



ACRYLICPOOL®

TRANSPARENT QUALITY

**ACRYLICPOOL
HAS BEEN CREATED
FROM A DREAM**



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DREAM OF WONDERFUL PROJECTS MADE OF ACRYLIC ON OUR MARKET. FROM TOURS AROUND THE WORLD, WE BROUGHT GREAT INSPIRATIONS SUCH AS THE WORLD'S LARGEST ACRYLIC PANEL LOCATED IN SEVEN RINGS, JAPAN, 70 CM THICK PANEL AT THE BURGER ZOO OR A SPECTACULAR HANGING POOL IN LONDON. EVEN THE PRIVATE POOLS WITH "ZERO EDGE" PANELS GIVEN THE SENSE OF STANDING WATER IN THE AIR AND THEY MADE A HUGE IMPRESSION.

Over five years ago, we made the first underwater window. Systematic work, curiosity and consistency have made us a leader in the industry. Currently, we have a portfolio of several dozen swimming pool projects in the field of underwater windows. We have also acquired several orders whose scale and technological level are world-class.

A tunnel in the deepest pool in Europe, a hanging pool on top of a hotel building were great adventures and technological challenges.

We currently have a number of projects and implementations, we try to go beyond the standards. We want to be a company, not only high technology but also a creative and design company, creating new and beautiful things.

We are now starting a new adventure. as the company Acrylicpool specializing in acrylic pool technologies. We have the ambition to be a European leader in this field.

We invite you to cooperate and visit our websitey www.acrylicpool.eu.

ACRYLIC TECHNOLOGY HIGHLIGHTS

The development of construction technology brings new fascinating solutions and materials. One of them, known all over the world, is slowly breaking through on our market.

It is the so-called acrylic, or PMMA for short. PMMA is also known as acrylic glass, plexiglass, organic glass, and is technically a polymer of methyl methacrylate.

The most important feature of acrylic is the fact that it is a material with transparency ... of air. The largest PMMA panel we know of is 70 cm thick. Even with such an impressive thickness, there is absolutely no loss of color or contrast.

PMMA IS A MATERIAL "CLOSING AIR IN ANY BULK".

PMMA has high mechanical strength and impact resistance. In practice, it can be called an armor material. PMMA, on the other hand, is a relatively limp material. It can be assumed that where 15 mm quartz glass is enough, in the case of PMMA we need a 30 mm panel.

In addition to perfect transparency, PMMA is very well subjected to thermoforming, which means that in principle we can get any shape and this is a huge advantage over quartz glass. PMMA has infinite "patience" with respect to the mechanical sample. It can be freely milled, ground, drilled and threaded.

It also "forgives" mistakes in mechanical processing, because, for example, an improperly machined hole can be flooded with liquid acrylic and get the first state.

Another brilliant feature of acrylic is that it can be completely refinished. Even with a large degree of surface damage or large damage deep into the material. Our most extreme case was when we repaired a large panel that... had been hit by a forklift.

THESE FEATURES OF ACRYLIC MAKE IT MUCH EASIER AND SAFER IN ASSEMBLY THAN GLASS.

WHERE QUARTZ GLASS IS COMPLETELY DESTROYED, ACRYLIC COMES TOTALLY UNSAFE.

Acrylic sticks in a way unknown in quartz glass. The gluing is completely transparent, creating only a slight optical impurity that is really hard to see. Thanks to this, it is possible to obtain, for example, a uniform wall with a length of several or even several dozen meters.

Acrylic is completely resistant to weather conditions, chlorine, coagulants, acid rain and exhaust gas deposits. Acrylic is quite easy to clean with detergents and soft (demineralized) water.

The use of acrylic is an obvious choice in the swimming pool industry, large-size aquariums or industry. It is also an interesting, yet unknown choice in facades and small architecture. There was also a period of great fashion for furniture made of acrylic. Fortunately, this is past time.

Acrylic gives extraordinary possibilities in the case of greenery in a confined space. Acrylic does not block UVB or UVC radiation, unlike quartz glass. As a result, the growth of plants is not inhibited, and the light has the same spectrum as outside.



ACRYLIC TECHNOLOGY HIGHLIGHTS

Acrylic technologies in the pool industry are becoming more and more fashionable, sought after and attractive. The use of the material which is PMMA (acrylic) gives the pools a new dimension, both functional and aesthetic..

