the base of their thumbs and their index fingers.



## 11 months/1 year:

Children crawl around easily.

They start to walk.

When standing up, they can bend down to pick up an object.

Their mastery of handling objects enables them to recognise depth, solid surfaces, containers and contents, top and bottom, and separate and combined elements.







# The stages in psychomotor development in children from 8 months to 5 years of age (cont'd)



#### 15 months:

Children are able to walk on their own.

They can stand up on their own, without support, but their balance is unstable and they fall down frequently.

They can kneel down unaided and move from a seated position to a standing position.

Their prehension is more finely mastered and more precise.

They can put counters into the neck of a bottle.

They can hold a spoon, and turn the pages of a



#### 18 months:

Children can go up and down stairs, holding on to a banister

They start to run and stoop down to pick things up. They can run, but they often fall over.

They can walk backwards.

They can now throw or kick a ball.





#### 2 years:

Children can go up and down stairs on their own, without alternating movement of their feet (they put both feet on each step).

They can run, turn round in circles, and skip.

Their wrists are increasingly flexible. They can turn a door handle, unscrew a top, and eat with a spoon.



#### 4 years:

Children can ride a bicycle without the rear stabiliser wheels.

They can get into and out of a car.

Their prehension improves even further; they can button up their clothes fully.

They can build bridges with building blocks.



## 3 years:

Children can go up and down stairs like an adult, with alternating movement of their feet.

They can skip on one foot and keep their balance on one foot for a few seconds.

Their prehension further improves, and they can get dressed on their own.



#### 5 years:

Children can skip on both feet, and hop.

They can now do up their shoelaces unaided.













## Children's needs and specialists' requirements

Depending on their age and their level of development, children develop their motor and psychomotor activities and begin to socialise.



#### **MOTRICITY & PSYCHOMOTRICITY**

Children's motor skills develop as a succession of movement phases ranging from an initial horizontal position to standing up, followed by the natural adoption of walking. Children's first steps are a major milestone in their lives. They acquire autonomy and are ready to move on to make fresh discoveries!

Children's motor activities are constantly adapted and refined at increasingly elaborate levels. In their exploration of the outside world and through play, children discover many combinations of possible movement sequences that multiply their functional capacities.

#### FIRST-HAND ACCOUNT

"As little children gain autonomy at the level of their psychomotricity, they also gain confidence, and they are able to decide on their own whether to move on to the next stage".

Paediatric nurse Creche Manager



#### FIRST-HAND ACCOUNT

"If children all have access to a given set of motor, cognitive, symbolic, or sensory experiences, whatever their play context, the presence of play equipment enriches their play and psychomotor activities through the quantity of experiences that it provides.

Play activities are a major socialisation factor for children, as they seek contact and bond with others, or at least work together in structuring their episodes of play."

**Psychologist** 

Play is a major activity for children; it can even be their main concern.



#### PLAY AND SOCIALISATION

Play is a structuring pastime and it constitutes a major element in children's development. Proludic has asked a psychologist to study the impact of play equipment on children between 3 and 6 years old.

For her, play activities are given extra value by motor and sensory elements as they call on social, cognitive and creative abilities.

For Proludic, outdoor play equipment for young children must provide a varied range of play functions involving motricity and of sensory activities, as well as improving the quality of interaction between children.









#### THE NEED FOR EQUIPMENT ADAPTED TO SUIT VERY YOUNG CHILDREN

In their work with children between 1 and 5 years old, specialists from crèches and nursery schools told us that there was a lack of play equipment and elements encouraging development of motricity for very young children.

Child Care specialists seek compact structures above all, because of the lack of room in protected, closed areas for children such as crèches or nursery schools.



#### FIRST-HAND ACCOUNT

"Kids very soon get tired of things, we have to be able to give them something new at very frequent intervals".

Creche Manager



#### **NEED FOR A PLAY CIRCUIT**

The possibility of modifying the play equipment, modulating it, and changing the elements to suit the programme of activities through out the day, was part of their requirements. A crèche headmistress told us that she set up circuits of her own using the equipment at her disposal. She makes the circuit available to the children for about half an hour, then she modifies it, and so on...



#### **NEED FOR MODULAR ELEMENTS**

Child Care specialists told us of their need for evolving, multi-functional, modular play equipment, with multiple combinations to enable the children to use the equipment at different levels depending on their ages, their capabilities and their preferences.





## The concept developed by our designers

#### Identification of the existence of two worlds

Children's psychomotor development during the first five years of their lives is marked by a key stage: learning to walk.

#### The process of learning to walk brings to light two worlds.

The first one is very close to the ground, the world of children aged 1 to 3, and the other one leaves the ground and moves up to a certain height, the world of children aged 3 to 5.

A psychomotrician fully agrees with this, pointing out that there is a remarkable difference in children's levels of psychomotor capacities between the ages of 1 and 5. She confirms the existence of two worlds.

She calls the first one learning to walk, and the second one learning about the pleasures of movement in all its forms.



# The world of children aged 1 to 3

The world of children aged 1 to 3 is one in which children move on from a position "on all fours" to a "standing" position. Their balance remains highly unstable. They fall down frequently, and still need to reassure themselves by leaning on or holding onto something.

This world still has strong links with the ground. Because of their limited levels of motricity and prehension, children find it difficult to leave the ground. In this world, the children find out about their own body, and their ability to move and hold onto things. The "seated" or "on all fours" positions predominate. They are safe positions, free of all risks of falling. This is the "on all fours and starting to walk" world.



# The world of children aged 3 to 5

The world of children aged 3 to 5 is one in which children have acquired sufficient mastery of their motricity to leave the ground and start climbing stairs without holding on to the banister.

Their mastery of prehension enables them to climb up using their hands. This is a world with faster movement; the children can run, jump and climb up. They are aware of their body's position in space and their motor and psychomotor abilities. They no longer need direct contact with the ground and they love gaining height, by climbing up on everything in their reach.

It is a more dynamic world, with more climbing and jumping!





