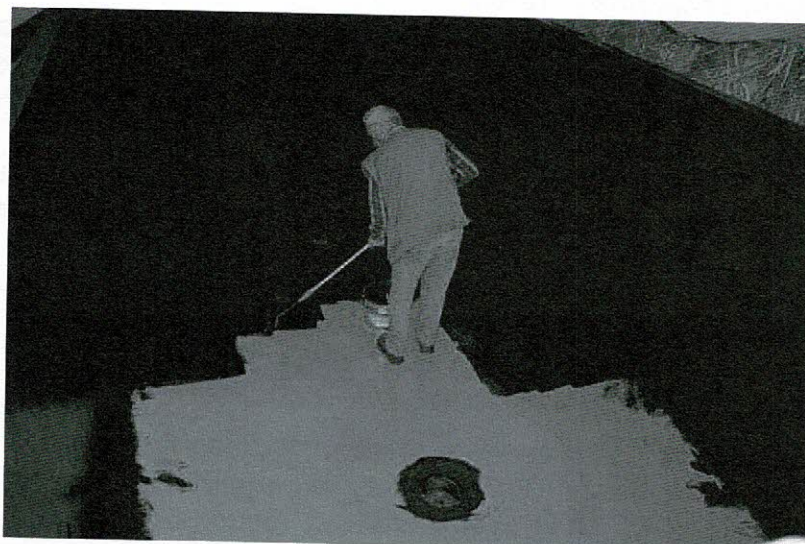


AQUA[®] FORTE

IMPERMAX ST

SINGLE COMPONENT
WATERPROOFING MEMBRANE
BASED ON POLYURETHANE
INSTALLATION MANUAL



A. Rules of design and application methods.

1. *Transport and storage:*

- Storage temperature: +15 to +30 °C. NOTE: in winter months, it is recommended to keep product at 15-20°C specially before using the product, in order to reduce its viscosity and ease the application.
- Conditioning: cans of 2½, 10 and 25 Kg. Once a container is open, it is recommended to use its content totally.
- IMPERMAX contains flammable ingredients. Please read carefully the Material Safety Data Sheet before handling the product.

2. *Influence of atmospheric conditions:*

It is not recommended to apply product at temperatures below 5°C. In case of application such temperatures or below, it is imperative to use PUR Cat Additive. It is not convenient either to apply product at temperatures above 30°C, or on hot supports (>40°C).

Do not apply product on humid / wet surfaces, or which contain more than 4% humidity. In case of application under such conditions, there needs to be a prior preparation of the support with HUMIDITY PRIMER (see product data sheet).

In case of rain just after application, IMPERMAX does not mix with water, but there may be marks due to impact of water drops, which would disappear with a final coat.

In case of wind, it may carry dust particles, leaves, etc. Which may adhere to the membrane and affect the aesthetics of the application.

3. *Application of components:* installation instructions:

We strongly recommend the use of mouth/nose masks.

- Appropriate supports. Product may be applied on almost any surface commonly used in construction (concrete, mortar, brick, etc). It is also suitable for application on tile, ceramics, terrazzo,... (in repairs and maintenance). **PLEASE NOTE!** Impermax has no (or bad) adhesion on concrete combined with waterproof resins!
- Surface condition. Supports on which product is applied must be dry, clean and without any impurities which might affect adhesion (dust, dirt, grease, etc). If there is suspicion of humidity under tiles or in the support, it is recommended to cover the surface with plastic film, and attach it to the substrate with adhesive tape. If after a few hours there is condensation in the plastic sheet, it is convenient to apply Humidity Primer on the support.
- Support preparation.

CLEANING: in case of repairs conducted on existing roofs, it is very important to clean the surface previously, treating especially those spots where there may be organisms attached. One good system is by using high pressure water jets (it is possible to add acids and detaching additives to

the clearing water, so effectiveness is improved). It is imperative to rinse and allow the surface to dry properly before application of IMPERMAX.

In case of new construction, one must eliminate all traces and rests of building materials not adhered, and clean the surface properly. In any case, there must be enough time between the cleaning tasks and the treatment afterwards, so the support does not have any traces of humidity when application starts.

HUMIDITY CONTENT. It is not convenient to apply IMPERMAX membrane directly on supports which may contain humidity, either on the surface of trapped underneath. Humidity provokes 2 important problems in treatments made : A. Lack of adhesion (if the support is saturated with water), and B. Appearance of blisters in the surface of the membrane (due to the vapour pressure generated as the area is exposed to sunlight, which deforms elastic materials). In case of humid supports, or if there is suspicion of humidity, it is imperative to treat the area previously with HUMIDITY PRIMER.

Caution: Humidity Primer is a 2-component products (A + B) that needs careful mixing before use.

