PRELIMINARY ENGINEERING REVIEW

Chinook, Montana

INTERSTATE ENGINEERING

6066 MT Highway
24 South
Glasgow, MT 59230

PRELIMINARY ENGINEERING REVIEW
OUTDOOR SWIMMING POOL & PARK
CHINOOK, MONTANA

June 2021

i.e. #Y2100036

General

This report will summarize the findings of the evaluation of the aquatics facility and park area options for Chinook, Montana. The information utilized in this evaluation consisted of an onsite review, input from user surveys, input from The Friends of the Pool and Park Foundation, and operational information of the existing swimming pool facility. The purpose of this report is to allow the Owner to make an educated decision on the most feasible rehabilitation and upgrade of the aquatic facility and park improvements.

Background

The City of Chinook has an outdoor swimming pool that is comprised of an 'L' shaped concrete pool tank (75' x 82') ranging in depth from 3' to 12', that uses concrete coping gutters, floor inlets, two main drains, an adjustable mercoid vacuum switch, a vacuum diatomaceous earth (D.E.) filter, a filter circulation pump, chemical feed system, in-pool lights, a gas-fired pool heater, concrete decks, ladders, lifeguard stands and diving boards. The bathhouse is comprised of a CMU building with changing rooms, office area, life guard rooms and mechanical/chemical storage rooms. The site also has a separate concrete wading pool area that is fenced off from the main pool.

Figure 1: Main Pool Area

The existing pool is experiencing pealing of the paint on the walls, loose tile, gutter corner damage and increased mechanical issues due to age. The City of Chinook routinely performs maintenance on the pool walls to patch the spalling areas and repaint as needed. The staff must add water to the pool every couple days to maintain the water level, however an evaluation has never been performed on whether the lose of water is due to evaporation or if the pool tank/piping itself is leaking. Based on our experience with other facilities, evaporation is not a substantial cause of water lose, so there is likely leaking in the pool tank/piping.

Figure 2: Swim Lanes

Our firm was contacted to provide a proposal to evaluate the needs of the swimming pool and provide a review and analysis of the various components of the existing pool and park area to determine options for improvement. An onsite visit by Kaden Bedwell, EI was conducted on Monday, October 5, 2020 and this report was prepared based on information collected during that visit and was supplemented with information and pictures provided by the members of the Pool & Park Foundation Board. The results of a general survey conducted can be accessed via the Foundation for review.

Review of Existing Pool Conditions During October 5, 2020 Site Visit

This section will provide a narrative of the conditions of the swimming pool at the time of the site visit. During the time of the visit, the swim season was over for quite some time and the site was prepped for the winter season so the filtration/pumping/heating operations could not be viewed while operating. The swimming pool tank had several feet of water in the deep end that was discolored so the main drain area was not visible.

Figure 3: Broken Coping Stone

The pool tank is a reinforced gunite structure with precast concrete coping stones over top of the cast in place concrete gutter. The operator stated that the gunite surfacing material on the sidewalls of the pool was beginning to spall and fall into the bottom of the pool. Due to its failing condition, the surface was stripped clean and then patched and repainted at that time. The painting is again displaying the same flaking and peeling as described above do to its age and annual maintenance is required to spot fix those areas as well as replace the black lane tiles that are falling away from the gunite sidewalls. The coping stones on top of the gutter are relatively large and heavy to move around when trying to clean the gutters of leaves, cotton, dirt and grime built up from the swim season. It is evident that some of the stones have been broken over time and have not been replaced.

The lights in the pool walls have been repaired and replaced numerous times by the City staff, however the water keeps getting behind the plastic covering and shorting out the light. This is a constant operational expense and maintenance item in order to keep them operating and another potential source for pool tank leakage.

In the shallow end of the pool is a set of PVC stairs used for access into the pool. Over time, PVC exposed to the atmosphere in this kind of environment become brittle and can be difficult to clean during every swim season.

Water stains, excessive cracking and spalling of the concrete deck surface are evidence that the concrete deck around the pool does not have adequate drainage to direct water away from the pool and off the site. The lack of floor

Figure 4: Spalling of Concrete Deck

drains between the pool and the bathhouse allows the water to collect near the exterior walls of the bathhouse. Plumbing for the water slide is routed on top of the concrete deck which poses a tripping hazard and makes it more difficult for mobility challenged individuals to safely access all areas of the pool deck. While the concrete deck around the pool does meet code, it doesn't allow for much marshalling area on the west side of the pool during swim meets.

Figure 5: Bacterial Growth On Fountain

The existing bathhouse fixtures range from functional to functionally obsolete. The leaking of several fixtures creates a condition for bacterial growth on the wall surfaces. The bottoms of the door frames on most of the walk doors have corroded away due to the wet environment and material selection. The layout of the bathhouse has sight line issues meaning, when standing at certain spots in the entrance area, one can see into either the boys or girls locker rooms.

The bathhouse is currently comprised of an entrance lobby, office, two first aid/staff dressing rooms, a boys and girls locker room, mechanical room, chlorine room, and storage room. The current building lacks a large storage area that is easily accessible and big enough to properly serve the needs of the facility. The current storage room is approximately 6.5' by 20.5' and is mainly occupied with pool chemicals and swim team amenities. Upon opening the door to the room, you are immediately met with equipment which would all need to be moved if the handicap lift or lane ropes were needed.

The existing pool complex data is below. These numbers were used to size the original filtration and recirculation equipment.

Main Pool	
Surface Area	5,070 SQFT
Water Volume	234,000 Gal
Perimeter	314 LF
Number of Inlets	26
Number of Skimmer Wiers	21
Number of Main Drains	2
Turnover Rate (6 hrs)	650 GPM

The existing pool heater is a gas-fired 1,440,000 BTU input and 1,210,000 BTU out that is about 30 years old, which is considered past the useful life of this component. These older units are not as energy efficient as the newer units and therefore require more fuel to heat the same volume of water. In discussions with the operators, the replacement parts for the heater are becoming obsolete causing more down time for the pool as the repairs are made.

The existing pool filter is a concrete structure that holds the D.E. vacuum socks and header piping. The basic method of operation for this type of filter is to have the pool water from the main drain and perimeter gutter system flow into the compartment holding

the D.E. vacuum socks and header piping. The water is then returned to the swimming pool. This filter was installed in the pool bathhouse in approximately 1975. The typical functional life of a vacuum D.E. filter is 25 years, so the existing filter system has exceeded its life expectancy by 21 years. The operator didn't mention any mechanical issues with the filter itself when onsite. The operator did state that the lines under the pool had froze one winter when the water was completely emptied and the pool tank had to be cut in order to access the lines and replace the problem areas. If a leak or break were to form in these main lines again, the pool would need to be shut down for an extended period to be fixed. If not sealed properly, these saw cuts in the bottom of the pool tank could lead to a significant source of water loss.

Figure 6: Rusted Fittings & Valve

The longevity of the recirculation piping around the pump is also very suspect as there are several areas of rust, corrosion and fatigue. If any of these pipes, fittings, or appurtenances were to crack or fail, then the filter couldn't operate and the pool would need to be shut down. The pump nameplate itself is so corroded that the nameplate on its side is no longer readable and the pump looks to be nearing its life expectancy.

During the site visit, the corrosion on the covers to the electrical connections indicate that moisture control is a serious concern and that an electrical fault could occur at any time. The room has a manual louvered vent in the wall, however the only fan is a residential box fan sitting near the bottom of the opening. The nature of the D.E. filters being open to the atmosphere leads to a significant source of high humidity and moisture in the room.

Recommendations

Upon various discussions with the pool operators, maintenance, Pool & Park Board and citizen surveys, we recommend the following phased approach for the rehabilitation, replacement or upgrades of various portions of the aquatics complex. It was decided that the best approach, based on available funds, was to phase the project into 4 different phases that could be constructed as standalone projects. Those phases will be described in depth below but are generally; A) rehabilitation of the main pool, tank liner, gutter, filter and heating system, bathhouse renovation and new mechanical building B) new splash deck & south park features C) new tower water slide and D) Ensign Sweet Memorial Park rehabilitation.

Phase A – Rehabilitate the Existing Pool Tank, Deck Area, New Zero Depth and Mechanical Building

It was evident that the filtration, recirculation, chemical feed, and heating systems need to be brought up to a reliable functioning condition for the safe and efficient operation of the pool. In order to accomplish this, it will require the complete replacement of the existing with new equipment. The filter system replacement has options as to the type and the location. The vacuum system can be replaced with another vacuum system (either sand or D.E.) or a couple other options can be the use of a high rate sand pressure filter system or a cartridge filter system. The filter can be installed in the existing mechanical room of the bathhouse or could be installed in a new standalone mechanical building. The later option would line up better with the implementation of Phase B and would open up space in the existing bathhouse for a larger storage room by combining the existing chemical, current storage and mechanical rooms to be one large open room.