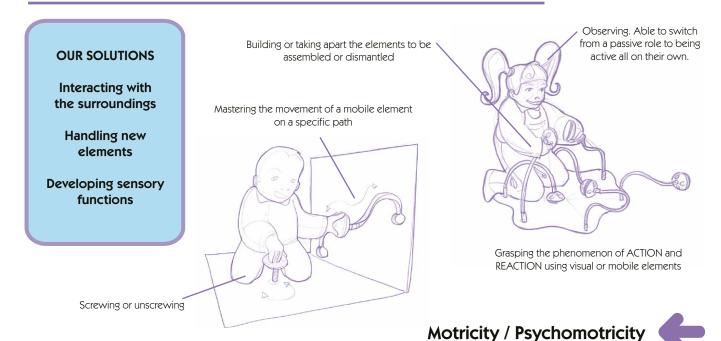
## The concept developed by our Designers

### Our lines of research

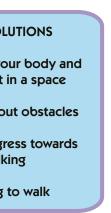


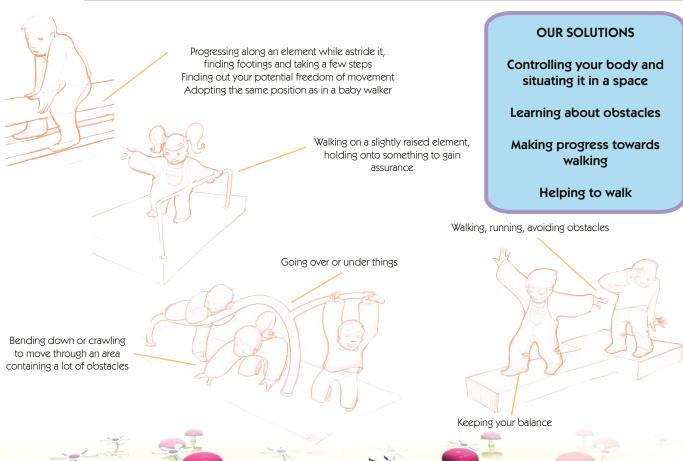
#### Fine motricity

Execution of separate finger movements, precision and speed of handling.



Synergy of each individual's motor and physical functions.







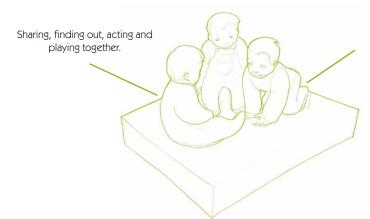
#### **Socialisation**

A child's process of adapting to life in a group and to social interaction.

#### **OUR SOLUTIONS**

**Encouraging interaction** 

Sharing a moment, a game, a story, etc.

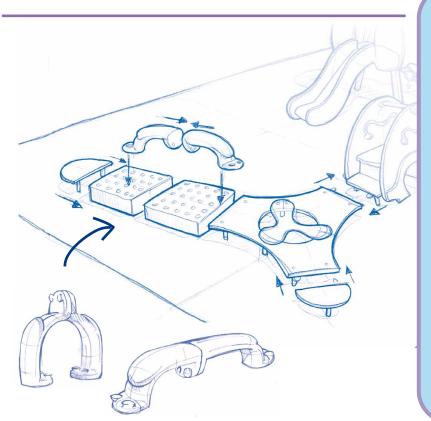


Meeting around an area designed to encourage interaction and sharing a joint activity



#### Modularity

A unit made up of modules, with elements that provide all sorts of combinations



#### **OUR SOLUTIONS**

Providing circuits that invite children to play and learn, and that can be modified and added on to

Being able to form small or large combinations depending on the space available

Enabling easy handling of the elements

Providing different activities while using the same elements

Adapting the structure to suit the budget available

Free fall height of less than 600 mm to limit surfacing costs.

"Our main line of research was to develop real working tools for specialists dealing with small children. To do so, we have created varied, relevant, modular play elements.

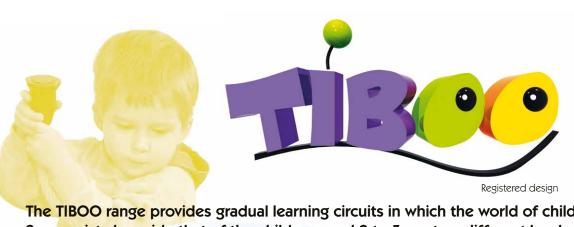
Children remain our special partners for the range we have designed to encourage play, while being original and attractive".

Head of Research & Development - Proludic









The TIBOO range provides gradual learning circuits in which the world of children aged 1 to 3 can exist alongside that of the children aged 3 to 5, on two different levels. It includes activities specific to each age group and it can be used for play in different ways.