FLATNESS. As IMPERMAX is a self – levelling product, it is important to apply it on totally even, stable and firm supports which are as fine as possible (without roughness), so thickness in the membrane is uniform, and avoiding the accumulation of product in deeper spots, and the lack of product in elevated zones. In order to obtain a uniform and regular surface, there should not be oscillations in the surface bigger than 1,6 mm high. If there are excessive changes in height, it is important to prepare the support properly by using self-levelling cement mortars, or filling the joints and holes with the same product (IMPERMAX), combining it with mineral fillers (particle size 0,08 to 0,315 mm) or compatible materials (i.e. Polyurethane sealants – NEVER SILICONES).

On vertical/steep supports, if they are afterwards to be covered with tiles, it is convenient to attach mineral granules of a certain particle size (min. 2 mm in diameter), on the final coat of membrane while it is sticky, in order to obtain enough roughness and compatibility between the membrane and cement.

TEXTURE. Appropriate supports must not be neither too rough nor too fine, (this is, without any porosity at all). On roofs made from concrete slabs, If it is possible, it is recommended to apply a layer of mortar with which drawing the slopes.

For best results, mortars used must not be too porous ("poor"), so the penetration of product is reduced (otherwise a large part of the first coat is absorbed into the concrete). This also avoids air being trapped between the support and the membrane, which may cause bubbles and defects afterwards.

On rough and porous substrates, it is convenient to apply a first coat of product diluted with RAYSTON solvent (adding approx. 10% solvent), and never apply product in hours of heat. If the substrate to waterproof is excessively fine and has no porosity at all (i.e. ceramics, tiles, aluminium, etc.) the high cohesion of this product may result in a lack of adhesion on this kind of substrates, or an easy peeling of the film in case of any incident or accidental perforation of the membrane. In this case, it is important to apply previously PU PRIMER so there is an improvement of the chemical bond between the substrate and the membrane.

TEMPERATURE.

Since IMPERMAX is a liquid product, it is important not to apply it directly on hot supports or which are directly exposed to sunshine, specially in the summer months, since this may cause the following defects / problems in the waterproofing treatment:

- a. Ascending air stays trapped in the membrane while it is liquid, causing bubbles.
- b. There is a very fast formation of skin in the surface, which blocks degassing of the product, so solvents may not evaporate evenly.

For this reason, in the summer months it is important to apply product early in the morning or late in the evening, and in general, avoid applying product in hours of strong sunshine radiation.

FISSURES. When applying product on existing roofs, or conducting repairs and maintenance, it is important to treat properly any existing fissures which need repair. These fissures must be treated by wetting the substrate with a first coat of IMPERMAX and while it is fresh laying GEOMAX 30cm on top. After a few hours, there must be a final coat of IMPERMAX, so that the GEOMAX layer is totally saturated.

JOINTS. Treatment of expansion joints must also be done by laying GEOMAX 30 cm on a first coating of IMPERMAX, in the direction of the joint, and finally saturating this GEOMAX with enough quantity of IMPERMAX.

WATER EVACUATION PIPES/GUTTERS. In order to ensure total continuity of the membrane, these elements will be installed on a first layer of product while it is still fresh, and shall be afterwards covered by a second coat, all the way until it is totally impossible that water would not go into the water evacuation pipes.

- Definition and consumption of different primers for each substrate.

- A. Porous substrates (mortar, rouge concrete, cement, brick, etc.). It is convenient to apply a first coating as **porosity sealer** of IMPERMAX diluted with approx. 10% of RAYSTON solvent, and never under direct sun or heat., making special attention so that support is not hot. This priming can be made by roller, extending the product so that it penetrates, saturates and seals pores. The quantity of product to apply at this stage is approx. 0,5 Kg / m². It is important to wait until this first coat is dry before applying the second coat, also breaking bubbles which may have come up so they do not interfere with the treatment.
- B. Non porous substrates. (ceramics, tiles, aluminium, steel, etc.). It is important to use **PU PRIMER** in order to obtain bonds between the substrate and the membrane. The quantity of PU Primer shall be approx, 200 to 300 g/m². There is a waiting time of at least 2 hours and at the maximum 4 hours, between application of PU Primer and the application of IMPERMAX.
- C. Humid substrates. (wet or with humidity underneath tiles). It is imperative to apply **Humidity Primer**, so that it acts as a barrier to vapour pressure which Hill emanate from the support. The quantity of Humidity Primer is app. 200 g/m², until there is a shiny homogeneous film on the support. The cure time for this product (at 20°C) is approx. 4 hours.

Do not leave more than 36 hrs between the application of Humidity Primer and the application of Impermax, in order to obtain sufficient adhesion between the 2 products.

- Application methods, order of application and finish coatings.

IMPERMAX waterproofing system may be executed manually (roller, spreader, brush) or by machine (airless machine).