We recommend the use of a high rate sand filter system for its smaller footprint, there's no need to add any filter aide as D.E and the system is completely enclosed so the humidity in the room and corrosiveness to the metal materials is much less. The operation is very straight forward with a single lever to change the filter from filter mode to backwash mode for cleaning. We'd further recommend that a new mechanical building be built to house the filter, pump, heater, chemicals and future Phase B mounted mechanized system skid.

With the replacement and potential relocation of the mechanical equipment, the main drains and piping would need to be redirected to the new building location. Currently the pipe runs underneath the pool tank until it reaches the mechanical room. In new construction we tend to limit the amount of piping directly underneath of the pool tank itself because we want to cut into the least amount of pool tank possible to repair potential damaged lines. Every saw cut in the tank is an additional potential leakage point. With the need to reorient the lines, we recommend that the two main drains be replaced at the same time so that the entire recirculation system is updated with the project and the existing piping is plugged and properly abandoned in place.

In order to fix the constant maintenance issue of the concrete sidewall paint and gunite spalling, the tank can be completely sandblasted down to the bear concrete, the cracks can be routed out and sealed and then the tank can be recoated with a new paint system. However, this approach will need to be redone approximately ever 3 to 5 years as its not a long-term solution to the issues at hand. We recommend that a PVC liner system be installed that has a 15 to 20-year water tightness life cycle and is much easier to clean and prep for the swim season. The PVC liner has a higher initial cost but during the 15 to 20-year life cycle there's a significant cost savings in maintenance and operations. The liner not only provides a water tightness feature but also can save on the use of pool chemicals because the PVC material doesn't absorb the chemicals like concrete does. A picture sequence found in the Appendix shows how this liner is installed.

The entire concrete deck and fence around the site should be removed and replaced to allow for the proper drainage away from the site, as well as for the installation of the new mechanical lines and slide piping. It was noted by the Board that the concrete deck on the west and east sides of the pool be extended to allow for additional seating and shade areas and for a larger marshalling area for swim meets.

We recommend that the existing concrete gutter, coping stones and a portion of wall be removed to a depth of approximately 18" from the surface and be replaced with a new stainless-steel gutter system. One of the major benefits to the stainless-steel gutter system is that all the pool piping except for the main drains is all located within the gutter system and can be winterized very easily. There is only one segment of pipe from the pool to the mechanical equipment. The use of a gutter system also allows for better water recirculation in the pool which makes chemical addition and mixing more efficient. The installation of a stainless-steel gutter system on an existing pool is illustrated in the Appendix.

This phase of the overall project would also include a new 25' wide zero depth entry on the southwest side of the pool. The activity area will have a maximum depth of 24" as it nears the main pool area. The activity bay will be separated by a stainless-steel fence to help reduce the likelihood a small child could inadvertently enter the main pool area. A picture of this type of fencing is found in the Appendix.

Miscellaneous items included in this phase are; a quarter moon entry step configuration in the shallow end of the existing pool, new pool ladders, stanchions, life guard stands, diving boards, and minor bathhouse work.

Phase B – New Standalone Splash Deck and South Park Features

Currently the pool site has a wading pool that's separated from the main pool area via fencing and gates. The wading pool, when open, needs to have a lifeguard in attendance as the facility has a standing body of water. The Board would like to see the existing wading pool be replaced with a splash deck.

A splash deck is an aquatic feature that has no standing water but is a concrete surface with water spray attractions installed to entertain the pool patrons. There are two types of splash decks: flow thru and recirculation. A flow thru splash deck is connected directly to a public water system and utilizes that water to operate the spray features; the wastewater is then disposed of into a City storm or sanitary collection system. This has a lower initial cost but has a large annual operational cost because the water and sewer services must be paid for. A recirculation system has a body of water, usually in a holding tank of 4,000-5,000 gallons, that has its own filter, chemical feed system and pumps that come on a manufactured skid. This is the system that we would recommend as it has a higher initial cost but has a lower annual operating cost. The deciding factor between the two usually comes down to the amount of water usage and the water and sewer rates in the community.

The new mechanical building constructed in Phase A would be designed to have a dedicated space to accommodate the splash deck skid and chemical storage needed for this standalone system. The preplanning for Phase B means a little larger mechanical building be built initially but in the long run it would be cheaper than building another standalone structure just for the splash deck. The new mechanical building built in Phase A would also include a concession wing as requested by the Board. This area would serve the south park area.

A splash deck's cost is based on the number of attractions, level of automation, and size of the concrete deck itself. We've provided the Board with various size options to consider for the area which vary in size and scope from a 5,000-sf splash deck with activity platform and numerous water features to a 2,500-sf splash deck with 5 water features. The options presented are detailed below.

- ❖ SPLASH DECK OPTION B.1
  - o A 4,500 – 5,500 square foot splash deck with an activity platform with two water slides and 9 additional water features.

- ❖ SPLASH DECK OPTION B.2
  - o A 3,000 – 4,000 square foot splash deck with 4 water features and a standalone kidde deck slide.

- ❖ SPLASH DECK OPTION B.3
  - o A 2,500 – 3,000 square foot splash deck with 5 water features.

The Board stated that they felt option B.1 aligned with their vision the most out of the three. Based on that selection, a splash deck that fits that mold was chosen to be displayed on the preliminary site layout. However, this report is to help facilitate discussion on how large of a splash deck the community could support.

In Phase B, the remaining area on the southern portion of the park could be developed to include an open-air outdoor stage including the foundation, platform, roof, and minimal electrical work.

Phase C – New Tower Water Slide

In discussions with the Board, it was expressed that there may be a need/want for a tower water slide to be constructed on the site. We recommended that runoff troughs be used at the end of the slide, rather than constructing a separate plunge pool. The benefit for a runoff trough is not having another body of water which would need a certified life guard to watch over the plunge pool. A runoff trough acts as a long shallow body of water that slows the occupant down as they exit the slide flume when the slide pump stops, the water drains out of the trough. This alternative doesn't require a certified lifeguard be present.

A tower water slide works by pumping water up to the top of the platform and then pushing it down the slide flime and into a collection device for recirculation. The supply water will be drawn from the main pool via a sidewall sump and PVC line in the pool wall and then returned to the main pool via the same type of configuration. The sump and PVC line will be installed in Phase A with a water tight blind flange installed in the sump to prevent water from reaching the PVC pipe. This will allow for the tower water slides to be installed at a later date and the new concrete decking won't need to be cut and excavated as all the piping needed will already be in place and extended out past the deck.

The cost of the tower water slide is generally dictated by the tower's overall height. As the tower platform gets taller, more vertical structure is required and the slide run becomes longer which both in turn increase the overall price of the structure. We've

provided the Board with a couple size options to consider for the area and they vary in size and scope from an 18' tower platform with two flumes to a 16' tower platform with a single serpentine slide. The options presented are detailed below.

- ### Tower Water Slide Option C.1
  - A platform height of 18' with two slide flumes. These flumes will be fitted with a runoff trough for exiting the slides.

- ### Tower Water Slide Option C.2
  - A platform height of 16' with a single open serpentine flume. The flume will be fitted with a runoff trough for exiting the slide.

The Board stated that they felt option C.1 was the direction that they wanted to go. Based on that comment, a tower water slide that fits that mold was placed on the site exhibit. However, this report is to help facilitate discussion on the overall height and how many flumes that the community could support.

Phase D – Rehabilitation of Ensign Sweet Memorial Park

The drainage issue will be fixed via minor site grading and potential alterations to the storm drain system. Its evident that the sandbox playground areas are lower than any other ground or catch basin in the park so any and all storm water runoff will currently pond in them. By removing the sandboxes and constructing a new elevated concrete foundation, the storm water will be directed into the grassy area which will be graded to the existing storm drain. The existing buildings and trees limit the amount of fill that can be used to control the park drainage without extensive work to raise the foundations and avoid damaging and/or killing the existing trees.

As stated above, the play boxes will be removed and replaced with a new concrete foundation and topped with a more user-friendly rubber type material covering. The new play area will include several new playground structures and the existing spring toys, spiral slide and blue activity platform could be salvaged and reinstalled in the new area. The new structures could include an activity pod with a climbing wall and interactive features, new slides, and obstacle features. A survey of potential park features is found in the Appendix.