THE MOST COMMON APPLICATIONS OF ACRYLIC IN THE POOL INDUSTRY ARE:

UNDERWATER WINDOWS WITH FOUR SUPPORT POINTS

UNDERWATER WINDOWS WITH TOP LINE FREE (THREE POINTS OF SUPPORT)

UNDERWATER WINDOWS WITH OVERFLOW ON THE TOP LINE,

ZERO EDGE HANGING POOLS LOCATED ON THE TOP OF THE BUILDING

ROLLERS WITH VIRUS FUNCTION CONVEMED

LENSES OR CONCAVE TRANSPARENT SPOUTS (COBRA TYPE)



ACRYLICPOOL

ACRYLIC TECHNOLOGY HIGHLIGHTS

The key is the knowledge of how to design acrylic and calculate the thickness as well as the assembly technology. Acrylic can be mounted to any type of basin (ceramic, steel and foil). PMMA has high and rigorous requirements regarding the maintenance of assembly regimes (temperature, ambient humidity, dust-free conditions, properly prepared substrate, etc.).

Also, each assembly is carried out in the changed standard. The ideal conditions for assembly or face gluing are temperatures of 15 to 25 degrees. At temperatures below 10 degrees, it is necessary to install a heating tent, at high temperatures above 30 degrees, we must cool the bonding with ice.

In practice, we installed acrylic in falling snow, or like this year, at a temperature above 40 degrees. However, these were not pleasant montages.

Acrylic has a high thermal insulation and resistance to mechanical damage, therefore year-round use, in our climate, is not a problem. However, in the case of year-round, outdoor pools, we do not recommend a pool with an acrylic overflow, the so-called "zero edge", because ice may form on the outer side of the gutter.

In addition, in the implementation of outdoor outdoor pools, the thickness of the acrylic panels is increased by about 30%. Such projects are commonly carried out all over the world, it is enough to recall here a huge year-round swimming pool in London, suspended between two skyscrapers.

In the case of pools with acrylic, where the water will not be heated in the winter season, we recommend draining the water for the winter season, but this is only due to the relatively troublesome cleaning of the acrylic before the summer season.

An extremely interesting use of acrylic is when the pool wall is also a window in the facade. Choosing the right thickness means that there is no excessive heat loss.

Acrylic, of course, is not a cheap material. However, in the entire implementation, the use of acrylic does not increase the cost of the pool by more than 20 to 30 percent. Of course, the share of acrylic may concern a larger surface or a glazed bottom or other unusual applications, and then its cost increases.

Currently, the Polish market of pool acrylics is at an early stage. Most projects concern panels in one or two walls of the pool. There are hotel and private pools. With the increased awareness of this material, more sophisticated or larger projects will appear among designers and pool companies.

The first advanced projects in Poland are a hanging swimming pool and a gym made by us on top of a hotel facility in Poznań, a large swimming pool located on the roof of a hotel in Kielce or our largest project, i.e. a tunnel and a set of underwater windows in the deepest pool in the EU, i.e. Divespot in Mszczonów near of Warsaw.

The latter, the largest acrylic project made by a Polish company, was associated with enormous technical challenges. Usually, the installation of such a tunnel takes place at the bottom of the pool. In our case, it took place on a footbridge suspended in a pool over 40 meters deep. Also, part of the assembly had to take place on high scaffolding, then from the water level with the use of pontoons, and the final work was carried out by divers after the pool was flooded.

The global production of acrylic is growing at a tremendous rate. Two decades ago, Chinese-made acrylic was of much lower quality. The main problem was its yellowing after a period of several years. Currently, the acrylic produced by the best Chinese producers outperforms the acrylic produced in the European Union countries. Thanks to this, acrylic produced in China has a 20-year guarantee against yellowing and is used all over the world.