In every case it is important to pay special attention to the preparation of product, following some safety and quality precautions:

- a. Open containers with care, avoiding that pieces of joint can fall in the product.
- b. Mix / homogeneize product with the help of a low rpm electrical mixing machine for a few

minutes, avoiding that too much air enters into the resin.

c. Add the appropriate additives. (Accelerant / Solvent, etc.).

NOTE: in case of diluting the product, do not add more than 10% solvent (use ideally 5%), since this has a direct negative effect on the final elongation of the membrane

NEVER USE SOLVENTS NOT APPROVED FOR USE WITH POLYURETHANES, OR WHICH MAY CONTAIN ALCOHOLS (METHANOL / ETHANOL, etc.).

d. Mix additives with the resin until obtaining a totally homogeneous blend.

e. Wait for a minimum of 3-5 minutes to allow evacuation of the air that has been introduced during mixing.

f. Apply the necessary quantity of product per layer, measuring the surface that must be covered per container of product (i.e. 5 * 5 m area for every 25 Kg container). It is important to note that since this product intentionally does not contain a big quantity of mineral fillers (which do not provide mechanical strength) and it is self levelling, it is important to apply a considerable amount of product to obtain enough opacity (approx. 0,8 Kg/m²).

NOTE: Once the application is finished, in case there is some product left in one container and it has not been additivated, it is possible to save it by trespassing it into a smaller container, minimizing the quantity of air left together with the product, and once closed turning the container upside down, so that the product seals any pores in the packaging.

Before proceeding to the extension of IMPERMAX membrane on any surface, it is important to execute the edges of this area so it does not interfere with the job. Edges and laterals must be coated with a first layer of IMPERMAX of approx. 0,8 Kg/m² (equivalent), both for the floor as well as the wall area, covering 10 cm in the floor and 20 cm in the wall. Next, on this quantity of product, and while it is important to extend a layer of GEOMAX 30 cm, trying that this textile is as wet as possible by the membrane. This is then ready to be coated with the membrane on one or both coatings which will be applied on the roof.

The observations which must be observed depending on the chosen application method are as follows:

1. **ROLLER.** The main goal when using a roller with IMPERMAX is to help “extend/lay” the product, so it is not convenient to use rollers as if “painting” the product, since this will result in a very thin layer of product. It is important to use short fiber rollers, since otherwise they tend to retain too much product and there is a lot of effort required to move so much weight. When using roller, it is convenient to apply the product in several layers (i.e. 3 coats of 0,7 Kg /m² each), of contrasting colours, and in order to obtain sufficient thickness (minimum 1,6 mm) without prejudice to the aesthetics and the final properties of the product (free of bubbles and trapped air). If it is deemed necessary, use a spiked aeration roller to avoid air being trapped in the membrane and help break bubbles.



2. **SPREADER.** Application by spreader is recommended in order to obtain enough thickness in only one layer (approx. 1,5 – 2 Kg/m²). It is however important to note in this case that unless there are special precautions taken, it is very likely that there will be a lot of air bubbles in the membrane. It is therefore important to apply a primer, which can be made of a first coat of IMPERMAX diluted with approx. 5 - 10% solvent, or by using Humidity Primer. This avoids bubbles due to air existing in porous supports, which will try to rise through the membrane, yielding these defects. If there are any bubbles generated in the primer, it is important to break them before proceeding to the waterproofing layer. It is important to never apply a thick coat of IMPERMAX on a porous substrate while it is hot and exposed to direct sunshine.



Once the first layer (primer) is cured, one may proceed to apply the main waterproofing layer of approx. 1,5 – 2 Kg/m², mixing with SUPER ACCELERANT (1,5 L / 25 Kg of IMPERMAX), and spreading product with a toothed spreader of approx. 3,2 mm in height, and width 28 cm. It is important that the toothed spikes in the blade are triangular, so they mark as less as possible the surface, and help in the self-levelling of the product. The product must be spread gently and avoiding to appearance of bubbles.



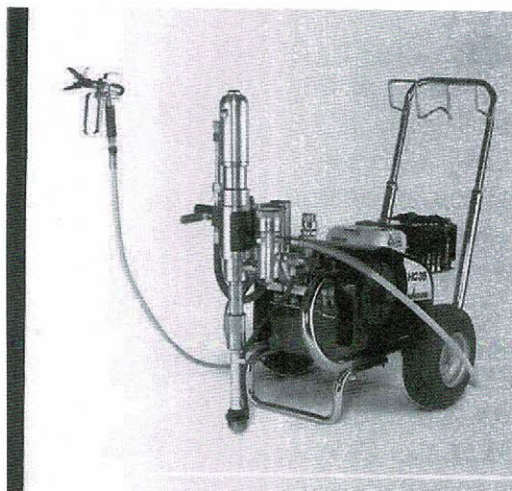
NOTE: the use of Super Accelerant helps to obtain a high performance membrane very fast (even at temperatures below 0°C), and free of imperfections. The only setback which must be taken into consideration is that the use of this additive together with clear coloured membrane (white, grey, etc.) provokes an important alteration in the colour (yellowing), so it is only recommended as a final coat in combination with Dark or Clear Red. In case of use with grey or white as a final coat, there shall be a top coat in Impertrans combined with the appropriate colour.