Opinion of Probable Cost

Phase A – Base Project - $1,350,000 - $1,550,000

- Mechanical Building, Equipment & Piping - Breakout
  - Mechanical Building $210,000 - $275,000
  - Water/sewer/backwash systems $75,000 - $125,000
  - Pool filtration/chemical feed/heater $100,000 - $145,000

Phase B – Splash Pad

- Splash Pad Option B.1 $800,000 - $900,000
- Splash Pad Option B.2 $400,000 - $500,000
- Splash Pad Option B.3 $300,000 - $500,000
- Open air Outdoor stage $110,000 - $175,000

Phase C – Water Slide

- Tower Water Slide Option C.1 $225,000 - $275,000
- Tower Water Slide Option C.2 $175,000 - $200,000

Phase D – Park Improvements

- Park Drainage improvements $75,000 - $120,000
- Remove and reinstall existing features $45,000 - $ 60,000
- New playground pads, equipment and sidewalks $135,000 - $200,000
- No estimate of cost has been prepared for any building or bathroom upgrades at this time.

After presenting the Board with the above project breakdown and various drawing exhibits, they decided to go ahead with having all 4 phases show in the exhibit with Options B.1 & C.1 for the splash pad and tower water slide. The table below is a summation of the estimate of probable cost for each phase and options selected by the Board.

Chinook Pool & Park Rehabilitation

Phase	Range
A	$1,350,000 - $1,550,000
B	$910,000 - $1,075,000
C	$225,000 - $275,000
D	$255,000 - $380,000
TOTAL	**$2,740,000 - $3,280,000**

Appendix

POTENTIAL REHABILITATION OPTIONS
CHINOOK MT

POTENTIAL ELEMENTS OF A REHABILITATED AQUATICS COMPLEX

June 2021

INTERSTATE ENGINEERING

Rehabilitation of existing concrete gutters

Rehabilitation of existing concrete gutters

INTERSTATE ENGINEERING

Gutter Installation

Concrete Ribbon Slab poured to anchor new gutter

Decks being poured

Before After

Concrete gutter and tile pool tank

Stainless Steel gutter and PVC lined pool tank

Rehabilitation Pool Shell with PVC liner

Rehabilitation Pool Shell with PVC liner

INTERSTATE ENGINEERING

Rehabilitation Pool Shell with PVC liner

INTERSTATE ENGINEERING

PVC Liner Installation


Original Pool Finish - BEFORE


Pool Floor Cleaned


Liner Installation


Liner Floor Installation


Liner Finished Floor with Stripes


Liner at Shallow End


Opening Weekend !!

Virginia Graeme Baker Compliance

Virginia Graeme Baker Compliance

Pool heater Rehabilitation

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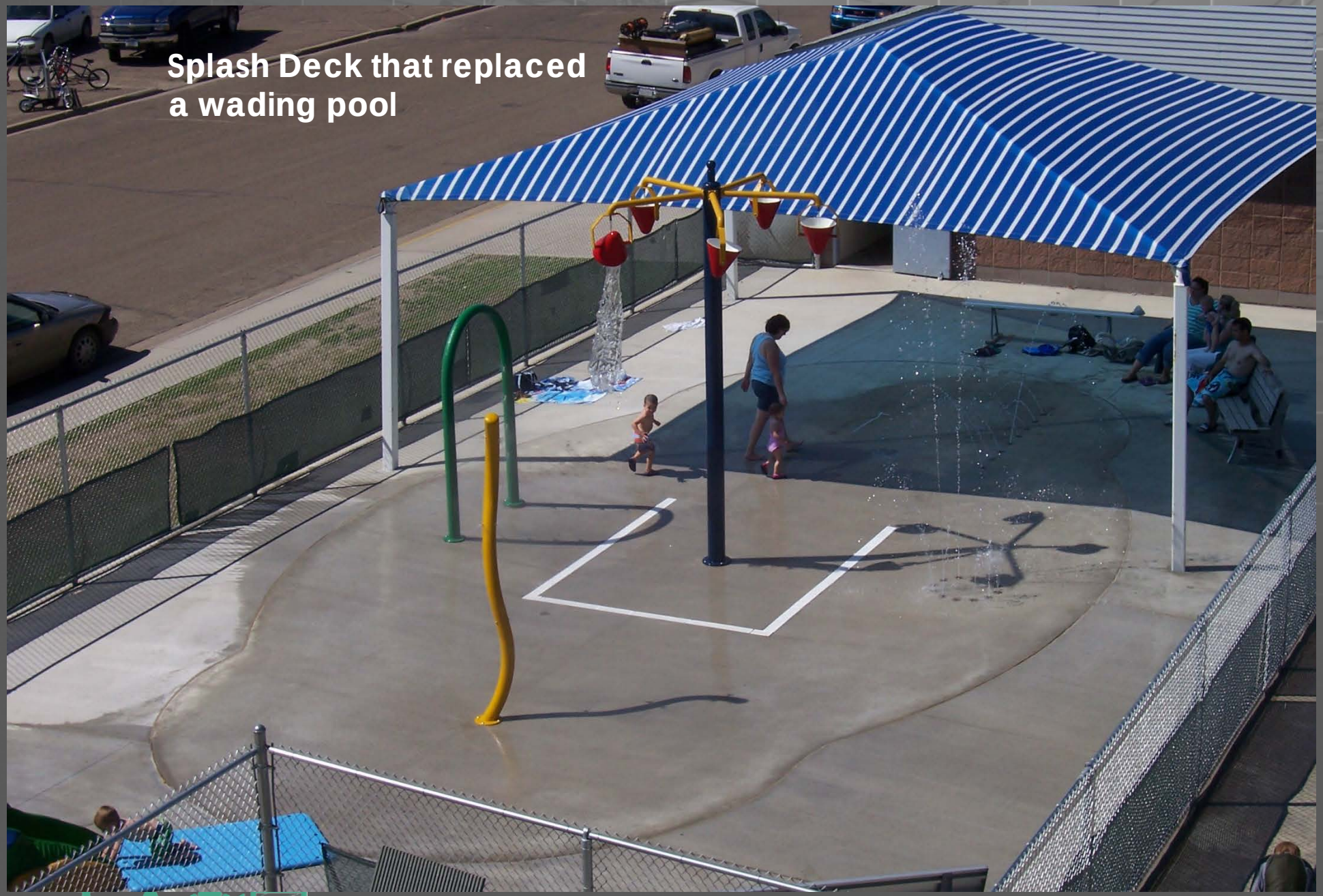
Pool Filter Rehabilitation


