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FLAG GROUP

Company Quality System Certificate UNI EN ISO 9001

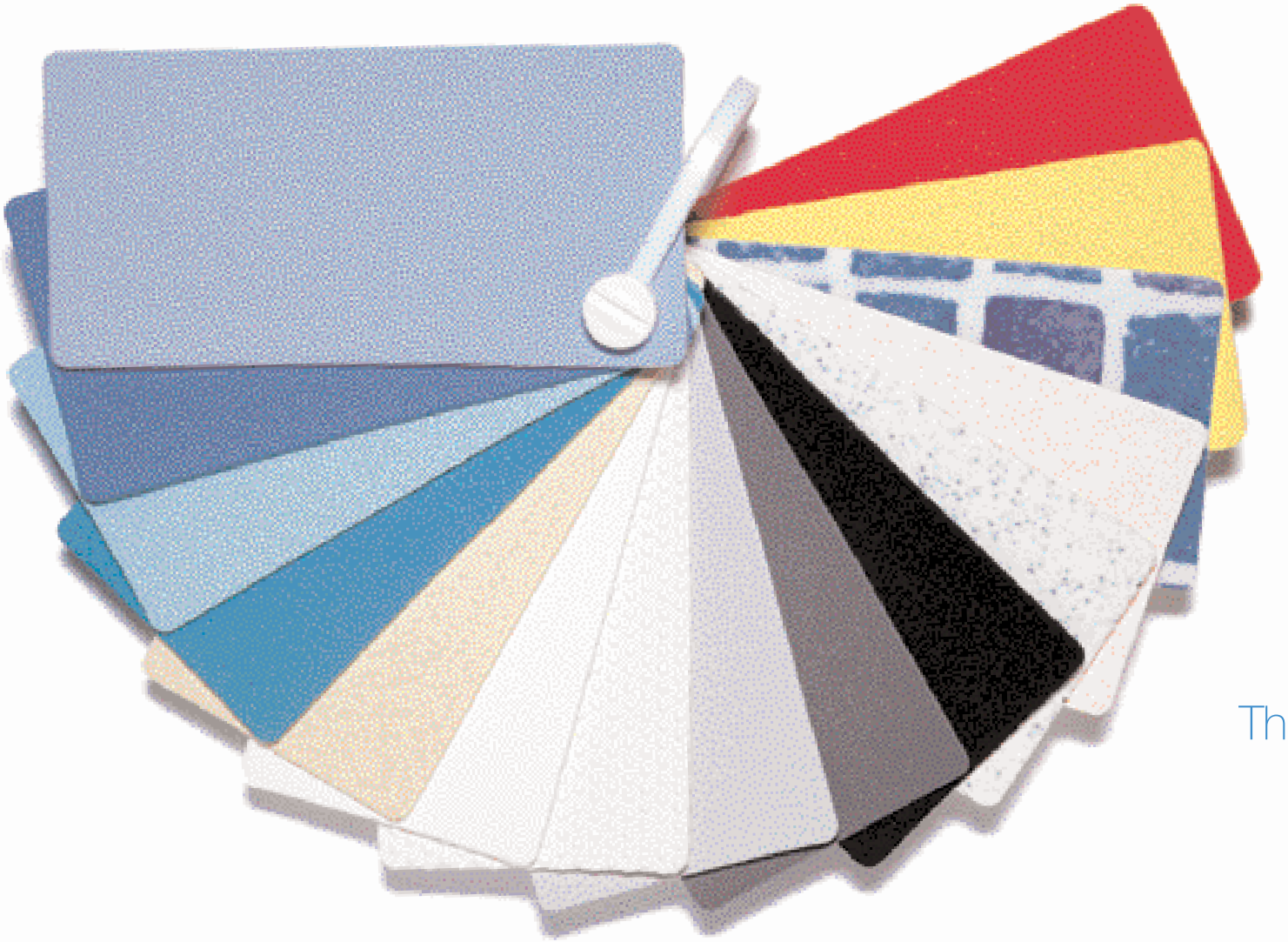
Flag S.p.A. - via Industriale dell'Isola, 3 - 24040 Chignolo d'Isola (BG) - Italy
Tel. +39.035.494.09.49 - Fax +39.035.494.06.49 - e-mail: info@flag.it

FLAG POOL

PROFILE

FLAG

YOUR ROOFING AND WATERPROOFING PARTNER



FLAG

Flag S.p.A. produces waterproofing synthetic membranes since 1963.
During these last 40 years, Flag products have been successfully used in all building areas: roofing, underground works, hydraulic works, swimming pools.
In the field of swimming pools the FLAGPOOL brand has became synonym of quality, long-lasting, beauty and easy setting.