Finally, and before the product will form a skin, it is convenient to use the spiked aeration roller, eliminating residual bubbles which may have come up during mixing or

application of the product, and obtaining an even, homogeneous finish.

4. SPRAY APPLICATION BY AIRLESS MACHINE. In projects involving a big surface, it is recommended to use spraying machines with the Airless systems, with the following advantages:

- i. Fast application.
- ii. Easy spread and extension of the product (especially in steep / vertical supports).
- iii. Excellent quality and homogeneity in the film obtained (if the application is made according to the criteria outlined).



In this case (as always), is also very important to prepare the surface carefully before conducting the application by spray (Porosity primer applied by roller, diluting product by approx. 10% with Rayston solvent / Humidity primer if support is wet or contains humidity).

It is advisable to use Super Accelerant, specially in case of low temperatures (below 15°C), taking into account that this product yields a very yellowing finish, so it is important to either cover the membrane with tile or with a final topcoat in Paintchlore.

The minimum requirements for a machine that is capable of handling IMPERMAX without almost and dilution of the product are:

Technical Data:

Power	3.1 KW (230V)
Pressure	228 bar
Weight	83Kg
Maximum throughput	6,6 l/min
Throughput at 120 bar	5,6 l/min
Nozzle maximum size	0,052"
Nozzle model	427

It is also recommended to work with a filter o 50 μ , at the machine, and not at the nozzle.

FINISHING. In order to improve the aesthetics of performance of the product, it is possible to provide the following top coats:

- A. Tiles on top of membrane: Given the high puncture resistance of this system (a value of P3, according to EOTA TR6 methodology), it is possible to cover the product directly with tiles, without any need for a special reinforcement or protection. (it is, however, very important and recommended to protect the surface during works with a geotextile, so there is not incidental puncture by stone chips, or other materials).
- B. COLODUR Finish. To obtain a better resistance to traffic (pedestrian), it is recommended to apply a final coat of COLODUR 40% (Aliphatic Single component rigid Polyurethane), either transparent or coloured.
- C. Heat Reflective finish. In certain cases, it is important to apply a final coat of IMPERTRANS 40% (Aliphatic single component elastic Polyurethane), combined with heat reflecting colours (i.e. white). This has some effect on the maximum temperature obtained in the home during summer months.
- D. Decorative Finish. Applying a layer of IMPERTRANS 60% on top of the membrane, and as the binding agent for colored/natural granules (imitating quartz), it is possible to obtain a decorative and resistant finish, also with anti-skid properties. It is required to apply a layer of 0,4 Kg/m² of Impertrans 60%, followed by 3-3,5 Kg/m² of granules (in the desired colour), of granulometry 0,4-0,9 mm. After 6 h, it is possible to brush the excess of granules (which are not bonded to the resin underneath). This system

may be left as anti-skid, or polished (with the appropriate machine), to obtain a smooth surface. Finally, it is required to apply a final top coat of COLODUR 60% (0,5 Kg/m², applied using a plastic spreader) as sealant of the system, in order to preserve its integrity and avoid dirt adhesion.

- E. It is also possible to apply a final coat of IMPERTRANS 40% + RAYSTON Anti-Slip additive, as an easy / fast and economic way to improve the anti-skid behaviour of this system.

GEOMAX reinforcement. Special tissue, made of synthetic fibres, specially designed as a complement to IMPERMAX membranes (and their high elasticity). It is ideal in situations requiring an additional level of protection or reinforcement, MINIMISING THE SELF LEVELLING EFFECT of these products, and increasing the final thickness of the membrane obtained

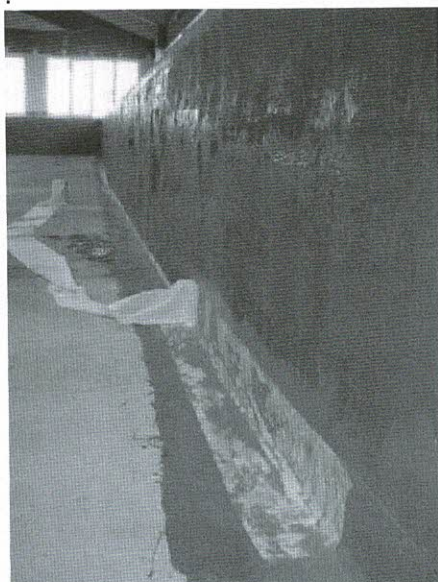


MAIN ADVANTAGES:

- Product 100% compatible with solvents and easily "wet".
- Flexible and easy to adapt to corners, angles, etc.
- High elasticity, so there is a very small loss in mechanical properties of the membrane.
- Available in 2 versions: as reinforcement (GEOMAX) or as superior / inferior protection of membranes, and drainage (GEOMAX PROTEC).
- Furthermore, GEOMAX is available in small width (30 cm), ideal to treat wall/floor areas, and when preparing areas before waterproofing.

