

Excerpt
Operation and Maintenance Guide

Chapter 4

CARE AND CLEANING OF THE STAINLESS STEEL POOL

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4 Care and cleaning of the stainless steel pool

4.1 General working notes

Demonstrably bring the cleaning instructions to the cleaning staff's or, respectively, to the cleaning company's attention.

Do not use any steel tools, files, grindstones, wire brushes and wire wool. They can cause scratches as well as external rust formation. Please find the necessary cleaning tools in your service box.

Grinded surfaces (e.g. pool walls) can be processed with Scotch-Brite. Always work in the direction of grinding. Abrasive surface treatments (e.g. with Scotch-Brite) must be avoided for bright-rolled surfaces (e.g. pool floor). The surface structure is thereby deeply and visible altered. Adhesive contamination must therefore be removed by chemical dissolution. In this procedure, only use recommended stainless steel cleaning agents.

Berndorf Bäderbau points out that chemicals must not be worked with when it comes to stainless steel surfaces due to water evaporation which can cause the cleaning agent to concentrate. This can result in permanent damage to the surface.

CAUTION

All security measures must be paid attention to when chemicals are dealt with. It is imperative to wear goggles, protective clothes, rubber gloves, protective gear, etc. For all cleaning agents, the manufacturer's General Safety and Processing Guidelines must be strictly adhered to and applied.

After the application, stainless steel surfaces are to be heavily rinsed. Before disposal into the channel or on-site preflooder, sufficient neutralisation and dilution of the chemicals must be paid attention to.

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4.1.1 Cleaning of the pool border

When the pool border is cleaned with highly corrosive, colouring or bleaching chemicals, the channel cover grates are to be removed. This applies particularly to indoor swimming pools.

During the cleaning of the pool border, the channel drainage system is to be switched to waste water / channel drainage mode.

If your pool facility has a beading (protective PVC strip between overflow edge and pool border), it is to be adequately protected from harm when highly corrosive, colouring or bleaching chemicals are used.

PLEASE NOTE

Make sure that no cleaning waters enter the pool water cycle.

CAUTION

Cleaning agents containing hydrochloric acid may in no case come into contact with stainless steel surfaces (e.g. at the tile / pool edging connection)!

4.1.2 Cleaning of the expansion tank

After the basic cleaning and before refilling the pool facility, the compensation reservoir must be thoroughly cleaned according to the operating and maintenance instructions for your compensation reservoir (cleaning information can be obtained from your water treatment company).

4.2 Cleaning during ongoing operation at the filled pool

During pool operation, surfaces constantly in contact with bath water, i.e. floor, pool walls, pool edge and overflow edge, shall only be practically cleaned in compliance with the underlying official regulations and be incorporated into the operation log. As a general rule, pool floors are cleaned with floor sucker pumps.

The pool floor suction in open-air swimming pools is regularly necessary once a day and in indoor swimming pools at least once a week. The pool walls, overflow channels and the pool edge must at least be cleaned once a month. It is recommended to customise the cleaning intervals according to the pool contamination level. The cleaning works must be recorded in the operation log.

CAUTION

All operating, maintenance and safety guidelines of the floor sucker pump manufacturer are to be followed.

Please clean pool edge, pool walls and channel grates with a soft long handle brush and with the filtration unit turned on before backwashing.

When it comes to shallow pools, foot pools, children's paddling pools, etc., surface cleaning (removal of algae, oil films, soap residues, etc.) is to be paid special attention to.

High-grade stainless steel components situated above the water surface are subject to special stresses (also see chapter „STAINLESS STEEL SURFACES ABOVE THE WATER LEVEL“).

In order to avoid any permanent damage of the passive layer, these components must be regularly rinsed and cleaned with fresh water. This applies both to indoor and to outdoor pool facilities.

4.3 Channel covers

In most of the pool facilities supplied by Berndorf Bäderbau, the overflow channels are covered with plastic elements. The cover grates consist of high-quality polypropylene.