Zero entry with features no separate splash deck
0 FT


Zero entry with no features as they have a separate splash deck
2FT 0IN
2FT 9IN

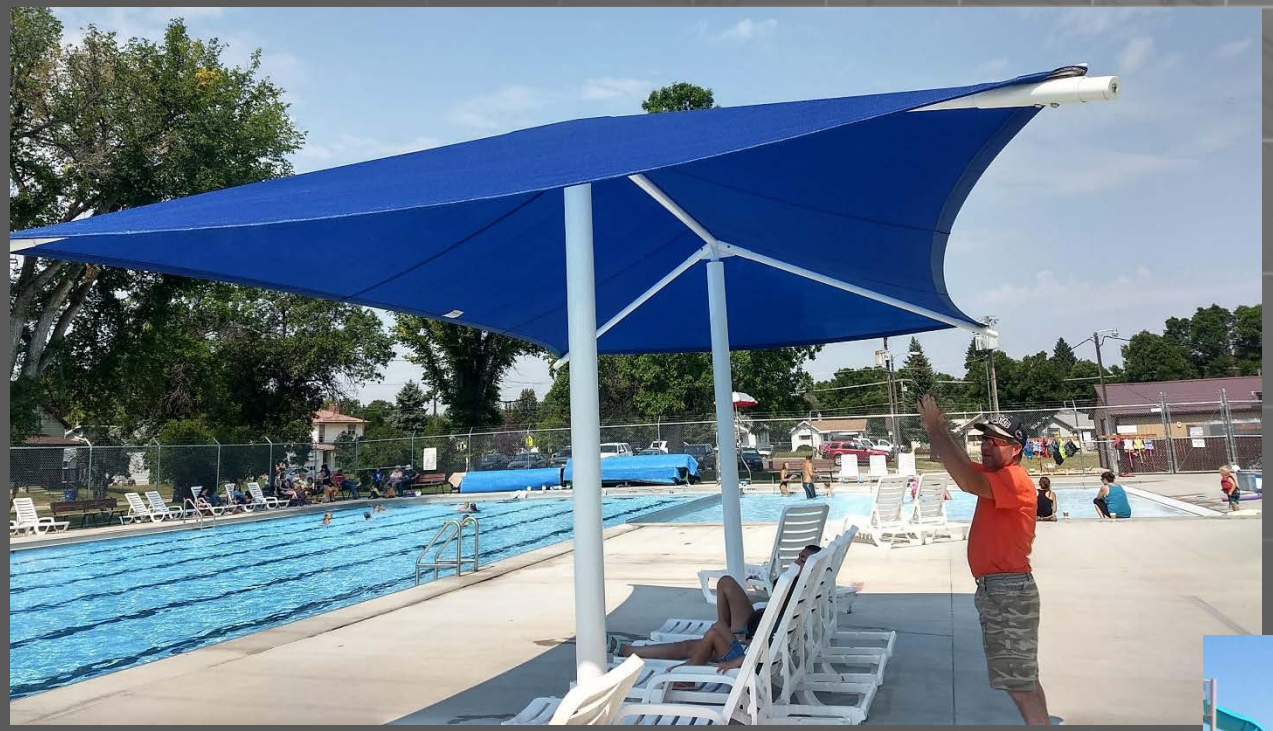

Splash Deck that replaced
a wading pool

Splash Deck adjacent to the swimming pool

Splash Deck in a park setting

Tower Water Slide Run off Trough using swimming pool as water source

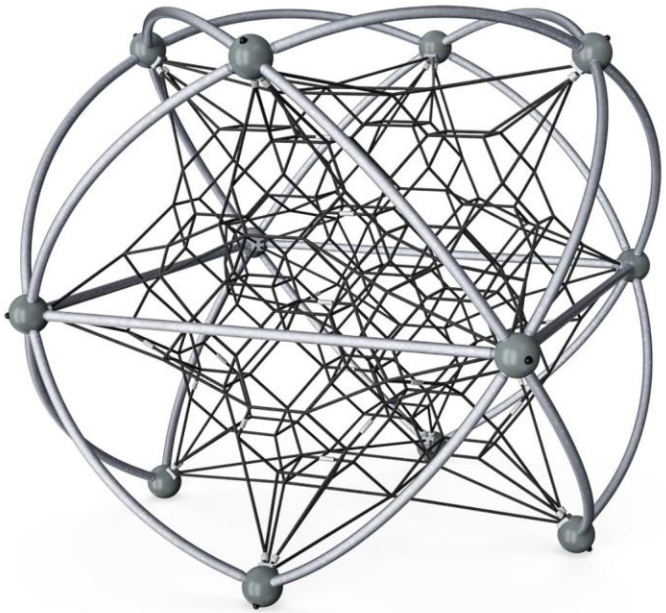
INTERSTATE ENGINEERING



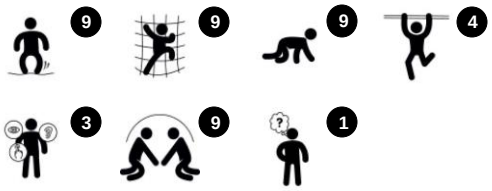
Shade Structures

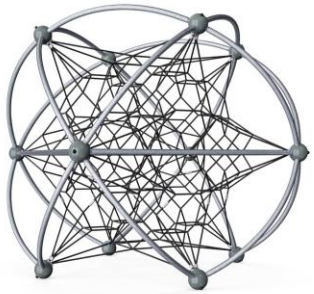
CIRCITE

COR46330



Item no. COR463301-0406	
General Product Information	
Dimensions LxWxH	13'7"x13'7"x10'3"
Age group	2 - 5
Play capacity (users)	30
Color options	





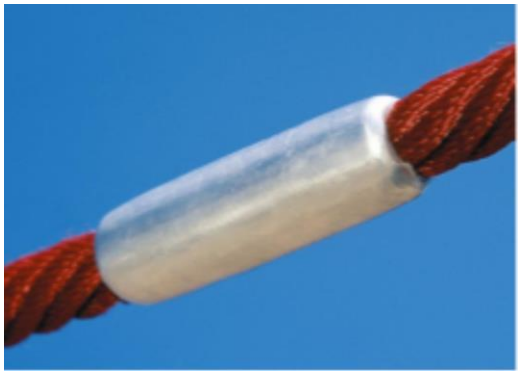
The Circite is an immense three-dimensional rope environment in which the child can move freely in all directions. The numerous ways of climbing ensure hours of play and attract children again and again. The Circite is transparent and this facilitates communication across and through the net. The bouncy interconnected nets translates the movement of all the climbers to each other. This strengthens concentration and major muscle groups as children hold tight when climbing up, down and around the net. This supports important motor skills such as proprioception and cross-body coordination. These skills are fundamental for coordinating the cooperation of the left and right brain half, which is necessary for other skills such as literacy. All of this takes place in a graded play structures with rich play events.

Data is subject to change without prior notice.

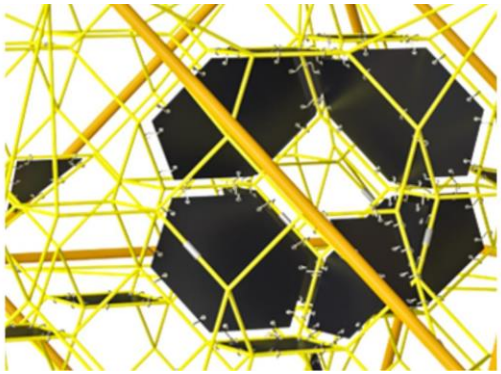
CIRCITE

COR46330

Corocord 'S' clamps are used as universal connections in Corocord products. 8mm stainless steel rods with rounded edges are pressed around the ropes with a special hydraulic press, making them the ideal connector: safe, durable and vandalism-proof, all while allowing the typical movement of rope play structures.



The aluminium swages of the net are double conical with rounded ends and are as small as safety allows. The overall net design aims at keeping metal parts within the net to an absolute minimum, both in size and number, in order to provide the best possible rope climbing experience.

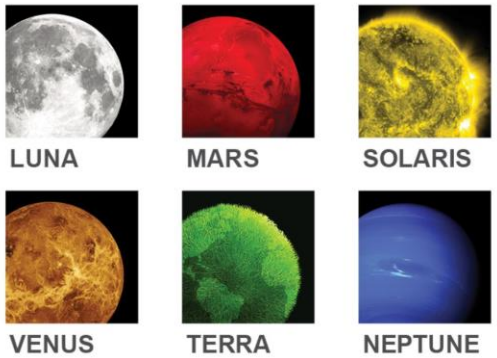


Corocord membranes consist of friction-proof rubberized material of conveyor belt quality with excellent UV resistance. Tested and compliant with REACH requirements for PAH. Embedded is a four-layered armoring made of woven polyester. The armoring and the two surface layers result in a total thickness of 7.5 mm.

Item no. COR463301-0406	
Installation Information	
Max. fall height	9'10"
Safety surfacing area	456 ft2
Number of installers	2
Total installation time	20.6
Excavation volume	2.30 yd3
Concrete volume	1.28 yd3
Footing depth (standard)	3'11"
Shipment weight	1,505 lbs
Anchoring options	In-ground ✔

Warranty Information	
EcoCore HDPE	Lifetime
Corocord Rope	10 years
S-Clamps	10 years
Hot dip galvanized steel	Lifetime
Spare parts guaranteed	10 years

The steel struts are hot dip galvanized inside and outside with lead free zinc. The galvanization has excellent corrosion resistance in outside environments and requires low maintenance.



The COROCORD Frame Nets are available in 6 galactic color themes. The themes draw on bright colors that appeal to children of all ages. Can be changed in the configurator.