MAIN APPLICATIONS:

- Internal body to reinforce IMPERMAX against puncture caused by angles, sharp elements, edges, etc.
- To avoid the self levelling effect of PU Resins when applying on vertical / steep surfaces.
- Surface protection, before covering IMPERMAX with mortar and tiles (GEOMAX PROTEC), minimising friction on the membrane, and increasing resistance against puncture, also favouring water evacuation through capillarity drainage, both above and below.
- Underneath protection in the case of IMPERMAX application on uneven surfaces.
- Better homogeneity of the product (more even thickness) especially in the case of spray application of IMPERMAX membrane, or when waterproofing wall / floor areas and other vertical spots.
- Possibility to create a limit when filling expansion joints, avoiding that too much product is introduced into the joint.



APPLICATION

- Unroll the product on the surface to treat.
- Cut using the appropriate tools.
- As reinforcement and in order to show down resin levelling in steep areas, apply directly onto the first coat while it is fresh, so Geomax stays attached to the fibres, and in order to avoid defects and wrinkles.
- As a final protection before covering IMPERMAX with tiles and mortar, it is recommended to extend the product while IMPERMAX is still adhesive, in order to avoid that GEOMAX is lifted by the wind.

CONDITIONING

Rolls 0,3 m Wide * 100 m long (30 m²).

Rolls 1,5 m wide * 100 m long (150m²).

TECHNICAL PROPERTIES.

NORM	PROPERTIES	UNIT	GEOMAX	GEOMAX PROTEC
UNE EN 29073-1	Weight	Gr / m2	83,7	200
UNE EN 29073-2	Thickness	Mm	0,65	1,2
UNE EN ISO 10319	Tensile strenth MD	kN	1,85	1,8
UNE EN ISO 10319	Tensile Strength CD	kN	4,21	1,8
UNE EN ISO 10320	Elongation MD	%	93,26	32
UNE EN ISO 10321	Elongation CD	%	94,34	60
UNE EN ISO 12236	Puncture resistance	kN	0,50	0,4
UNE EN ISO 11058	Water permeability	m/s		$4,4 \cdot 10^{-2}$
UNE EN ISO 12958	Water flow in plane	m ² /s		$3,2 \cdot 10^{-6}$

SYNERGY IMPERMAX – GEOMAX.

NORM	Description	Unit	GEOMAX	GEOMAX+IMPERMAX
UNE-EN965	Weight	gr/m2	83,7	1.377
Internal test K.C.	Thickness	Mm	0,67	1,64
UNE EN ISO 10319	Tensile Strength MD	kN	1,85	9,67
UNE EN ISO 10319	Tensile Strength CD	kN	4,21	9,84
UNE EN ISO 10319	Elongation MD	%	93,26	33,79
UNE EN ISO 10319	Elongation CD	%	94,34	45,22

- **Minimum thickness of the membrane in the system.**

The minimum thickness of the membrane shall be 1,6 mm (according to the E.T.A. for this product). To obtain this, there must be a minimum quantity of 2 Kg resin/m2, ideally applied in 2 / 3 coats. Thicker layers are not a problem, provided they are applied in several coats.

It is not advised to apply more than 2 Kg/m2 in one layer, as it becomes very difficult for the product to evacuate gases properly and obtain a film free of bubbles. Even in case of applying more than 1 Kg / m2 / coat, it is recommended to use an airing spiked roller while product is still liquid, so bubbles coming from the blending of the product or which emanate from porous substrates.

- **Time between coatings, depending on atmospheric conditions.**

Curing of this product (IMPERMAX), and as a consequence, waiting time between coatings, depends on atmospheric conditions (temperature and relative humidity in the air). As a general guide, one can observe the following cases:

Temperature	Relative Humidity	Dry to touch
5°C	50-60%	30-35 h
10°C	50-60%	19-20 h
15°C	50-60%	14-15 h
20°C	50-60%	11-12 h
24°C	50-60%	8-9 h
35°C	50-60%	4 h

NOTE: it is important to pay attention in the summer and winter months avoiding application of the product in case of extreme temperatures (hot or cold). For this reason, it is recommended in winter months to apply product during mid day hours (so substrate is as dry as possible), and in summer months apply product early in the morning or late in the evening.

- **Total cure time for the final system.**

Even though in most cases product is dry after 24 hours, it is not convenient to cover it with tile or to submit the system to intense traffic until at least 15 days after application.