The first swimming pools realised with PVC-P membranes go back to 1977

- light blue* (CA)
- light-sky blue* (AB)
- aqua* (VD)
- caribbean green* (VC)
- sand* (SA)
- white* (HB)
- pearl grey * (GC)
- dark grey* (GB)
- anthratice black* (NB)
- granito fiorentino* (GR)
- marmorino rosa* (GO)
- mosaic (MO)
- yellow (GL)
- red (RA)

*Antislipping available

PVC FLAGPOOL

THE PVC MEMBRANE AS SWIMMING POOL COVERING

The first swimming pools realised with PVC-P go back to 1977. Since that period the use of the PVC-P experienced a continuous and constant growth up to get 65% of the market. Without fear of being belied, that two swimming pools out of three in Europe are covered with PVC-P. The PVC-P membrane is even more used for the obvious advantages it offers in comparison to traditional systems.
The reasons of this success can be easily understood.

The adoption of the PVC-P membrane allows to employ lighter concrete structures which main function is static, leaving the waterproofing function to the PVC-P liner. That means lower cost for the basin and shorter realisation times.
Furthermore the costs in the medium range are reduced thanks to the fact that this solution does not require maintenance interventions, which are instead necessary for painted or tiled structures.
The quick setting, if compared to traditional ceramic covering, represents another point of strength of the PVC-P membrane, particularly in the field of public works (water parks, public swimming pools, residential swimming pools, swimming pools with waves, etc). The elasticity of this technology allows to cover “free-shape” swimming pools even with particularly complex shapes, both with skimmer and with grazing border. The PVC-P membranes can be used for the total covering of the basin and matched to prefab structures with already waterproofed walls.

THE FLAGPOOL MEMBRANE

Flagpool is a synthetic PVC-P membrane, reinforced with a polyester mesh, designed both for new swimming pools and for the refurbishment of already existing pools.
Flagpool is adaptable to any shape with attractive results.

flexible and robust single-layer membrane, 1,5 mm thick.
These unique characteristics are the foundation of Flagpool performance.

FLAGPOOL liner
smooth and
flexible
will fit to any shape

THE PRODUCTION PROCESS

FLAGPOOL is obtained by a production process that allows to obtain reinforced membranes. The mesh is part of the membrane itself.
A mix of products in viscous liquid condition, called "plastisol" is spread at environmental temperature, on a support.
This mix contains resins, plasticising agents, stabilising substances, pigments, etc and it determinates the final characteristics of the PVC-P membrane for swimming pools.
After a jellification (fusion) process obtained by an adequate rising of temperature inside specific furnaces, the "plastisol" gets solid.
The spreading and jellification process is repeated on line, four times.
Therefore FLAGPOOL is composed by four layer with different formulation, inserting, between the second and the third layer, exactly in the middle, an internal net composed by a polyester mesh with reinforcing functions.
The above mentioned production system establishes among the four layers a molecular binding that creates a homogeneous,



THE 10 ADVANTAGES OF FLAGPOOL

1. A WIDE RANGE OF COLOURS

Give the water the look you prefer: caribbean, natural or traditional. You can choose among 14 different nuances:

- solid colours: light blue, light-sky blue, sand, white, pearl grey, dark grey, anthracite black, caribbean green, aqua, red and yellow;
- special finishing: Granito Fiorentino, Marmorino Rosa;
- printed: mosaic.

2. COLOURS STABILITY

The technology used for the pigmentation of FLAGPOOL membrane defines the purity of colours thus maintaining them unchanged in time.

3. THE SHAPE YOU PREFER

You can freely decide not only the dimensions, but also the shape you prefer: from the classic rectangular, to free shaped designed for a perfect introduction in the environment.
FLAGPOOL liner, smooth and flexible, will fit to any shape.

4. QUICK SETTING

FLAGPOOL is easy to install and the welding between two rows of liners are practically invisible, once the pool is filled with water.

5. WATERPROOFING AND RESISTANCE AGAINST MICRO ORGANISMS

The complete waterproofing of FLAGPOOL liner gives a permanent protection to the building structure of the pool. This allows to keep the swimming pool constantly full of water, preventing continuous and expensive changes.
FLAGPOOL is not subject to any phenomenon of molecular modification.
Thanks to its formulation with BIO-SHIELD treatment it provides an absolute resistance against micro organisms (funguses, bacteria, spores), in the water, particularly if not renewed continuously and with high external temperatures, thus inhibiting their development.

6. RESISTANCE TO U.V. RAYS

As pools are usually installed outdoor, the membrane must resist against the action of U.V. rays without alteration. Years and years of direct exposure to sun-light will cause no damage to the FLAGPOOL liner, which has successfully passed the most severe U.V. international tests.

7. MECHANICAL RESISTANCE

FLAGPOOL liner possesses a very high degree of mechanical resistance. This protects from tearings caused by accidental impacts or by violent hailstroms.

8. INSENSIBILITY AGAINST COLD-HOT CYCLES

The covering of a swimming pool is subject to serious thermal variation. No problem at all with FLAGPOOL: the alteration of hot-cold cycles does not alter anyhow the swimming pool covering, thanks to its dimensional stability tested at outer temperatures ranging from –40 up to +80°C.
This also allows to create plants with thermal water or water adequately warmed up.