Elevated activities **0**	Accessible elevated activities	Accessible ground level activities	Accessible ground level play types
Present	**0**	**1**	**1**
Required	**0**	**1**	**1**

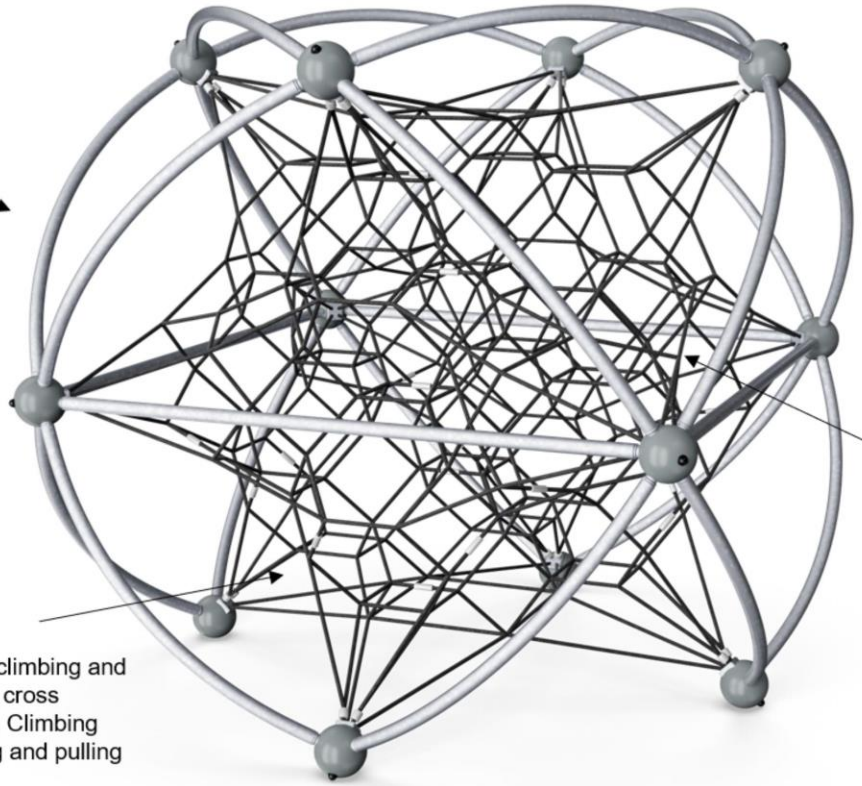
Data is subject to change without prior notice.

CIRCITE

COR46330

Height
Social-Emotional: children develop courage and self-regulation when being up high. This positively affects self-confidence.

Transparency
Social-Emotional: the transparency makes possible cooperation and communication throughout, all important life-skills for children to learn.



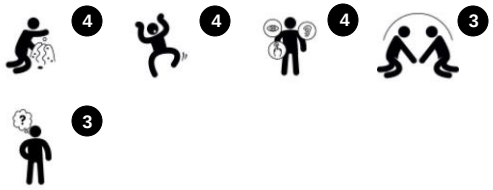
Connected nets
Physical: the connected nets make the climbers feel the movements of the other climbers, adding a dimension of fun and demanding concentration when holding tight to the rope. All muscle groups are trained, as well as cross coordination.
Social-Emotional: the climbers' movements affect the other climbers, so consideration and turn-taking is supported.
Cognitive: cause and effect understanding is supported by the bouncing effect of the movement of others.

Big meshes
Physical: the big meshes allow for climbing and crawling, supporting proprioception, cross coordination and spatial awareness. Climbing here takes muscle strength, pushing and pulling arms to get upwards.
Social-Emotional: allow more children being seated together, sharing.

Cottage Deluxe

MSC5415

Item no. MSC541500-3417P	
General Product Information	
Dimensions LxWxH	6'4"x3'9"x4'7"
Age group	6m - 4
Play capacity (users)	8
Color options	



Wow! The double houses is loaded with play opportunities that will immediately attract children and adults alike, and will keep the play going for more fun and greater developmental benefits. This incredible social space encourages graduated social play. The rich opportunities for children to play side by side and together: porch, bench and table, will help them develop friendships and empathy. The many manipulatable features of the house will spark explorative play amongst the children. The doorbell is a sphere that makes a rattling sound when run in. Its groove. This is fascinating and spurs dramatic play, which again supports language development. The small mirror is a hit and supports self awareness in young children. The house theme has the advantage of uniting even very young children in dramatic and social play.

Data is subject to change without prior notice.

Cottage Deluxe

MSC5415

Panels of 19mm EcoCore™. EcoCore™ is a highly durable, eco friendly material, which is not only recyclable after use, but also consists of a core produced from 100% recycled material.

The steel surfaces are hot dip galvanized inside and outside with lead free zinc. The galvanization has excellent corrosion resistance in outside environments and requires low maintenance.

Play spheres are made of PP. PP has good wearing and impact resistance.

Sand strainer is made of high-quality stainless steel to ensure durability of the product.

Item no. MSC541500-3417P		
Installation Information		
Max. fall height		0"
Safety surfacing area		0 ft2
Number of installers		2
Total installation time		8.1
Excavation volume		0.29 yd3
Concrete volume		0.00 yd3
Footing depth (standard)		2'0"
Shipment weight		347 lbs
Anchoring options	In-ground	✔
	Surface	✔

Warranty Information	
EcoCore HDPE	Lifetime
Movable parts	2 years
Hot dip galvanized steel	Lifetime
Spare parts guaranteed	10 years

Elevated activities **0**	Accessible elevated activities	Accessible ground level activities	Accessible ground level play types
Present	**0**	**1**	**1**
Required	**0**	**1**	**1**

Cottage Deluxe

MSC5415

Theme
Cognitive: suggests a theme and supports dramatic play, which stimulates languages and communication skills.

Desk with sieve
Social-Emotional: children can gather and store materials, cooperate and take a break together.
Cognitive: sand can be shifted through the sieve, for understanding of cause and effect and object permanence.

Bench
Social-Emotional: gathering, cooperating or taking a break from play - all train social skills.

Play sphere
Social-Emotional: can be played from both sides, encouraging cooperation.
Cognitive: cause and effect understanding.
Creative: leave a mark and place the spheres at different positions.

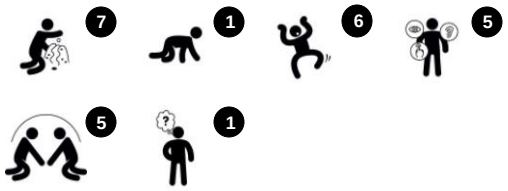
Window
Social-Emotional: invites interaction between sides and cooperative play.

Thematized element
Cognitive: set a tangible theme and thus spur dramatic play. Dramatic play is a great trainer of language skills.

Coupe Deluxe

MSC5414

Item no. MSC541400-3417P	
General Product Information	
Dimensions LxWxH	6'2"x3'9"x3'11"
Age group	6m - 4
Play capacity (users)	7
Color options	

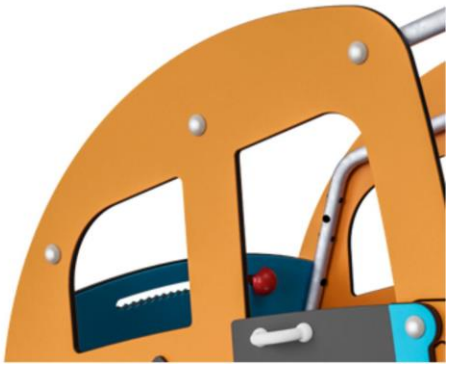


The Double Car attracts toddlers repeatedly with its friendly design. The familiar theme of driving opens a world of drama-tic play, which intensely supports language and communication skills. Due to the transparency in design, adults can sup-port play easily. The 360 design enables play both inside and outside the car and allows more children to play together. The variety of play activities encourage exploration. All of the black parts of the Double Car can turn or move: the rubber doors open, the rear flaps can be pulled in different positions to vary the excitement of crawling through, the petrol flap and the wheels can be turned. So can the steering wheel and gear. The spoiler play sphere will create rattle sounds when run in its groove. These play details support the child's logical thinking skills and play a huge role in cognitive development.

Data is subject to change without prior notice.

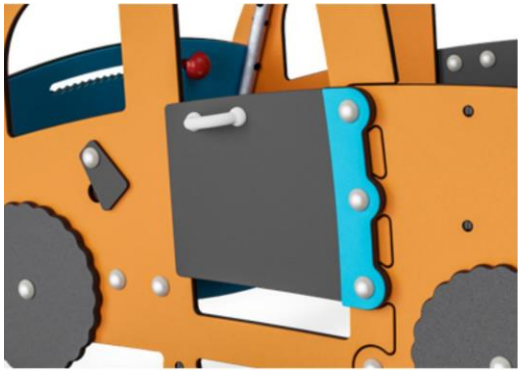
Coupe Deluxe

MSC5414



Panels of 19mm EcoCore™. EcoCore™ is a highly durable, eco friendly material, which is not only recyclable after use, but also consists of a core produced from 100% recycled material.