4. *Critical points.* (See also Support preparation, and sketches in page

Sharp and rouge edges shall be softened or be treated with Geomax (a layer of GEOMAX between coats of IMPERMAX), in order to avoid puncturing of the product by friction with these edges.

At the encounters between vertical and horizontal surfaces, and in general before proceeding to application of IMPERMAX, it is better to apply a first coating of IMPERMAX on the wall (up to 20 cm) and on the floor (10 cm), attaching afterwards GEOMAX 30 cm onto this while the product is liquid, and therefore obtaining a seamless / continuous covering of this critical point. This will afterwards be covered by subsequent coatings of IMPERMAX.

Expansion joints shall be treated either by filling them with an appropriate PU Sealant (NEVER SILICONES), or by IMPERMAX + mineral fillers (Calcium Carbonate or equivalent), so as to make the product thicker. In any case, it is recommended to apply a coating of IMPERMAX followed by a strip of GEOMAX 30 cm wide on this surface, and in the direction of the expansion joint, so it can effectively act as a bridge over the expansion joint.

At gulleys, it is important to apply a first coating of IMPERMAX before installing them, so that the membrane can act as an adhesive while ensuring total continuity in the waterproofing.



This will be followed by the main coatings of membrane which will go all the way to the edge of the gully.

In case of treatment or repair of existing fissures, it is recommended to use GEOMAX attached on a first coating of IMPERMAX. This is also recommended in case of application of the product in areas where there are important differences in height (more than 3 mm) and rough / sharp angles (i.e. deteriorated tile roofs).

5. *Tooling and ancillaries.* Recommended tools for the best application of product are:

Short fiber rollers, compatible with solvents.

Airing spiked roller.

Spike shoes (so as to be able to walk on the product right after application).

Electric mixer / blender (like mortar / cement mixing machines).

Toothed blade (up to 28 cm in height).

6. *Residues.*

Empty product containers shall be treated as metal disposal. It is important to remove as much as possible of the plastic residue, which can be disposed of as Polyurethane plastic.

Metal tools shall be washed right after application with polyurethane solvents (like Rayston PU Solvent).

7. *Special measures.*

It is important to pay special attention not to damage the membrane by transit of vehicles or heavy machinery during works. It is recommended to protect is with a Geotextile of minimum 150 g/m2.

8. *Safety measures.*

Product risk phrases:

F- FLAMMABLE

Xn- HARMFUL

R Phrases

R10

R20/21

R42

R36/37/38

S Phrases

S25

S26

S28

Flammable

Harmful by inhalation and by skin contact

Possibility of sensitization by inhalation and by contact with skin

Irritating to eyes, skin and respiratory traces

Avoid contact with eyes

In case of contact with eyes, rinse immediately and thoroughly with water. Ask for medical assistance.

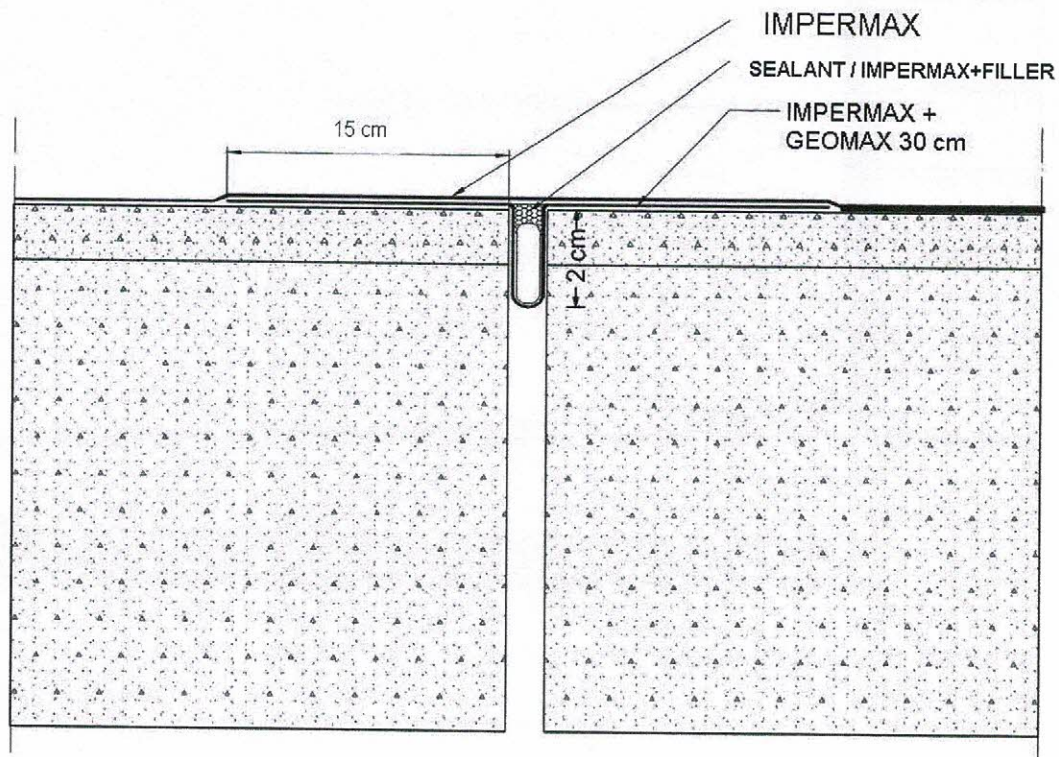
In case of contact with skin, rinse immediately and thoroughly with water and soap..