ACRYLIC TECHNOLOGY HIGHLIGHTS

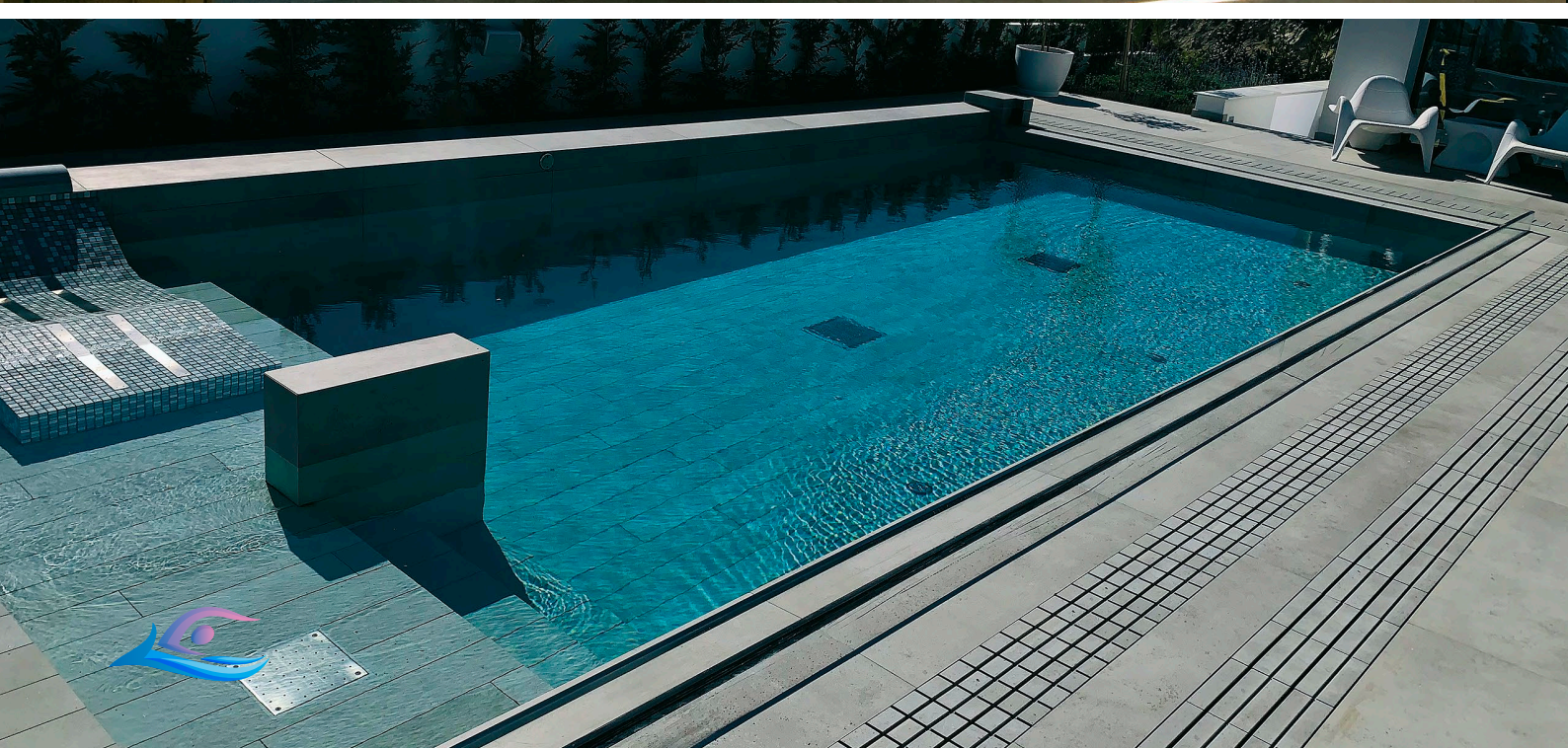
It can therefore be assumed that currently acrylic is a material identical in terms of its physical and chemical parameters, regardless of the place of production.

Installing acrylic, however, is difficult and requires a lot of knowledge and practice. This is mainly due to the fact that each assembly has its own specificity and it is necessary to modify both the use of construction chemicals and the assembly method itself.

With dozens of installations of windows and other acrylic solids, we basically did not repeat the assembly process. A certain specificity of acrylic panels is the fact that you cannot flood the pool with acrylic panels immediately after assembly. The degree of polymerization and the maximum permissible flooding temperature are specified for each implementation. Acrylic panels can also undergo self-sealing, this is due to the fact that the panel is mounted on the so-called "floating gasket" and it sometimes needs time to seal.

However, each installation of the panel ends with full tightness, even when it requires resin injections when the reinforced concrete itself is not made precisely.





PMMA GLASS VS QUARTZ GLASS

Virtually all pool projects around the world are made of acrylic (PMMA).

I know only single projects on quartz glass, such as in the Zoo in Bergen, but they come from the early 1980s and will be successively replaced with acrylic.

In recent years, we have only installed glass in the pool window in the Seal Center in Hel once. It lasted two years.