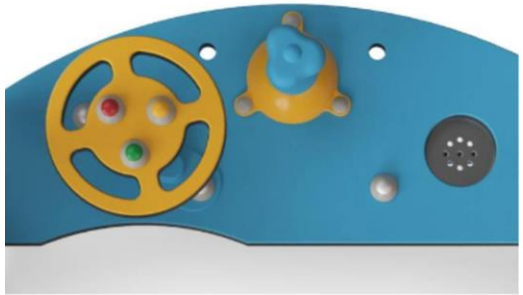
The steel surfaces are hot dip galvanized inside and outside with lead free zinc. The galvanization has excellent corrosion resistance in outside environments and requires low maintenance.



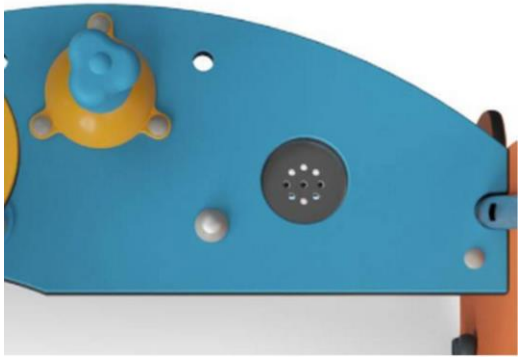
Membranes consist of friction-proof rubberized material of conveyor belt quality with excellent UV resistance. Embedded is a four-layered armouring made of woven polyester. The armoring and the two surface layers result in a total thickness of 7 mm.

Item no. MSC541400-3417P		
Installation Information		
Max. fall height		0"
Safety surfacing area		0 ft2
Number of installers		2
Total installation time		7.7
Excavation volume		0.29 yd3
Concrete volume		0.00 yd3
Footing depth (standard)		2'0"
Shipment weight		294 lbs
Anchoring options	In-ground	✔
	Surface	✔

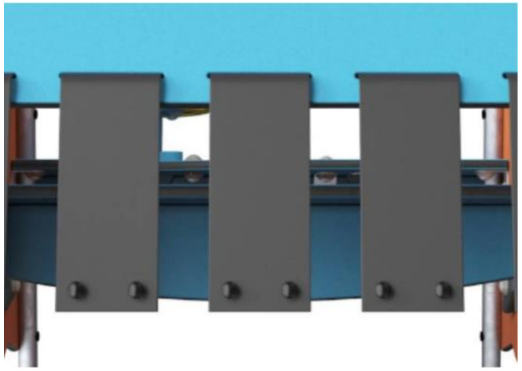
Warranty Information	
EcoCore HDPE	Lifetime
Movable parts	2 years
Hot dip galvanized steel	Lifetime
Membrane	2 years
Spare parts guaranteed	10 years



Gear shift is made of PP. PP has good wearing and impact resistance.



Sand strainer is made of high-quality stainless steel to ensure durability of the product.



Straps are made of soft and bendable woven bands. Base material is PP which has good wearing and impact resistance.

Elevated activities **0**	Accessible elevated activities	Accessible ground level activities	Accessible ground level play types
Present	**0**	**1**	**1**
Required	**0**	**1**	**1**

Coupe Deluxe

MSC5414

Theme
Cognitive: suggests a theme and supports dramatic play, which stimulates languages and communication skills.

Play sphere
Social-Emotional: can be played from both sides, encouraging cooperation.
Cognitive: cause and effect understanding.
Creative: leave a mark and place the spheres at different positions.

Steering wheel
Cognitive: the manipulative steering wheel stimulates cause and effect understanding. It invites dramatic play which supports language and communication skills.

Gear shift
Social-Emotional: cooperation, turn-taking, sharing.
Cognitive: suggests a theme and supports dramatic play, which stimulates languages skills.

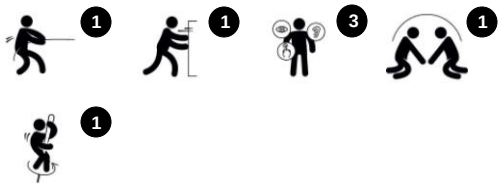
Crawl-through hole with curtains
Physical: the hole allows for climbing and crawling through, developing cross coordination, proprioception and spatial awareness.
Social-Emotional: cooperation and turn-taking when playing with friends on the other side.
Cognitive: understanding of object permanence: things can disappear without being gone forever – a thrilling insight.

Flap door
Physical: tactile stimulation from leaning the body through rubber doors.
Cognitive: suggests a theme and supports dramatic play, which stimulates languages and communication skills.

Junior Spica

ELE400158

Item no. ELE400158-3517E	
General Product Information	
Dimensions LxWxH	1'4"x1'4"x3'5"
Age group	2 - 5
Play capacity (users)	1
Color options	



The gently rotating movement of the Junior Spica immediately attracts toddlers! The low seat invites both seated and standing use of the Junior Spica, thus supporting different body positions in use. This makes it a versatile piece, which can be used alone or with a friend, seated or standing, pushing or pulling. This makes the Junior Spica a playground favorite again and again. When two or three are placed together, the Junior Spicas motivate social play, including between children who want to avoid too much physical contact. The toddler age is when children gain the ability to form friendships, and the Junior Spica supports shared experiences in play. The rotation trains the child's sense of balance and space, which is crucial for body awareness and the control of body movements. This is fundamental to navigating the world confidently.

Data is subject to change without prior notice.

Junior Spica

ELE400158

The Spica bearings are installed in a one-piece design bearing house with integrated drain holes for water passage. The two large steel bearings are fully closed and lifetime lubricated.

Discs are made of highly durable, eco-friendly HDPE, which is not only recyclable after use, but also consists of a core produced from 100% recycled material.

The steel surfaces are hot dip galvanized inside and outside with lead free zinc. The galvanization has excellent corrosion resistance in outside environments and requires low maintenance.

Item no. ELE400158-3517E		
Installation Information		
Max. fall height		7"
Safety surfacing area		139 ft2
Numbers of installers (persons)		2
Total installation time		1.6
Excavation volume		0.39 yd3
Concrete volume		0.27 yd3
Footing depth (standard)		2'4"
Shipment weight		68 lbs
Anchoring options	In-ground	✔
	Surface	✔
Warranty Information		
Galvanized steel		10 years
Handle		10 years
EcoCore HDPE		Lifetime
Bearing construction		5 years
Spare parts guaranteed		10 years

The top handle has been designed in shape and diameter so as to fit optimally for kids, and the special thermoplastic polyurethane (TPU) rubber surface makes it nice to touch.

Elevated activities **0**	Accessible elevated activities	Accessible ground level activities	Accessible ground level play types
Present	**0**	**1**	**1**
Required	**0**	**1**	**1**

Junior Spica

ELE400158

Pole
Physical: more gripping or leaning support points when standing, sitting, hanging holding tight and spinning.

Round seat
Social-Emotional: turn-taking, cooperation, socializing.

Rotation
Physical: pushing or pulling it into motion, children use their muscle strength and strengthen their cardio. The rotation develops the sense of balance and space when enjoying the ride.
Social-Emotional: listening and negotiating how slow or fast to go, children develop their empathy and cooperation skills.

Internal ball-bearing spinner
Cognitive: logical thinking, figuring out how to make the spinner work with gravity, not against it.

Music Play Panel 2

PCM0031

Item no. PCM003108-0902	
General Product Information	
Dimensions LxWxH	6'6"x3'2"x3'0"
Age group	6m - 5
Play capacity (users)	7
Color options	

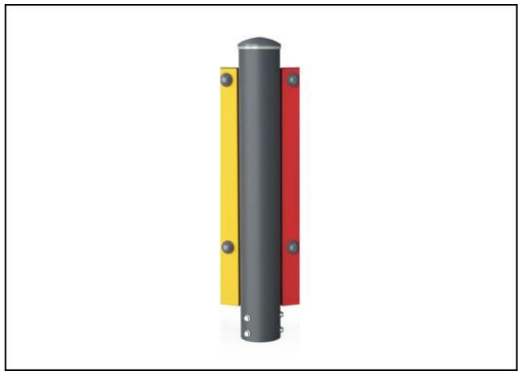
The Music Play Panel 2 attracts children immensely with its colorful combinations of rhythm, sounds and tones. They will come back again and again to be part of creative play, on their own or with friends and teachers. The music pipes offer sensory variations with a tonal sound outcome. Children train the hand-eye coordination which is crucial to control of movement and e.g. handwriting. The black rubber flaps can be plunked, or pipes beaten and tunes created. This trains logical as well as creative thinking and invites cooperation and social play. The Percussion Panel is an immense play invitation for children: The drums can be played alone or together. There is room for many users to congregate around them. This encourages social interaction and co-creation when drumming rhythms and singing along. It also stimulates cognition and creativity as children create rules and rhythms together or individually.