## An example of a TIBOO design on a closed site



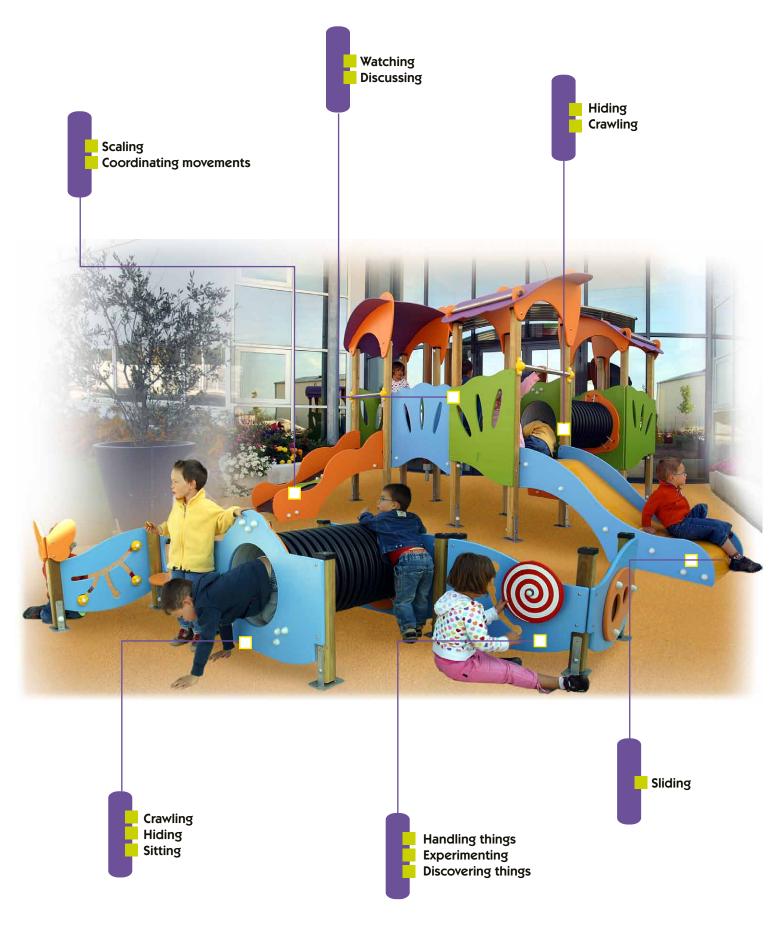




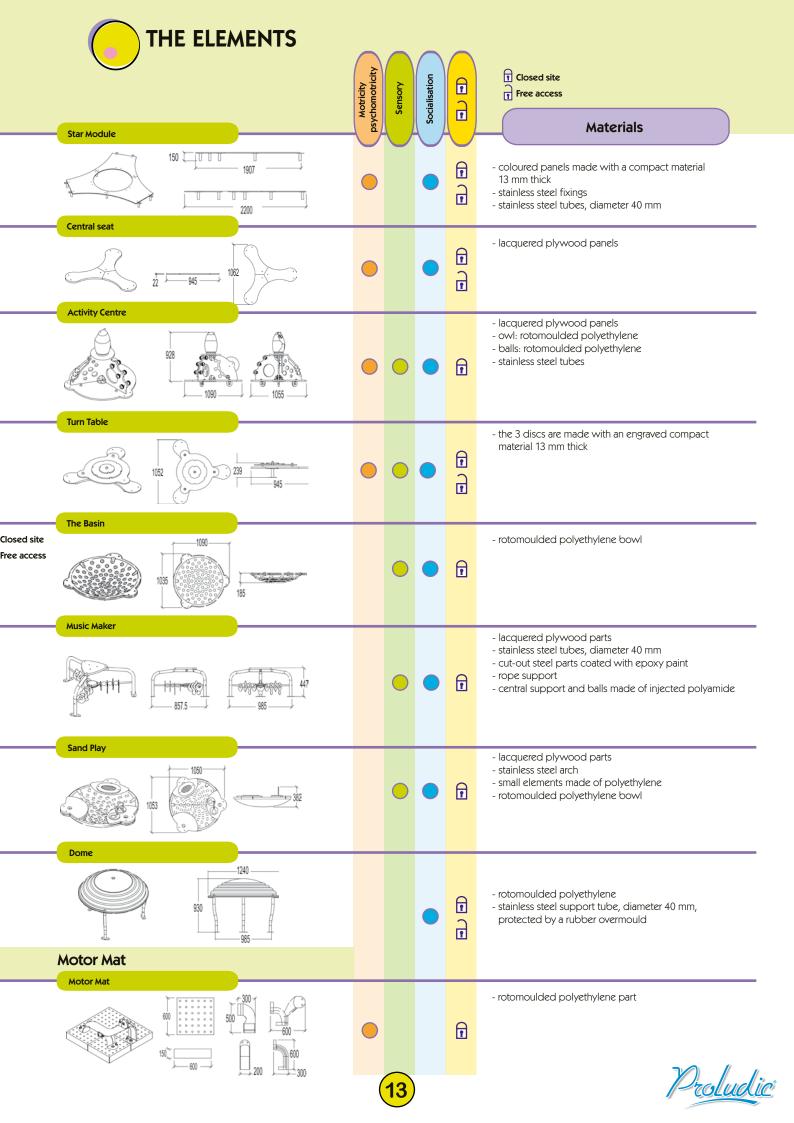


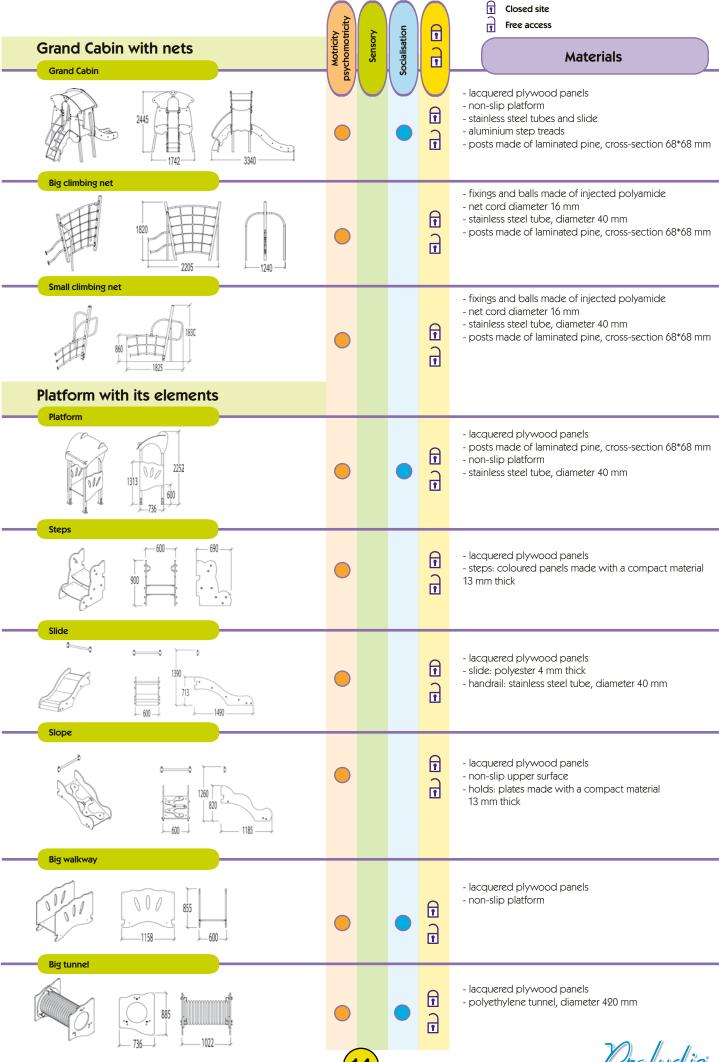
# An example of a TIBOO design on a freely accessible site