Reasons why quartz glass is not used in swimming pools::

- 1.** Glass during production has a closed stress that cannot be relaxed or measured, and this means that the glass has a low toughness. This means that the window pane is resistant to rain, but large hail, for example, can damage the glass quite easily.
- 2.** Glass, even with the borosilicate color removed (such glass is popularly called optiwhite), when folded, for example, 2 x 19 mm, is already visibly blue and acrylic is perfectly transparent, regardless of thickness.
- 3.** Resin and foil in insulated glass are not resistant to water, minimal leakage on silicone, causes water penetration and the so-called formation of the so-called. widow's hair, i.e. twig-shaped lesions.
- 4.** Minimal damage in the panel, even a few millimeters in size, does not allow for its installation. With a large weight of the panel and assembly to steel, such damage is very easy.
- 6.** Glass installation must be perfect vertically and horizontally, even a few millimeters expose the panel to cracking. Acrylic has a huge tolerance for unevenness in assembly.

In the aquarium hobby, where I have built hundreds of large-size aquariums, the so-called floating bottom is used. The glass panel is divided into sections of 50 cm to protect against unevenness of the ground.

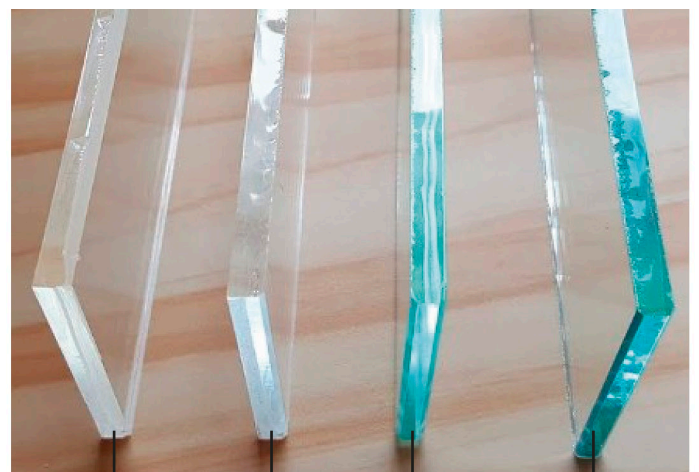
7. In my practice, I have had a large glass panel break spontaneously during proper storage.

8. No glass factory or glass manufacturer can guarantee the glass. We give 10 years.

9. Glass silicone has 5 years warranty. After this time, the panel or aquarium should be cut out and glued in again. This applies to trained Perenator (Germany) dedicated to large aquariums.

10. Silicone after polymerization has no flexibility and the glass will be cooled and heated. With a few millimeters of glass thickness, it doesn't matter if the 203 cm insulated glass is already colossal.

11. Over the course of 20 years, I have made several hundred aquariums with a capacity of 100 to 8500 liters. I have used panels with a thickness of 24 to 57 mm. As a forensic expert, I write expert opinions for the court about damaged aquariums and I encounter problems with glass that are hard to guess. This applies to damage from loud, bass music, temperature changes or spontaneous inexplicable destruction of the panel.