9. Maintenance and repair. Directives for maintenance and repair, including inspection frequency, and specific measures related with any final protection coatings.

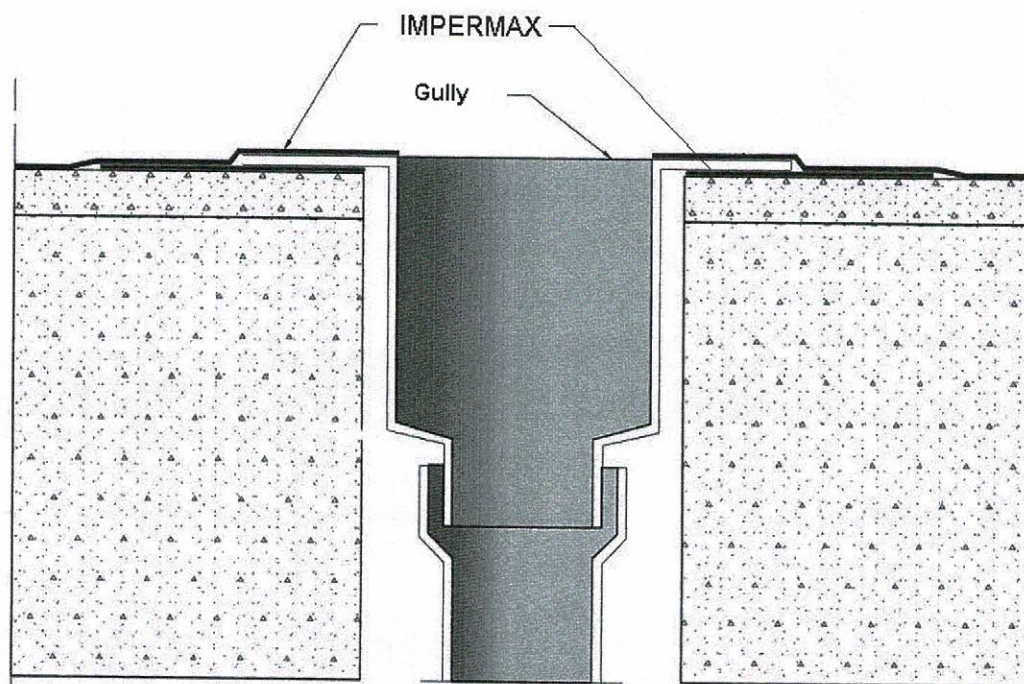
- In case of degradation or blister formation in any specific area, it is recommended to clean and remove product. In case of blistering it is important to leave surface to dry for at least 2 weeks or use Humidity Primer. Repair coatings shall be applied afterwards (and after checking the precise reason for degradation or bilstering), making sure that there is a minimum overlap of 3 cm on surrounding membrane.
- If IMPERMAX membrane will be left exposed, it is recommended to apply a top coating of Impertrans (moderate traffic) or Colodur (Heavy traffic), either pigmented or transparent, on the surface, as this greatly improves the system longevity..
- For safety reasons, it is recommended to visit periodically flat roofs, specially in areas with marked rain seasonality, and heavy thunderstorms, making sure that dirt, leaves, etc do not block water evacuation gullies, causing accidents.
- In case of heavy traffic on the system (i.e. vehicle traffic), and protection of the membrane by COLODUR, it is recommended to use mineral granules (quartz, silica, etc), applied on a first coating of COLODUR 60% and a top coating of COLODUR 60% in a different colour, so that when there is contrast visible, it is time to apply a new COLODUR top coating layer, before lower layers suffer degradation.