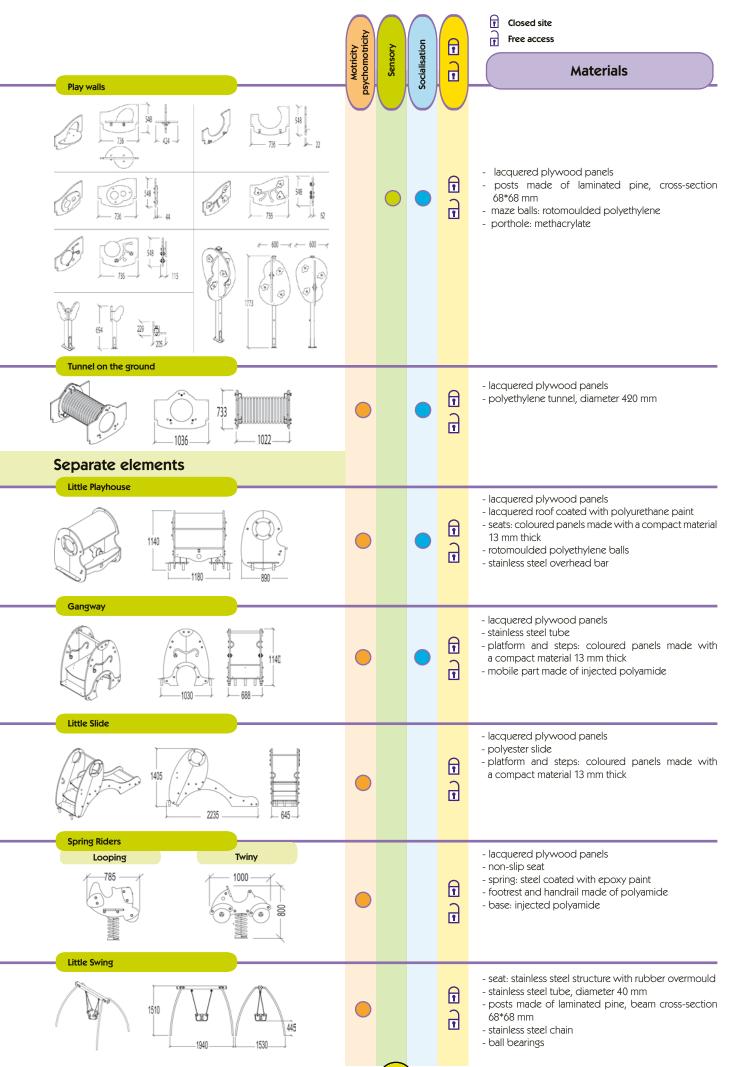












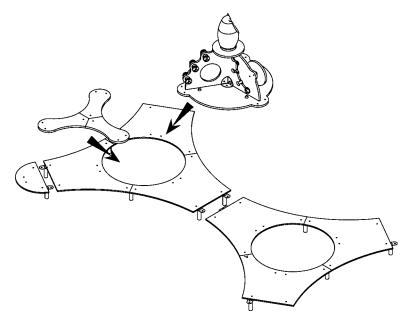




#### Star module



This is the basic element: a star shape with a central opening that can be used to add extra parts, change the size of the structure if needed and adapt it to suit the space available and the budget allocated. Stars can be linked together to make up circuits with various options containing play and learning activities. The star module provides another way of using space. It moves away from the classic vertical/horizontal layout and tends to attract younger children.



The star element can be further developed and given a theme by adding a module at the centre, providing activities that are based more specifically on developing motor skills.

#### **Central seat**



This element can be added at the centre of the star to provide a unique type of seat. Children love meeting there and resting after their games. The most daring, do a balancing act and walk along the short beam with an empty space below them. It takes control and care to go across the central circle on this narrow path and reach one of the other sides.





#### **Activity Centre**





Placed at the centre of the star, the activity centre provides young children with lots of ways of enhancing their awareness while having fun.

Tiny tots learn to find out more about their movements and how to control them by turning the coloured disc, moving the mobile elements in the maze, turning and sliding the coloured balls of the abacus or playing the screw/unscrew game. The older ones among them can turn the owl right at the top of the element.



#### **Turn Table**



The Turn Table is easily integrated in the middle of the star, and it provides older children in the age group with the possibility of drawing a cat, a cockeral, or a rabbit, or associating two similar geometrical elements. Here, children take an active part in the game. They think about how to bring the right elements together by simply rotating the three discs. On their own or in groups, children can give their imagination free rein and draw whatever they want!









The Basin is made of rotomoulded polyethylene and fits snugly in the centre of the star. Because it is so light, the bowl is easy to handle and clean.

Depending on how it is installed, the bowl provides different activities.

Inserted one way up, it can be used as a holder for play equipment, sand, water, etc., and the other way up, it features a spiral with a little ball rolling down it, to the children's great wonder and amusement as they watch.

The bowl provides a pleasant area for play and discovery, and it can be used to set up play and learning centres in a relatively small space.





#### **Music Maker**



The Music Maker is fixed above the star; it contains metal discs on taut cables. By touching the coloured discs, children can have fun making various sounds.

Again, the action/reaction phenomenon enables children to see what they are able to create through their actions.



The Music Maker is made up of metal parts placed on steel cables and coated with epoxy polyester lacquer.



#### **Sand Pit**

F

The sand elements are linked to "the Basin" and fixed to its edges, while the Basin in turn is fixed at the centre of the "star" module; they provide 3 different activities, with sand moulds, a sieve and a shelf.

Children can find out more about the many properties of sand while they have fun playing with it.