Data is subject to change without prior notice.

Music Play Panel 2

PCM0031

Panels of 19mm EcoCore™. EcoCore™ is a highly durable, eco friendly material, which is not only recyclable after use, but also consists of a core produced from 100% recycled material.



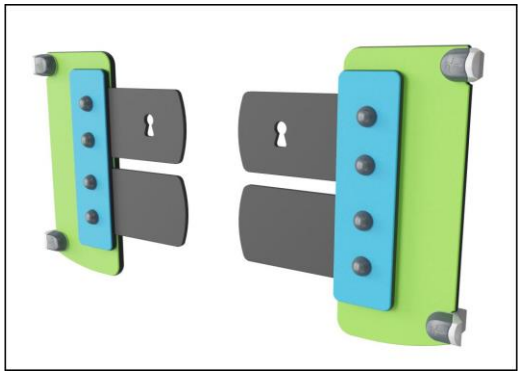
Steel posts are galvanized inside and outside with powder coated top finish. This provides an ultimate corrosion resistance in all climates around the world.

End caps are made of injection molded nylon (PA6). Optionally the post cap is available in powder coated aluminum.

Item no. PCM003108-0902	
Installation Information	
Max. fall height	0"
Safety surfacing area	0 ft2
Numbers of installers (persons)	2
Total installation time	4.9
Excavation volume	0.07 yd3
Concrete volume	0.00 yd3
Footing depth (standard)	2'9"
Shipment weight	155 lbs
Anchoring options	In-ground ✔
	Surface ✔
Warranty Information	
EcoCore HDPE	Lifetime
Coated steel parts	10 years
Galvanized steel	10 years
Movable parts	2 years
Spare parts guaranteed	10 years

The Xylophone music panel consist of HDPE material in 19mm EcoCore™. The pipes are made of die cast aluminum specifically alloyed for outdoor environments. The percussion panel consist of 2 Conga Drums with PP tubes and top in colored ABS.

Play activities like the shouter is made of injection molded high quality UV-stabilized nylon (PA6). The binoculars are made of PUR.



Membranes consist of friction-proof rubberized material of conveyor belt quality with excellent UV resistance. Embedded is a four-layered armoring made of woven polyester. The armoring and the two surface layers result in a total thickness of 9 mm.

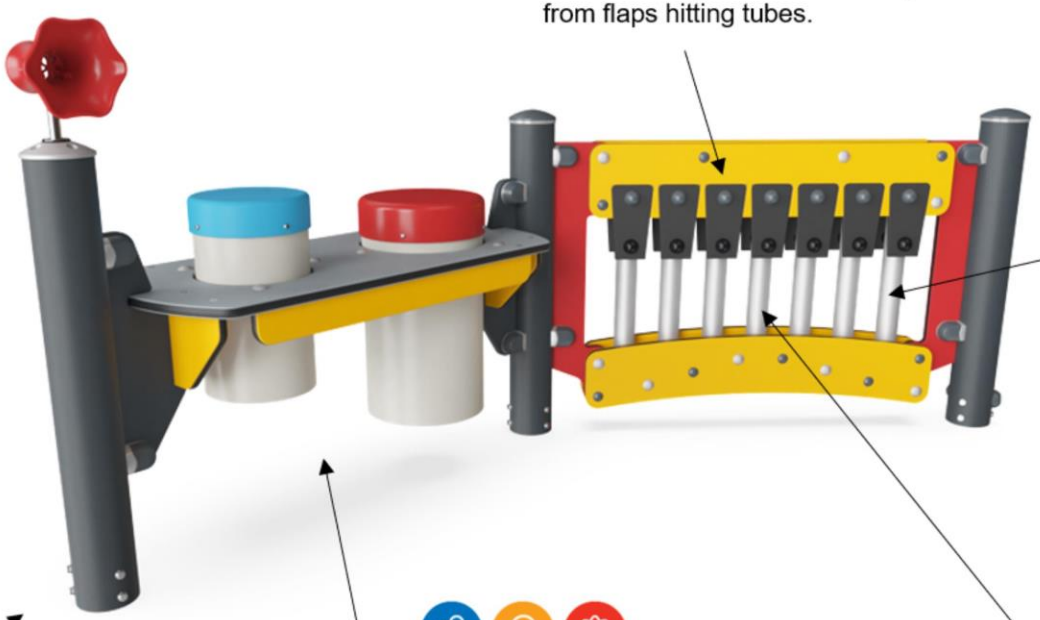
Elevated activities **0**	Accessible elevated activities	Accessible ground level activities	Accessible ground level play types
Present	**0**	**3**	**1**
Required	**0**	**3**	**1**

Music Play Panel 2

PCM0031

Megaphone
Social-Emotional: inspires communication and turn-taking skills.
Cognitive: distortion of sound evokes curiosity and stimulates an understanding of cause and effect.

Rubber flaps
Social-Emotional: the two rows of flaps invite cooperation and co-creation.
Cognitive: cause and effect understanding when discovering sound from flaps hitting tubes.



Music tubes
Social-Emotional: invite social interaction and co-creation for more children, on both sides.
Cognitive: understanding of cause and effect when striking tubes.
Creative: the creation of different intensity and tonality stimulates creative skills.

Two sides
Social-Emotional: invites cooperation and communication. The low height and the transparency of the panel makes interaction possible between the two sides.

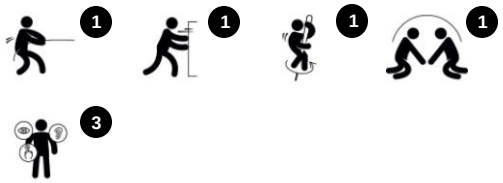
Drums
Social-Emotional: cooperation and co-creation, parallel and group play.
Cognitive: cause and effect understanding when creating sounds, supporting a sense of rhythm, that is essential for pre-reading skills.
Creative: creating and leaving a mark with sound.

Tonality
Cognitive: creative thinking when combining tones into tunes.
Creative: composing new tonal combinations stimulates creativity.

SPICA 3

GXY8016

Item no. GXY801621-3717	
General Product Information	
Dimensions LxWxH	1’6’’ x 1’6’’ x 5’7’’
Age Group	5-12
Play Capacity	1 child
Color Options	



The quirky shapes, toothy top and triangle platform invite curious 5-12 year olds to investigate the Spica. The rotating movement of the Spica is at the center. It takes exploration to reach the point of total mastery of spinning. The curved pole invites holding onto and the child figures out that leaning into the pole means intense spinning speed, leaning out means slowing down speed. This will appeal and make play go on and on, even when children are hanging in their arms. Getting to master the rotation element stimulates the cognitive skills of the child, in particular the logical thinking. The agility, balance and coordination are intensively trained as the Spica invites different body positions when spinning. The triangular shape of the seat allows room for up to three children, stimulating the social skills of cooperation and turn-taking.

SPICA 3

GXY8016

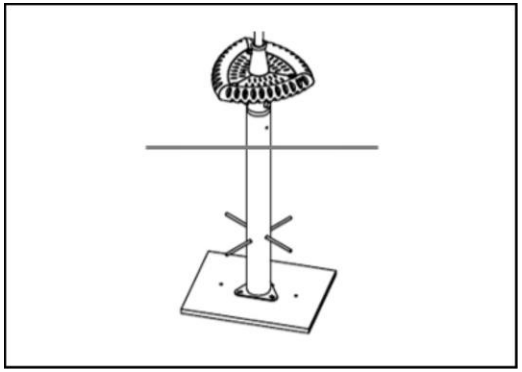
The Spica bearings are installed in a one-piece design bearing house with integrated drain holes for water passage. The two large steel bearings are fully closed and lifetime lubricated.

The unique GALAXY super triangle deck plate has an inner core of galvanized steel and soft outer layer of PUR rubber. The rounded edges has a non skid pattern for safe play.

The colored plastic top is made of injection molded high quality PA6 plastic which is UV stabilized to ensure long life time. The two component design is assembled with steel pins around the steel pipe.

