

## THE NEW BRUGGE DOLPHINARIUM

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The Brugge Dolphinarium's older facility burned down completely in May, 1988, with the loss of three dolphins, two adults and their six-month old baby. Only the pool remained after the fire. During the next two summer seasons, shows were done in the open air and sometimes in bad weather. Three dolphins (one adult male and two adult females) from Zandvoort, Holland were purchased. They were already trained and had been in a dolphinarium for some time. A young male and three young females arrived from the Gulf of Mexico, where they had been collected, in July, 1988. In May, 1990, the new facility opened. Added to the old pool there is now a new main pool and two side pools making a total water capacity of 2,750 m<sup>3</sup> (97,114.8 ft<sup>3</sup>) covered by a huge copula. A description of the new facility is provided.

Our dolphinarium, built in May of 1971 stayed the same until the fire of 1988. There was one single pool, first covered by a balloon, then by an edifice, and it exhibited different sets of dolphins and sea lions. It burned down completely on 9 May 1988. This was quite an unfortunate and unique fact in the world of marine mammals. It was proved that the fire had started in the reptile exhibition, due to a short circuit. The main room and the reptile exhibit were completely destroyed and three dolphins were lost. Only the foundation and the pool itself survived. Miraculously, two sea lions (including a pregnant female) survived. The pregnant sea lion successfully gave birth to a male sea lion four weeks later, and all are still living.

The dolphinarium had to find a solution for the coming summer. The place was quickly cleaned, tribunes (stadium seating) were installed and three dolphins were bought from an institution in Holland that was going to be closed. The summer of 1988 started with animals and people working in the open air, which meant also coping with inclement weather. Later that summer, four new dolphins joined the group.

It was not possible to begin a new construction immediately, because at that time the new European regulations about marine mammals in oceanariums was being prepared. Brugge had to wait for the new standards. This meant that shows were done in these temporary conditions for two summer seasons. In winter, the pool was warmed, covered by a tent and the tribunes were removed until the next summer season. The training program was maintained, and work began on a water show to be ready when the new dolphinarium would open.

Life wasn't easy for the trainers during that time, for in addition to the difficulties encountered during training, the trainers' facilities were confined, summer and winter, to a tiny little caravan. But both the animals and the trainers survived the trial and eventually the construction work began just before the end of the 1989 summer season.

The next step was to find a place to stay for the animals. That was no problem for the sea lions, who went to the same place they had spent the previous winter, in the park's covered swimming pool. The dolphins stayed in the old main pool and tent that had been used the previous winters, while the new dolphinarium was built above it. In fact, the old main pool, in which the dolphins were going to be housed during the construction, was going to be the new medical or rest pool. Meanwhile, the training continued, with again, the dolphins and trainers managing to cope with the small space available.

By the end of October, the foundation for the new pools were completed. Our impression was that the dolphins did not appear to be suffering from their temporary space or from the construction noise, because they ate well and participated willingly in the daily training .

The new main pool was built in the shape of a half circle. It is 34 m (111.5 ft) in length, 12.5 m (41 ft) at its larger point and has a water surface of 365 m<sup>2</sup> (3,928.9 ft<sup>2</sup>). The depth is 4 m (13 ft) on the sides and 5.6 m (18.3 ft) in the middle on 20% of the surface. The two side pools have both 62 m<sup>2</sup> (667.3 ft<sup>2</sup>) of water surface and 3 m (9.8 ft) depth. Plus, we still have the older pool. The result is a covered dolphinarium of a nice size: 800 m<sup>2</sup> (8,611.4 ft<sup>2</sup>) of water surface and containing two 750,000 L (198,129.7 gal) of artificial sea water. The pools were covered with concrete.

The ancient main basin that survived the fire now serves as a holding or medical pool. During the construction of the new pool, the dolphins were staying in the old pool and we had to find a way to make these two connect without emptying the older one of water. A thick wooden door was built on both sides and between them a one meter (3.2 ft) gap filled with compressed soil. This worked quite well without much loss of water.

The new tribunes were built to accommodate 1,800 seats. The design also included an opening under the decking, circling the main pool, to permit water access and access to the pool lights. The main pool rises 1 m 60 cm (5.2 ft) above that passage and is surrounded at the front by an acrylic panel 40 m length and 2 m height (131 by 6.5 ft). The acrylic panels were imported from America and until now are unique in Europe. They will allow the public to see the whole pool and to witness an underwater show. The access to the side pools were pierced.