Original PP grate elements are easily recognisable by the Berndorf Bäderbau signature incorporated into the single bars.

The channel grates can be cleaned with all weakly alkaline or plastic cleaning agents such as those with soda, ammonia additives or with phosphoric cleaning agents (max. concentration: 5%) etc. The use of concentrated acids or bases is prohibited due to the fact that the plastic's surface may be attacked. Hydrochloric acid, chlorine bleach liquor or chemicals with a chlorine concentration which is similarly high are not permitted for cleaning plastic covers.

Afterwards, the channel grates are to be washed off with a hose or a high-pressure cleaner at a maximum of 40 bars (no rotating jet) and at a water temperature of 30° C max. The minimum distance of 30 cm between jet and channel grate must be strictly adhered to. Cleaning devices harming the surface are prohibited.

Before cleaning the pool with dilute nitric acid as well as during cleaning of the pool border with other highly corrosive chemicals, the channel cover grates are to be removed.

CAUTION

Do not clean the PP grate elements with concentrated bases and acids. If such cleaning agents are used, the grate elements must be removed. Use high-pressure cleaners with caution, adhere to the correct distance between nozzle exit and grate surface, to the maximum water temperature and the operating pressure.

You can increase the life span of cover grates in outdoor pools by thoroughly cleaning the cover grates in autumn and storing them in a dark and dry place until springtime. The advantage therein is that there is no influence of tannin emerging from unremoved foliage. The channel cover grates do not require a second cleaning in spring.

Stainless steel overflow channel covers are external components or, respectively, are delivered on site. Please pay attention to the corresponding operating and maintenance guidelines and to the manufacturer's or, respectively, the supplier's warranties.

PLEASE NOTE

It is recommended to perform a deacidification of the stainless steel overflow channel cover with dilute nitric acid (at a mixture ratio of 1:3) once a year.

Overflow channel covers from special material such as artificial stone, stoneware, marble, etc. are usually delivered on site.

Please pay attention to the corresponding operating and maintenance guidelines and to the manufacturer's or, respectively, the supplier's warranty. If you have any questions concerning the applicability of care instructions to other pool components, please contact our service department.

4.4 Basic annual cleaning

Every pool must be completely emptied and cleaned at least once a year. The entire facility cleaning procedure is to be recorded in the operation log.

For the formation and preservation of the protective passive layer, a neat, metallically clean surface is a prerequisite. After emptying the pool, carry out a thorough examination of the surfaces and mounting parts in order to have them cleaned, maintained or, if necessary, replaced in compliance with the regulations.

PLEASE NOTE

For open-air swimming pools, this basic cleaning should be performed before the season starts.

Perform the emptying of the pool as detailed in the chapters „POOL DRAINING“ and „POOL FACILITIES IN EMPTY STATE“.

4.5 Cleaning of metallic surfaces

4.5.1 Light surface damages

Light surface damages caused by iron particles (e. g. barrettes, coins, metal dust from plumbing or metal works, respectively) usually cause brown discolouration on the surface.

Attempt to remove rust film (iron dust) or external rust and brown surface discolouration caused by iron particles with normal cleaning agents such as Scotch-Brite and stainless steel cleaning agents. If you cannot achieve a satisfactory result with this procedure, a multiple use of dilute nitric acid (at a mixture ration of 1:3) will help.

4.5.2 More severe surface damages

More severe surface damages are, after the above cleaning procedures did not lead to the desired effect, to be treated with a pickling paste. Please find the pickling paste, as well as Scotch-Brite, in your service case.

Allow the pickling paste (see service case) to soak briefly (for 30 to 120 minutes). By any means avoid drying up, e.g. by intensive solar radiation. After the pickling paste has soaked, thoroughly remove it with a cloth and by consequent multiple rinsing. Cleaning waters must not be sprayed in the area surrounding the treated surface, i.e. extensive rinsing is recommended. Cleaning waters must not remain in the pool (pool drainage, piping systems, inlet channels, etc.) and must not dry up - thorough rinsing is necessary.