9. WATER TREATMENT

The chemical products, mainly on chlorine base, necessary for the water treatment in swimming pools covered in PVC-P, when used according to the technical prescriptions, do not produce any damage to FLAGPOOL covering.

10. QUALITY OF WATER

Thanks to FLAGPOOL characteristics, it is possible to use for the filling and the next use of the swimming pool, drinking water or sea water, without altering the membrane.



GUARANTEE

This information summarises and synthesises what exposed up to here. FLAGPOOL, a registered brand of FLAG S.P.A., is granted for 10 years. Thousands of swimming pools covered with FLAGPOOL witness the quality of our membrane in Italy and all over the world.

CHEMICAL - PHYSICAL CHARACTERISTICS

Certified system quality UNI EN ISO 9001 - ***Bio-Shield*** treatment

against the attack of micro-organisms

Weight	Kg/m^2	1,8 ± 5%	DIN 53352
Tensile strength	N/5 cm	≥ 1100	DIN 16726-5.13
Elongation at break		≥ 15%	DIN 16726-5.13
Dimensional stability (after 6h at 80° C)		≤ 0,5%	DIN 53377
Puncture resistance	mm	≥ 800	DIN 16726-5.12
Cold bending (2 mm mandrel)		≤ –20°C	DIN 53361
Accelerated light ageing Irradiation of 18.000 MJ/m^2		no crack	UNI ISO 4892 Xenotest method
Resistance to micro-organisms		no development	AFNOR NFX 41514 ASTM G 21-90
Resistance to hail on rigid support		≥ 23 m/s	SIA 280/8
Thermal ageing in air: mass loss after 56 days at 80° C		≤ 2,5%	DIN 16276-5.13.3

STANDARD PRODUCTION: rolls 160 cm width - 25 m length - 1,5 mm thickness

ACCESSORIES: on request there is a wide range of ancillary accessories – please refer our technical documentation

FLAGPOOL
can be applied on an already existing surface or on a new one

GENERAL SETTING GUIDELINES

Here are shortly outlined the main setting guidelines. For a most complete description of the setting method for FLAGPOOL membrane, please refer to the specific document "Setting up".

1. STOCKING

FLAGPOOL membranes are delivered in rolls, set on wooden pallets, protected, separated one from the other by polystyrene and externally packed with transparent polyethylene foils.
The stocking must be performed in a dry place and, whenever possible, the rolls must be protected by humidity and other environmental agents.

2. CONTROL OF THE STRUCTURE

FLAGPOOL membrane can be applied on an already existing surface or on a new one.
The surface can be made of concrete, cement, masonry, **(Attention: only with plaster finishing)**, or composed by prefab panels in steel, aluminium or polyethylene.
In case of a surface built with bricks, concrete or plaster, it is absolutely necessary to employ a building surface base on cement stuccoes **(Attention never use lime).**
It's important to verify that it has the adequate solidity to allow the application of the fixing elements (expansion nails, rivets, dowels, etc.).
For a correct installation of the PVC membrane, it's necessary that the horizontal surfaces (swimming-pool bottom, stairs treads and/or seat of the benches) and the vertical ones (walls or step/bench risers) are orthogonal to each other.

FLAGPOOL
covers, protects, waterproofs
the raw structure of the pool

3. PREPARATION OF THE BUILDING YARD

Verify the structure and its surface finishing quality, fix the sealing of the accessories, install the anchoring method most adequate to the swimming pool to be realised (profiles, metal sheets, etc).

4. WELDING

The welding of FLAGPOOL membrane must be performed with an hot-air device, type Leister.
To correctly perform the welding, the edges of the membrane must absolutely be clean and dry to avoid the development of bubbles, due to the steam generated by the hot-welding.
The PVC-P sheets to be welded must overlap of about 5 cm and pre-fixed with hot-air every 15/20 cm. Then perform the effective welding inserting the nozzle between the two sheets (with an inclination to the welding line of about 45° using a 40 mm nozzle and about 35° with a 20 mm nozzle) exerting in the meanwhile a constant pressure with the roller on the warmed sheets.
The welding speed is about 80 cm/min.

The temperature fit for obtaining a perfect welding, generally varies between 450 and 500°C according to the environmental temperature.
When welding, always eliminate any scaling that could form on the nozzles, using the metal brush.

5. SETTING TECHNIQUES

a) REGULAR SHAPE SWIMMING POOLS

In case of "FLAT BOTTOM" swimming pools, with "DIVING DITCH" and "DIAMOND SHAPE" bottom, the setting of the FLAGPOOL membrane generally starts from the bottom of the swimming pool. Then anchor the membrane on the vertical walls and weld it on the bottom.

b) IRREGULAR SHAPE SWIMMING POOLS

In this case start the setting of the FLAGPOOL membrane from the vertical walls. Then set the bottom membrane and perform the final welding of the vertical walls. Then perform the setting of the bottom and finally weld the membrane on the vertical walls.

For further and more detailed information on setting methods and structural details, please refer to the specific documentation FLAGPOOL, or visit our web site www.flag.it

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