The pools' surfaces were coated by Pallidux, a waterproof coating, water-based, used for swimming pool, water tanks etc. The roof is a copula of 64 m diameter and 17 m height (209 by 55.7 ft), covering 3,215 m<sup>2</sup> (34,607 ft<sup>2</sup>). Part

of the roof is made of synthetic glass panels which offer an optimal lighting of the pools. The result is quite impressive.

When it came time to remove the tent from the holding pool and to fill the new pool with water, the sandblock between the old and the new pool was removed, all except one wooden door. We then filled the new pools with water, added salt, started the filters and withdrew the covers from the acrylic panels. Everything worked well.

Then the big day came: we opened the doors between the two pools and let the dolphins examine the new passage; however, they did not go through it. We allowed them do as they pleased for three days, but then used nets to nudge them a little. With the nudge, they went easily into their new environment, where they first swam in close circles in the middle, although shortly they had explored it completely. The sea lions were brought into this pool as well. We had two pregnant animals: a 23 year old dolphin and a 10 year old sea lion. They were in perfect condition. On the 14th of May, (one week before the show season was to start) the trainers began training the dolphins in their new environment, while the construction continued, placing seats on the tribunes and putting panels on the roof.

The holding pool will keep its own filtration and machine system, although the two machine rooms will be connected. In the new machine room, there are three rough filters and their respective pumps. Chlorine is added to the water with Locron. The water then goes then through the second series of filters, (containing charcoal and sand) before returning to the pools. The older machine room works on the same system. The filters together have a turn-over capacity of 1,000 m<sup>3</sup> (35,314.5 ft<sup>3</sup>) per hour, which means that the whole water volume is entirely filtered in about three hours.

The parameters are closely monitored. The pH is kept around 7.6 and the free chlorine around 0.5. The artificial sea water is maintained at a temperature of at least 17 °C (62.6 °F) permanently. The salt consumption reaches 2,500 Kg (114.6 lb) per week. The inside climate is kept at a constant 20 °C (68 °F) and a relative humidity of 65%. This should permit the performance of shows in the winter, as well.

In the entrance there is enough room to have a permanent scientific exposition on marine mammals, a class/lecture room, a movie room showing non-stop videos on everything related to the marine mammal world and a gift shop. The new dolphinarium has a place especially designed for persons in wheelchairs and their aides. Thirty-six wheelchairs have access to this platform by two lifts.

Throughout the entire summer season, the finishing of the inside went on. For example, covering the trainers' facility and the machine room with concrete to make them look like rocks. At the present moment they have finished the outer layer of the roof and they have started placing the glass panels in place. This roof design allows plenty of light and sun in the dolphinarium.

We are now beginning to teach our animals some particular behaviours for medical care, such as letting us look in their mouth, manipulation on the platform, tailfluke presentations for blood, breathing out on command and stationing for echographic examination. This husbandry training has just begun with the intention is to keep improving the program.

Jules, a sea lion, was born in the beginning of June and is already running all over the place. He has quite a tough temperament, likes to sleep everywhere and likes to enter the show sometimes. In actual fact, the sea lions place isn't delimited yet, so they can run all over the place (including during the dolphin show). Sometimes it's annoying (the trainers always have to be careful of their fish), but on the other hand our dolphins and sea lions get along well and our baby dolphin, born in July, already likes to play with one of our youngest sea lions.

The shows went quite well this summer. Brugge had a good attendance, which was very encouraging for the first year of the new dolphinarium. The new acrylic panels allow the public the opportunity to see the show from underwater and trainers found that their underwater jumps weren't all that bad for beginners.

The dolphinarium of Brugge has currently six dolphins plus the calf and six sea lions. Following the new European standards (always susceptible to change), which are: per 1,500 m<sup>3</sup> (52,971.7 ft<sup>3</sup>) water and a surface of 400 m<sup>2</sup> (4,305.7 ft<sup>2</sup>) plus 200 m<sup>3</sup> (7,062.9 ft<sup>3</sup>) surface of 75 m<sup>2</sup> (807.3 ft<sup>2</sup>) per additional animal. Under this standard the new facility can handle 12 dolphins. The future plan is to import other species of marine mammals, such as false killer whales and/or white-sided dolphins. As yet there have been no regulations issued for sea lions.

Of course, you are warmly invited to come and visit us when in Europe.