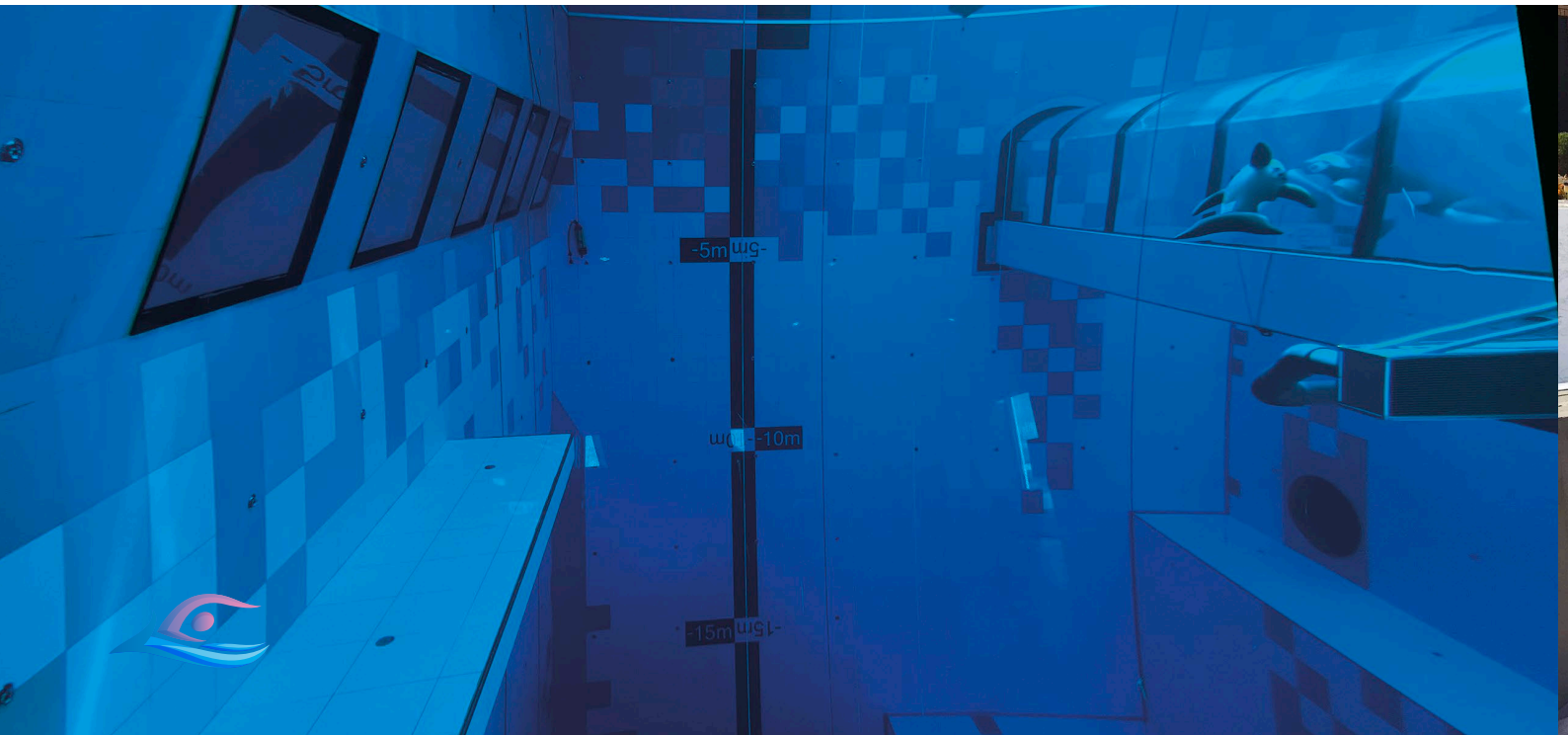
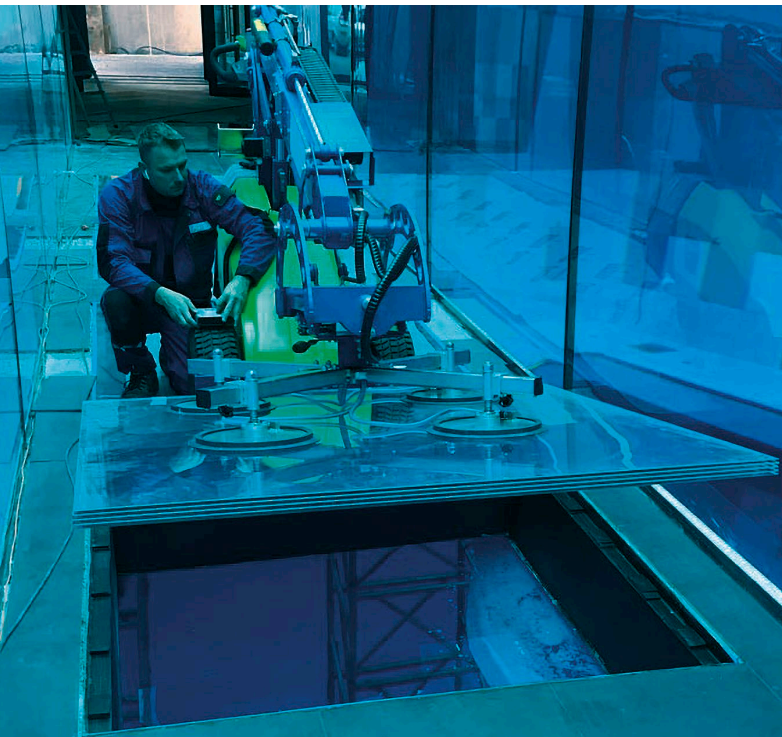


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LOW IRON
GLASS

REGULAR
GLASS

MID-GRADE
LOW IRON
GLASS







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Sp. z o.o.

TRANSPARENT QUALITY

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