Berliner

Play equipment for life

# Maintenance Instructions

**UNIVERS®, QUADROPOLIS®, ROPLAY®, PICOLINO®, TERRANOS®, HODGE PODGE®, FRAMEWORX®, PENTAGONEA®, ALBEROS®**

# Maintenance Instructions

## for

## BERLINER SEILFABRIK GmbH & Co.

## Playground equipment

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***ATTENTION !***

***For our combinations we recommend maintenance twice a year or more often if you have a high play frequency. Trained personnel are required for the maintenance work.***


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# UNIVERS®, QUADROPOLIS®, ROPLAY®, PICOLINO®, TERRANOS®, HODGE PODGE®, FRAMEWORX®, PENTAGONEA®, ALBEROS®

## 1 Visual inspection of all parts

### 1.1 FRAMEWORX® framework elements

- Clamps:

  Do the clamps exhibit any external damage?

  Look for damage to the lacquer.

- Structural tubes/posts:

  Do the tubes/posts exhibit any external damage?
  Look for corrosion and damage to the lacquer.
  (If necessary remove the corrosion from the structural tube and paint the tube with inorganic zinc.)

- Balls:

  Do the balls exhibit any external damage?
  Is the rubber cap still at the assembly opening?
  Look for damage to the lacquer.

- Fasteners/connectors:

  Do the fasteners/connectors exhibit any external damage?
  Look for corrosion and damage to the lacquer.

  ( If necessary remove the corrosion from the structural tube and paint the tube with inorganic zinc.)

### 1.2 U-ROPE® Net and rope elements

- Rope condition:

  Inspect for abrasion of the polyamide yarn cover.
  Inspect for wire breakages.
  (If necessary change the rope parts.)

- Fixing points:

  Do the fixing points exhibit any external damage?
  Look for corrosion and damage to the lacquer.

- Pivot Bearings/ Rungs:

Inspect the tension, function and condition of the pivot bearings and rungs.
(If necessary change the parts.)

## 1.3 Panels

- Position:

  Are all wooden panels in the correct position?

- Wooden panel condition:

  Do the wooden panels exhibit any external damage?
  Look for corrosion and damage to the lacquer.

  ( If necessary repair or change the panels. )

### 1.4 Slide bearings (Alberos rotatable climbing trees)

The Nylon-slide bearings should be checked for mobility. If there are dirt particles within the bearing, it should be washed out with water.

### 1.5 UNIVERS® Net structures

- Net tension:

  Ensure that the cloverleaf rings are in the correct position and that the tension is the same in each rope.
  (If necessary increase the tension of the Net structures - see chapter 2 - and adjust the cloverleaf rings to the right position.)

## 2 Increasing the tension of a UNIVERS® Net structures

All screwed connections are contained within the inner surface of the balls. Firstly, remove the rubber caps from the assembly openings with the help of a big screw driver. After opening, increase the tension of the eye bolts with the tubular hexagon box spanner, wrench size 30, starting diagonally in each level from the top to the bottom of the Net structures.

You must tighten the self locking nuts in such a way, that the tension of the Net structures is the same in each rope. Finally, use a hammer to fit the rubber caps back over the assembly openings.

## 3 Inspecting the FRAMEWORX® foundation elements

For corrosion to occur, three elements are required: an anode, a cathode and an electrolyte. The combination of these three elements results in the generation of an electrochemical potential, which causes corrosion to occur. In theory, there should be no problem when using steel in concrete, as the concrete is an insulator and acts as a protective, passive layer due to the alkaline environment it provides. However, concrete is a porous material which is subject to carbonation and can readily absorb solutions containing various aggressive species (i.e. chloride ions). Thus, if steel is located close to the surface of the concrete, passivation of the steel is reduced. Therefore a minimum thickness of concrete cover is required to reduce the likelihood of corrosion occurring. The thickness required will depend on a number of factors, including the grade of concrete used.

Corrosion of the steel will occur when concrete is in contact with the soil. The soil contains solutions of various salts and gases which act as an electrolyte to facilitate corrosion. The electrolyte is absorbed into the concrete and diffuses through to the steel surface, which results in corrosion of the steel. Indications of corrosion include cracking of concrete and/or a red-brown stain apparent on the surface of the concrete, due to the formation of rust.

However, our steel posts are safeguarded against corrosion as they are coated with a Zinc-/Epoxy-/Polyester-powder finish. The coating acts as a barrier which prevents aggressive ions from coming into contact and reacting with the steel surface. Therefore, corrosion of the post will not occur providing the coating is not damaged.

In order to prevent pitting and localised corrosion, the transition area must be inspected annually.

***Attention: During inspection, to avoid damage to the posts please use a piece of wood or a brush to free the foundation post. With a sharp tool you may damage the protective surface layer and initiate corrosion!***

**Please note:** All replacement parts and tools necessary for maintanance can be obtained by calling the Technical Hotline (refer to the first page for contact details). Please have the product identification number at hand. This number can be found written on the product label in a framework ball in the first level.