CAUTION

Please always rub in the **direction of grinding!** Do not use any steel tools, files, grindstones, wire brushes and wire wool. They can cause scratches as well as external rust formation.

Lime deposits

Use dilute nitric acid (at a mixture ratio of 1:3) for particularly stubborn lime deposits.

Greases, oils, fingerprints

First attempt to remove the soiling with warm water as well as with customary cleaning agents. Particularly adherent greases can be removed with cleaning agents (cellulose thinner or other customary chemicals).

4.6 Cleaning of coloured pool areas

Lane markings in the middle of swimming lanes, step edges, etc. are chemically coloured or coated, respectively. This electrochemical colouring procedure is performed in the factory and, after being damaged, only restorable with great efforts involved.

The colouration is optimised for pool operation, yet the persistence against abrasive attack is limited. For this reason, scraping, abrasive cleaning agents, tools, aids and chemicals such as Scotch-Brite, scouring powders, etc. are prohibited. Likewise, when you work with pool cleaning devices such as floor sucker pumps and handle brushes, please make sure that no abrasive or scraping effect is produced.

PLEASE NOTE

Protect the coloured pool areas with appropriate measures (e. g. by coverage) with the pool facility empty during the maintenance works.

CAUTION

Scatched or scraped coloured pool areas will be very difficult to repair on site. Therefore, please particularly follow the indicated cleaning guidelines.

First rinse the surfaces with drinking water or with filling water, respectively. The use of a high-pressure cleaner is permissible.

Remove any remaining soiling with alkaline (pH value > 7) cleaning agents. It is advisable to use cleaning agents with soda, ammonia or comparable additives. Do not use any scraping cloths or scratching brushes for wiping.

4.7 Cleaning of the inlet channel

The inlet channel system shall also be cleaned as part of the pool facility's basic cleaning. The built-in floor inlet system which is easy to open allows removing the inlet channel covers. In this way, the inlet channel may very easily be cleaned.

The steps therefore necessary and working notes are provided in the chapter „EQUIPMENT PARTS AND SWIMMING POOL EQUIPMENT – THE INLET CHANNEL AND THE INLET POT“.

4.8 Cleaning of the overflow channel

During pool operation the overflow channel is to be cleaned according to the stress and pollutant input, but at least once a month. For this purpose, remove the channel cover grates spot by spot and rinse

the channel surfaces. The channel grate supports are to be wiped clean with a moist cloth. Heavier soiling is to be treated as described in the chapter „BASIC annual cleaning“.

During the basic cleaning of the pool facility, the overflow channel shall as well be thoroughly cleaned and subjected to a visual inspection. Remove the channel covers for this purpose.

When the channel is cleaned, it must be ensured through a channel switch that the emerging cleaning water is completely drained into a sewage system (channel switching). When the water treatment facility is restarted, it must be ensured through delayed closing of the drainage flap that no dirt and cleaning residues enter the treatment cycle.

PLEASE NOTE

When the overflow channel is cleaned, switch to wastewater channel drainage mode.

An appropriate introduction into the handling of the built-in channel switch (wastewater channel drainage) is performed by your water treatment company.

The noise insulation mounted next to the channel drainage (e.g. perforated plate construction) or leaf collection box, respectively, is to be controlled and, depending on the contamination level, to be cleaned on a daily basis. In case of strong contamination, take off the component, then spray it with water. You thereby prevent the overflow channel from overflowing.

4.9 Cleaning of the acrylic glass surfaces

Acrylic glass components permanently circulated with water do not require any additional cleaning. Contaminated components can be sprayed with the water hose. Acrylic glass plates have non-porous surfaces. Dusty plates can be cleaned with water eventually containing admixed household detergent and with a white cloth or sponge.

CAUTION

Niemals die Acrylglasteile trocken abreiben. Für die gründlichen Reinigungen ein nicht scheuerndes Reinigungsmittel verwenden. Alle Reinigungssysteme mechanischer Art, z. B. rotierende Bürsten, Abstreifer sind für Acrylglasflächen nicht geeignet.