#### The Dome



The Dome is used with the star module to provide a shady spot during sunny weather, or a little cave in which children, younger and older ones alike, enjoy meeting up. They can settle down comfortably to share a pleasant moment with the others, invent stories, play in a friendly world, and hide!





#### **Motor Mat**





An elbow module

The Motor Mat is a play and learning element in its own right. It can be used on its own or with the star modules.



#### Its concept

The motricity mat is made up of three basic elements:

An arch module

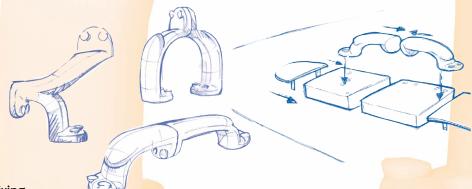
A fixing mat



#### **Evolution**

The various assemblies of these two parts, the arch and the elbow, are used to obtain different geometrical elements.

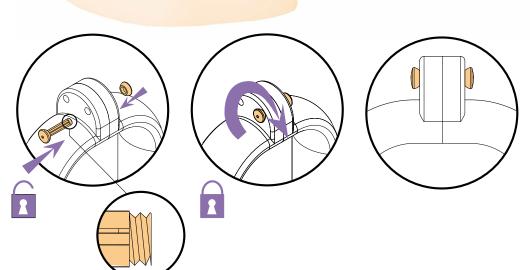
Depending on their number and their layout on the mat, the structure can take the form of a tunnel, a bridge, etc., and provide many motor activities.





A simple fixing system on the mat enables to switch the module over quickly to a different combination and a different activity.

In the case of a permanent assembly layout, definitive fixing is possible.









#### **Combinations**

The diversity of combinations and the mat's modularity make this a tool that is adapted to suit crèche staff requirements and young children's needs alike. The range can be added to continuously and follow a programme linked to the motor progress made by each child or group of children. The activities on the mat evolve depending on the time allotted and the periods set out by the specialists dealing with child care.





Elements to move along while astride them



Walking with reassuring elements



Crouching down and going through a tunnel



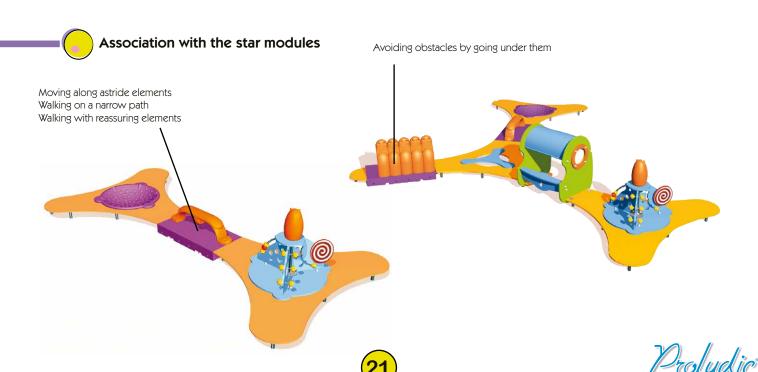
Going under obstacles



Avoiding obstacles by going under them



Going over or under



#### **Grand Cabin**





The Grand Cabin enables children to climb even higher, to hide and watch the world from the top.

The stairs have a banister on each side to make them easier to climb. The playhouse is fitted with a perforated aluminium sheet roof to let the light in and show the effects of the sun through the little holes. Once they are inside, children appreciate the view from the observation post placed at a height of 970 mm, just before they go down the slide.



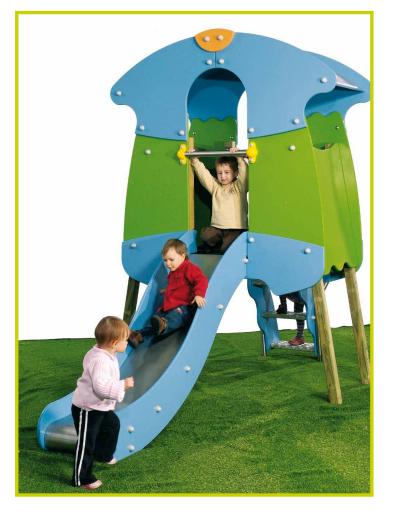


The steps of the stairs on the Grand Cabin are made of aluminium sheet to give the element extra strength and durability.



The nets add zest to the play circuit enabling the older children to climb right up them, with movements that are a little more physical and sporting.

**Climbing Net** 







#### The Platform



The platform, made safe with openwork walls and protected by a gently sloping roof in vibrant colours, is the starting and finishing point for many fun and educational activities.

Set at a height of 600 mm, the platform also helps children to acquire a clear spatial perception of their own bodies and familiarise themselves with a different view of the world around them.



#### The Steps



The steps enable children to reach the platform in full safety.

Wide treads curved bandrails at the right height for children

Wide treads, curved handrails at the right height for children to grasp easily, 2 side handles screwed on the inside... everything is designed to stimulate children's motricity and reassure them as they climb up.





#### The Slide



The slide is an element that is fixed onto the platform.

An essential item of play equipment to create body awareness in children, it plays a part in helping them to discover new sensations. Its gentle slope invites small children to feel the joys of sliding down slowly, but exhilarating enough to make them want to start again.

A handrail secures access to the slide by preventing accidental falls and reassures the most hesitant among children.





#### The Slope





The slope is an item of play equipment that provides access to the platform for those ready to show coordination, concentration and strength. To make it easier for younger children to climb up, they can use the constant rounded holds along the pathway. Protected by a handrail on each side, they can learn how to scale and strengthen their newly acquired sense of balance.





#### The Big Walkway





Suspended 600 mm above the ground, protected from the edges by 2 openwork walls, the big walkway is a link between 2 platforms that provides its little users with a continuous pathway free of any obstacles.

The walkway makes a good place for meeting up and having a chat, and it also contributes to enhancing children's motor skills as they grasp the notion of empty space or learn to overcome their fear of heights.

#### The Big Tunnel



The tunnel adds excitement to the pathway for children, because they have to show flexibility and concentration as they dare each other to reach another platform.