Item no. GXY801621-3717		
Installation Information		
Max. fall height		3'3''
Safety surfacing area		146,6ft²
Numbers of Installers (persons)		2
Total installation time		2
Excavation volume		0,5 yd³
Concrete volume		0,39 yd³
Footing Depth (Standard)		2' 11"
Shipment Weight		133 lbs
Anchoring options	In-ground	✓
	Surface	✓
Warranty information		
Galvanized steel		10 Years
Solid Plastic		10 Years
Hardware		10 Years
Bearing construction		5 Years
Spare parts guaranteed		10 Years

The steel surface is hot dip galvanized inside and outside with lead free zinc.



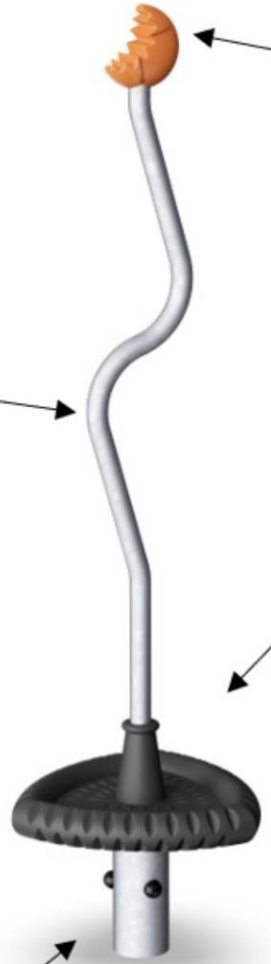
In-ground Footing with large base plate and crossing steel pins secure stabile connection to concrete base. The SPICA is also available for surface installation with expansion bolts.

All hardware connections are covered by unique two piece designed PA6 donuts. The base do-nut is curved to adapt the shape of the steel pipe and the do-nut cap covers and protect the bolt head.

Elevated Activities **0**	Accessible Elevated Activities	Accessible Ground Level Activities	Accessible Ground Level Play Types
Present	**0**	**1**	**1**
Required	**0**	**1**	**1**

SPICA 3

GXY8016



Toothy top

A universal design signal for twisting, turning.

Curved pole

Physical: more gripping or leaning support points when standing, sitting, hanging holding tight and spinning.

Triangle seat

Social-Emotional: turn-taking, cooperation, socializing

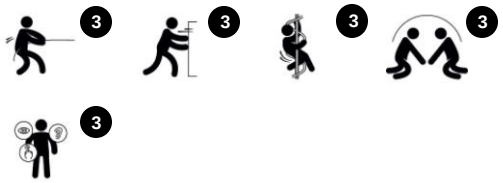
Internal ball-bearing spinner

Cognitive: logical thinking, figuring out how to make the spinner work with gravity, not against it.

TRIPLE SOMERSAULT BARS

PCM803

Item no. PCM803-0902	
General Product Information	
Dimensions LxWxH	10’1” x 4’ x 5’6”
Age Group	2-12
Play Capacity	3 children
Color Options	



The Triple Somersault Bars are great old-school playground favorites. They are irresistable to children, and their parents, repeatedly. The Triple Somersault Bars make possible cooperation and sharing, in two varied heights. They accomodate more users and different age and ability levels. The Triple Somersault Bars cater to a range of play activities, including hanging from your arms, swaying, and training upper body muscles. They also create space for sitting on the bars with friends, sharing, using social-emotional skills or somersaulting. Somersaulting on the Triple Somersault Bars trains children's proprioception: the awareness of where body parts are and how to coordinate movements to fit a space. It trains the senses of space and balance, too, making the child able to navigate the surroundings securely. Last, but not least, it develops major muscles.

TRIPLE SOMERSAULT BARS

PCM803

Steel posts are galvanized inside and outside with powder coated top finish. This provides an ultimate corrosion resistance in all climates around the world.

The turnbars are hot dip galvanized inside and outside with lead free zinc. The galvanization has excellent corrosion resistance in outside environments and it requires low maintenance.

Item no. PCM803-0902		
Installation Information		
Max. fall height		4'10"
Safety surfacing area		249.7 ft²
Numbers of Installers (persons)		2
Total installation time		3
Excavation volume		0.14 yd³
Concrete volume		0.05 yd³
Footing Depth (Standard)		2' 9"
Shipment Weight		154 lbs
Anchoring options	In-ground	✓
	Surface	✓
Warranty information		
Post		10 Years
Spare parts guaranteed		10 Years

Elevated Activities **0**	Accessible Elevated Activities	Accessible Ground Level Activities	Accessible Ground Level Play Types
Present	**0**	**1**	**1**
Required	**0**	**1**	**1**

TRIPLE SOMERSAULT BARS

PCM803

Somersault bars

Physical: develop balance and core when hanging from knees. Arm, leg and core muscles are developed when climbing up, somersaulting around. Balance and spatial awareness are strengthened.
Social-Emotional: room for many, socializing.

SWING H=8FT, 3FT ROPE, ANTIWRAP

KSW92012

Item no. KSW92012-0910	
General Product Information	
Dimensions LxWxH	20'11" x 6' x 8'4"
Age Group	5-12
Play Capacity	9 children
Color Options	

WOW! The combination of the bird's nest swing and two single seats swing is a hit: children love it, as it can be done individually and together. It facilitates lying, seated, or standing swinging, alone or together. It is a great facilitator of fun rough-and-tumble play. The seats allows for multiple users of all abilities and most ages to play day after day, for hours and hours. The anti-wrap function makes sure that the seats are not wrapped around the top beam, but always available. Swinging, apart from being tremendous fun, trains the children's ABCs: agility, balance and coordination, as well as their spatial awareness. These motor skills are crucial to being able to judge distance and navigate traffic safely. The varied swinging activities train the arm, leg and core muscles. Jumping off builds bone density – the majority of which is built up during the first years of life. Finally, this swing supports social skills such as taking turns and cooperation.

SWING H=8FT, 3FT ROPE, ANTIWRAP

KSW92012

Vertical posts of hot dip galvanized steel or powder coated on pre-galvanized steel base. Swing frame end connectors and crossbeam of hot dip galvanized steel or powder coated on hot dip galvanized steel base.

The swing hangers are made of high quality UV-stabalized nylon (PA6) housing with integrated lifetime sealed ball bearings. The height adjustable chains are fixed by a stainless steel hook with theft proof snake-eye bolt in a turn able anti twist housing. All seats with two chain fixation are available with either standard or anti-wrap suspension.

The standard seats of KOMPAN swings is engineered for maximum safety and durability. The seat two component seat with a PP inner core and outside rubber is produced in one operation. The seats are available with swing chains of either hot dip galvanized steel or stainless steel for all swings heights.

Item no. KSW92012-0910	
Installation Information	
Max. fall height	7'9"
Safety surfacing area	849 ft²
Numbers of Installers (persons)	2
Total installation time	7
Excavation volume	2.07 yd³
Concrete volume	0.76 yd³
Footing Depth (Standard)	2' 11"
Shipment Weight	697 lbs
Anchoring options	In-ground ✓
Warranty information	
Steel Post HDG	Lifetime
Swing seat	10 Years
Swing hangers	5 Years
Chains	10 Years
Spare parts guaranteed	10 Years

Unique designed seats for toddles: Baby seat of rubber. Toddler seat of PUR with four chain suspension for easy movement. Cradle seat. You & Me swing seat for adult/child or children of different ages to swing together while facing each other.

KOMPAN designed the bird's nest seats to be light in weight and in compliance with global safety standards. The soft, shock absorbent bumpers with non-slip surface makes the swing seat extremely user friendly. Choose between a rope version with reinforced PA rope or a molded PE version. Both equipped with soft rubber bumpers.

Elevated Activities **0**	Accessible Elevated Activities	Accessible Ground Level Activities	Accessible Ground Level Play Types
Present	**0**	**1**	**1**
Required	**1**	**1**	**1**

SWING H=8FT, 3FT ROPE, ANTIWRAP

KSW92012

Birds nest swing

Physical: balance, coordination and spatial awareness are developed when swinging. The swinging movement trains the arm, leg and core muscles, and strengthens bone density when jumping off.
Social-Emotional: the spacious seat allows for many children standing, lying, seated together and is inclusive for all.
Cognitive: cause and effect understanding, rhythm and thinking skills are developed in younger children.

Two single swings

Physical: balance, coordination and spatial awareness are developed when swinging. All necessary when judging distances and navigating. The swinging movement trains the arm, leg and core muscles, and strengthens the bone density when jumping off.
Social-Emotional: parallel play invites cooperation and consideration.
Cognitive: cause and effect understanding, managing rhythm and thinking skills for younger children when swinging. Rules games for bigger children, when swinging in same or different rhythm.