Never wipe the acrylic glass components in the dry state. Use a non-abrasive cleaning agent for thorough cleaning. All cleaning systems of a mechanical nature, e.g. rotating brushes, wipers are unsuitable for acrylic glass surfaces.

Customary hot water high-pressure spreaders (max. pressure of 70 bars and max. water temperature of 167°F) may be used for cleaning purposes. Small amounts of a low-sudsing cleaning concentrate are to be admixed with the washing

water through the built-in metering device. Subsequent wiping or squeegeeing is not necessary, since air-drying is sufficient.

For stainless steel cleaning works with nitric acid, it is not necessary to demount acrylic glass components provided that the concentration of the cleaning agent is <40% and that the acrylic glass components are immediately rinsed with water.

For works with nitric acid, it is only recommended to demount all acrylic glass components situated in immediate vicinity or protect them from possible pollution.

Acrylic glass components, like for instance PLEXIGLAS brands, can generally be cleaned with the following cleaning agents without any hesitation:

- › alcohol up to 30%
- › pure petrol
- › benzine
- › paraffin
- › ammonia solution
- › soapy water
- › soda water
- › turpentine oil
- › turpentine substitute

PLEASE NOTE

It should be noted that the maintenance and cleaning instructions must be strictly adhered to. Any consequential damages are excluded from warranty.

4.10 Cleaning of glassfibre-reinforced plastic (GRP) surfaces

In order to keep the surfaces of GRP (glassfibre-reinforced plastic) permanently good-looking, the following points must in any case be paid attention to when GRP surfaces are cleaned.

PLEASE NOTE

Rinse the GRP surfaces not permanently circulated with water at least once a week with water (using a high-pressure cleaner).

Soiling bonded to the surface may be cleaned with a liquid, non-corrosive and non-acidic cleaning agent. In no case may a powdery cleaning agent (scouring powder) be used, as the surface is thereby scratched. Mops or other cleaning aids with a rough surface (e.g. rotating brushes) shall not be used.

PLEASE NOTE

The cleaning procedure on the GRP components shall be performed with a soft cloth, a soft sponge or a soft cleaning brush.

The dosage of the cleaning agent is indicated in the manufacturer's data. Highly polluted spots can be cleaned with customary acetone.

CAUTION

Spots cleaned with acetone must be polished up again after the cleaning procedure.

A customary car polish can be used for polishing up the GRP components' cleaned spots or matt surfaces, respectively. GRP elements may only be polished up using a soft polishing cloth.

PLEASE NOTE

Prior to polishing up and to the large-surface treatment, it is imperative to perform a test (on a test surface) in order to be able to determine the correct working process. Furthermore, all GRP mounting parts shall be covered so they will not be damaged by the procedure of cleaning or polishing up, respectively.

During the procedure of cleaning and polishing up, it must be made sure that all used agents are handled correctly and then disposed of (see processing guidelines on the cleaning agent). Make sure that the cleaning agents used do not pollute the swimming pool's water cycle.

For highly soiled spots, there are special cleaning agents suitable for GRP and depending on the type of soiling (lime, grease, deposits from the ambient air, etc.). For these cases and if you have any questions about the right cleaning method for GRP components, it is absolutely necessary to contact the manufacturer; Berndorf is also very ready to convey such information.

4.11 Additional requirements for hot jacuzzis (whirlpool)

It is recommended for hygienic reasons to carry out disinfectant cleaning on the pool in the emptied state once a week.

Standstill times of the treatment facility cause massive bacterial filter and pool contamination in some cases and must in any case be avoided.

When the overflow channel is backwashed and cleaned, it is imperative to switch to the drainage system mode. Air ducts must thereby be emptied as well.

No surfactants may remain in the pool or in the overflow channel after cleaning.

PLEASE NOTE

The maximum occupancy must not be exceeded for hygienic reasons. One seat is equivalent to 0.8 m, as measured by the top of the backrest.