The tunnel is narrow, with a diameter of 420 mm, and this teaches the young adventurers to be in full control of their bodies and abilities.

It is also an ideal spot for being alone, or playing hideand-seek and developing relational skills.





#### **Play Walls**



Play walls involve concentration and fine motor skills for young children.

They are teaching aids designed with different educational and play functions.

#### Counter wall

Chatting with a friend on the other side of the window, playing mirror games, using expressive qualities or putting their imagination to work.



Flower wall

Exploring space by taking different routes to move the flowers around and then back to their original places.



Disc and maze wall

Turning the colour disc, slowly at first and then very fast, to discover new visual experiences. Carrying on with the maze and coordinating gestures by moving the 3 rounded parts around inside it.



#### The Tunnel on the ground



The tunnel on the ground is a real body awareness enhancer that invites children to crouch down and move their way through a narrow space.

Its cylindrical shape also enables young gymnasts to wrap themselves over it or sit inside it.

It is an item of equipment that brings together several types of physical activities to develop motricity in young children.









#### The Gangway



The Gangway provides children with the possibility of going over or under it. The handles on the sides and a maze game at the top help to motivate the youngest among them as they try their hand at their first climbing exercises.

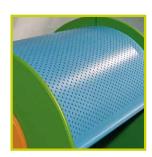


#### The Little Playhouse

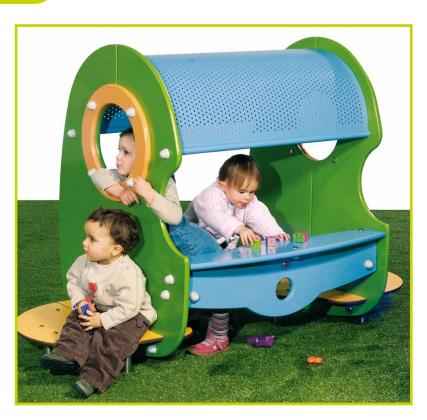


The Little Playhouse has been specially designed to suit the needs of very young children.

It is an ideal spot to hide in. With its bench and shelf, it is a verypleasant place that lends itself to developing role play and socialise.







The roofs of the playhouses are made of perforated aluminium sheet coated with epoxy polyester lacquer.



#### The Little Slide



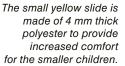
Like The Little Playhouse, the slide can be fitted on one of the starmodule's branches. That way, tiny tots can discover the joys of sliding as part of their play circuit...

Access to the slide is via a set of 3 steps. The step width is designed to be as stable as possible when they go up.

The inside handles on the side give them even more assurance to climb up 600 mm in full safety.

Children can also hide and go under the slide.







#### **Spring Riders**

The Spring Riders are highly appreciated by kids because of their shapes and colours, and they are especially well-suited for the youngest of children. Their ergonomic, reassuring design with the two side pieces enable even the youngest children to swing without any danger and at their own rhythm.



#### The Little Swing- J3960



Swings never go out of fashion; they take on special importance during playtime.

Younger and older children love to swing. Thanks to a seat that is specially designed for them, they can take flight, with the help of an adult, and swing away at their own rhythm.

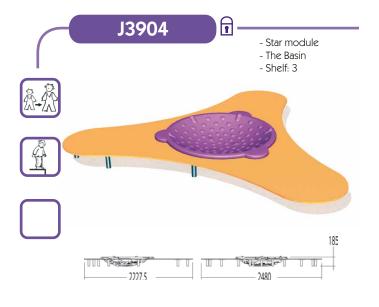
The swing seat is made of a stainless steel frame with a rubber seat pad incorporating a stainless steel cable.

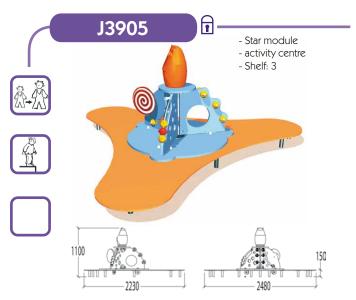


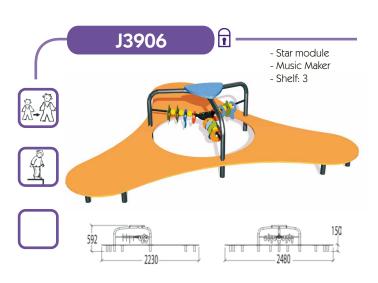


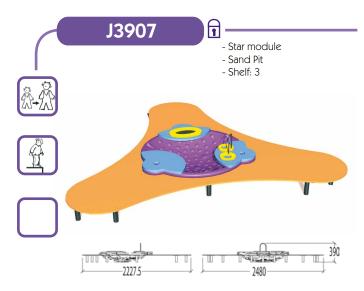


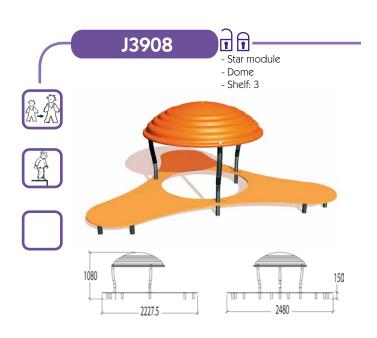


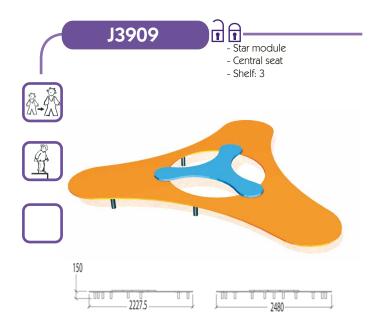






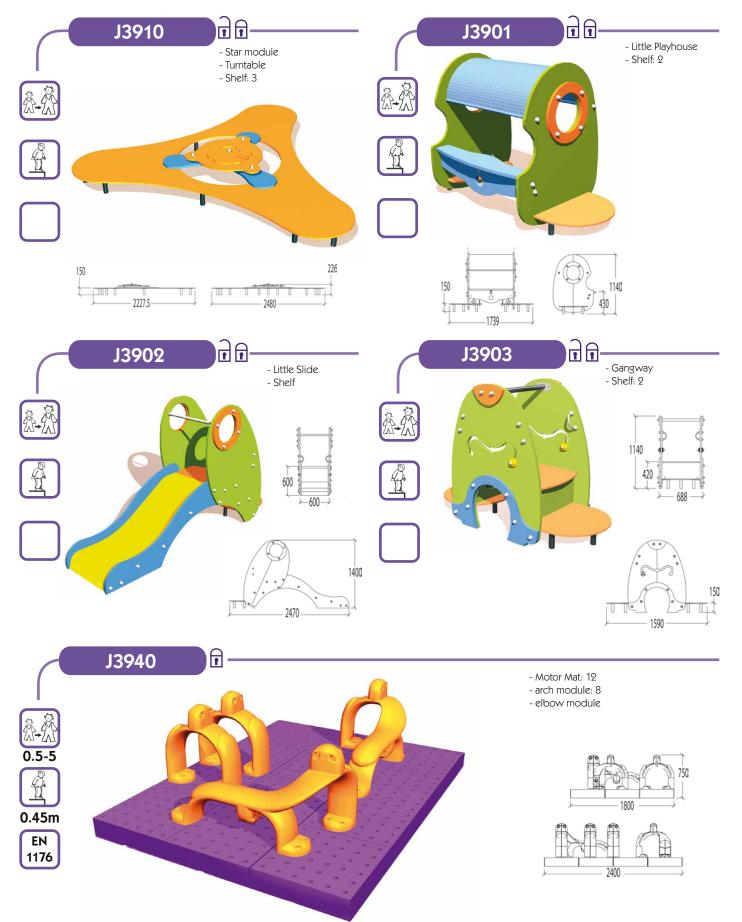






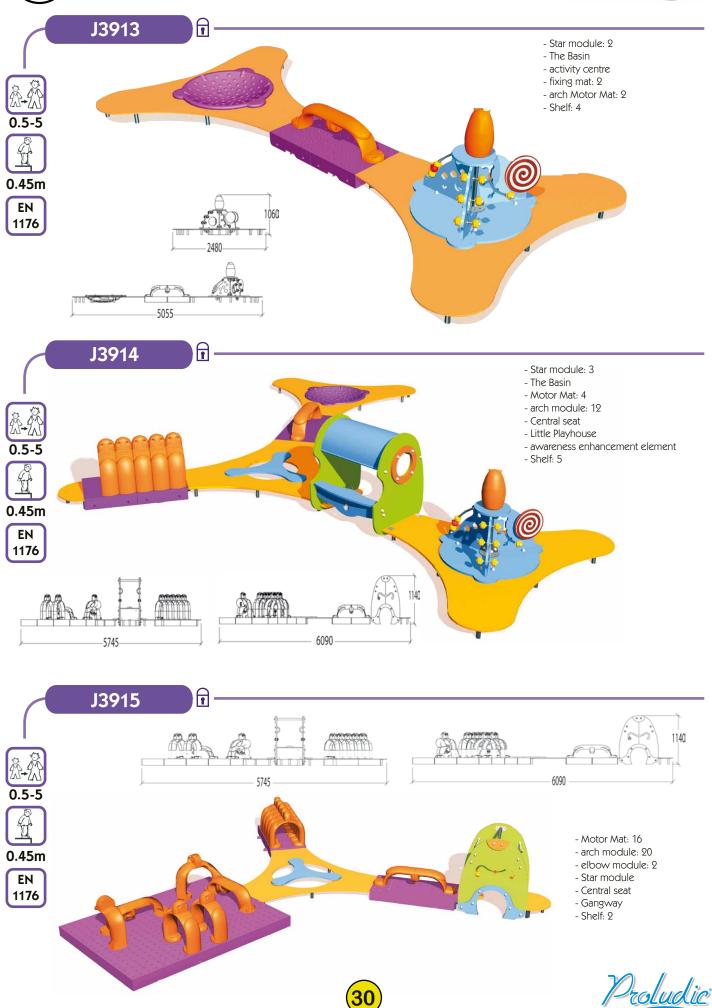




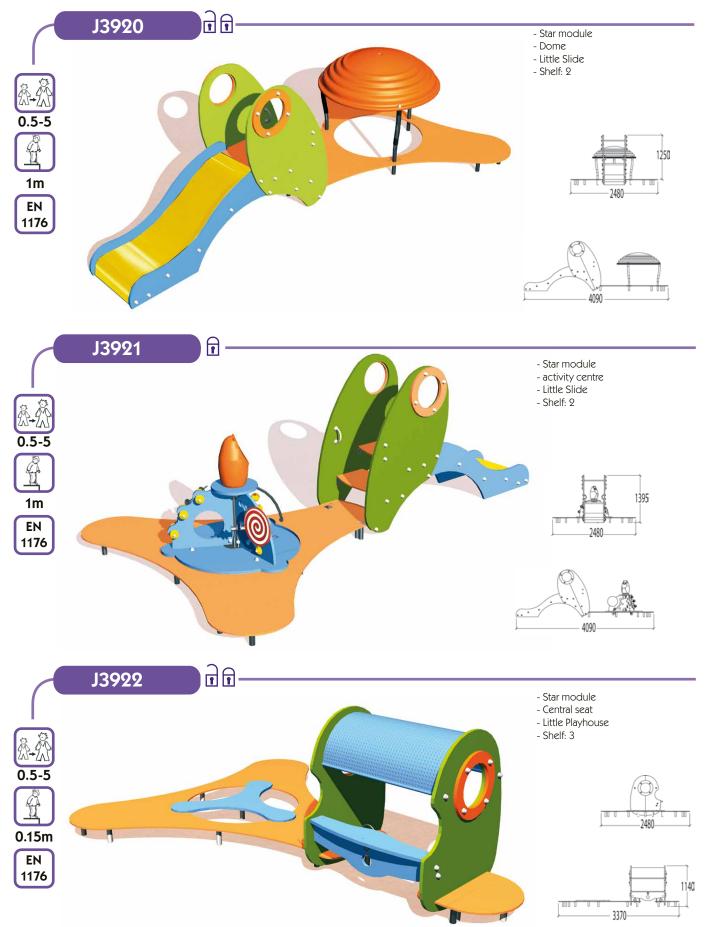






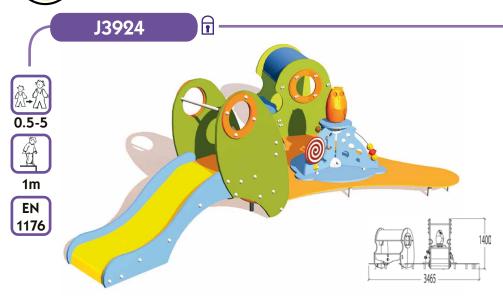




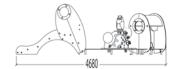






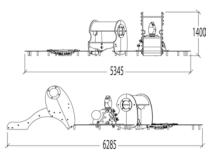


- Star module
- activity centre
- Little Slide
- Little Playhouse Shelf: 2





- Star module: 2
- The Basin
- activity centre
- Little Playhouse
- Little Slide
- Shelf: 3



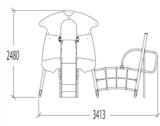
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1m EN 1176





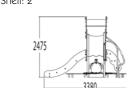


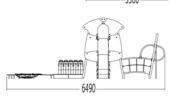






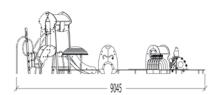
- Star module
- The Basin
- fixing mat: 2
- arch module: 10 Grand Cabin
- Climbing net
- Shelf: 2





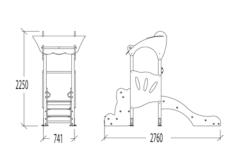


- Star module
- activity centre Little Playhouse
- Central seat Motor Mat: 2
- arch module: 10
- Gangway
- Dome
- Grand Cabin
- Climbing net Shelf: 4





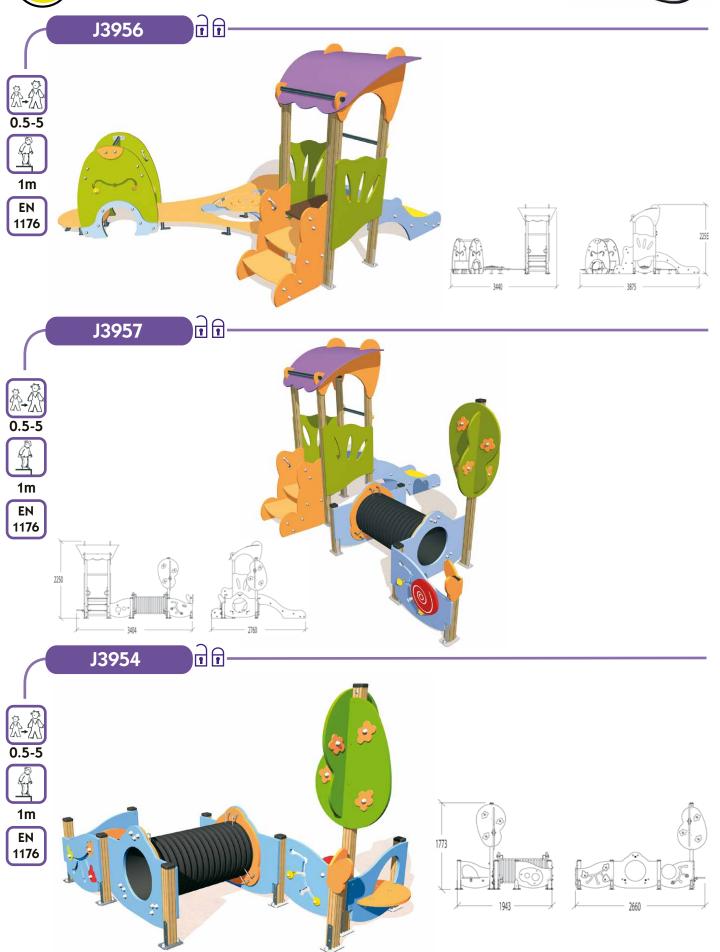
















#### **TECHNICAL CHARACTERISTICS OF TIBOO**





The lacquered panels are made from very high quality plywood 22 mm thick.

Made of alternate layers of thin birch, which offers longevity and an exceptional mechanical strength.

They are coloured by spraying 3 coats of lead-free polyurethane lacquer on them, including a varnished finishing coat to provide further protection from ultraviolet radiation. The edges are prepared using several coats of flexible polyurethane primer.







The springs are made of 35SCD6 steel. Their surface is shot peened and covered with a zinc primer and 2 coats of epoxy polyester powder 100 microns thick. The filled polyamide holder element (patented by Proludic) makes the system exceptionally long lasting and safe.



The rope elements are made of galvanised steel cable covered with black polypropylene. Injected polyamide spheres are used to link the cables together and hold them in place.



The slide on Grand Cabin is made of 304 stainless steel 2 mm thick, shaped, folded and rolled in one piece.



The tubes are made of stainless steel,  $\varnothing$  40 mm, ensuring durability and a constant aesthetic appeal of the play equipment over a number of years.









#### **CONFORMITY**



PROLUDIC play equipment is inspected, tested and certified by an independent laboratory to comply with the European EN 1176 standards. The certificates of conformity of our equipment are available to our customers.

Over and above the safety aspects of the functions provided by the play equipment, it is also their reliability and sturdiness that are defined by these new standards. The materials and structures are subjected to rigorous mechanical tests to check the integrity and robustness of the equipment.

The colours reproduced in this brochure may not be true to life Proludic reserves the right to change specifications and make product improvements to any for our products at any time without notice.

Information in this brochure was correct at the time of printing.

While every effort has been made to ensure the accuracy of information, Proludic cannot accept any responsibility for any errors or omissions and this brochure does not form part of any contract





## Playground Design Advice



#### The Tiboo range can be used inside or outside according to your needs







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