SKETCH DETAILS

1. TREATMENT OF EXPANSION JOINTS.

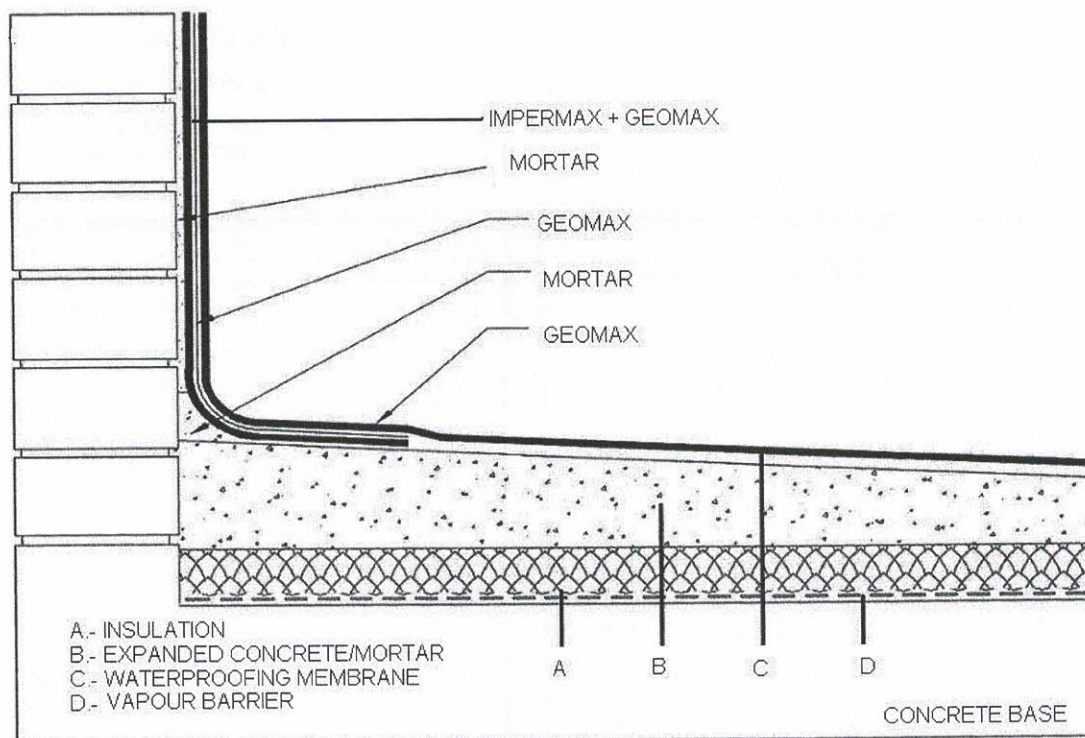


2. ROOF GULLY.

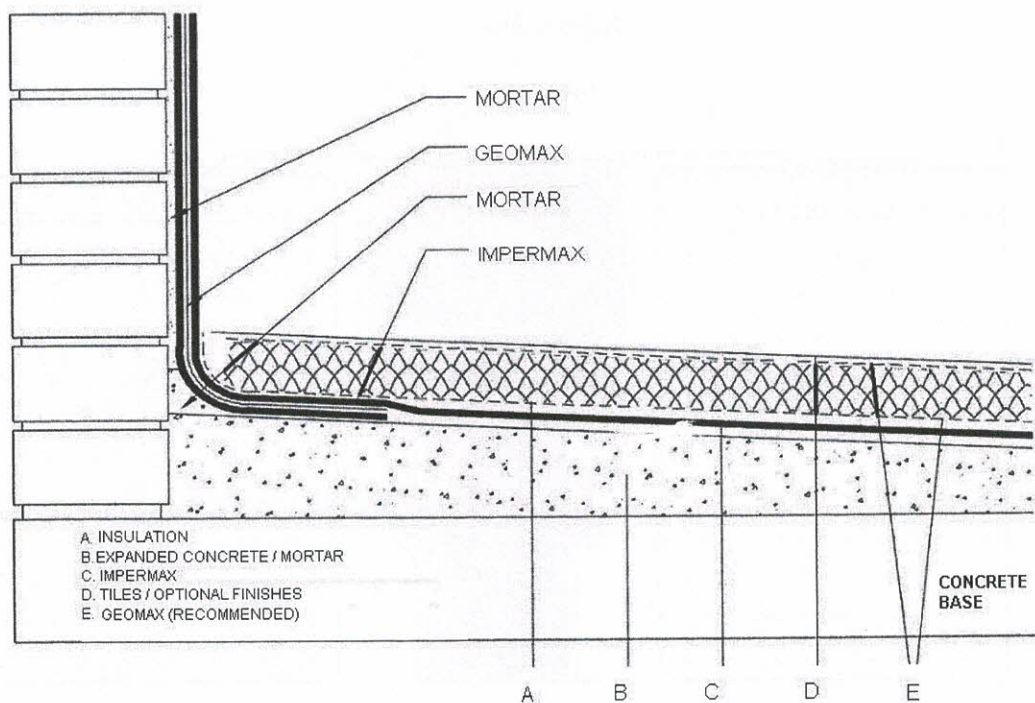


TREATMENT OF UNIONS BETWEEN VERTICAL / HORIZONTAL SUPPORTS.

CASE A. WATERPROOFING MEMBRANE ON INSULATION.



CASO B. INSULATION ON WATERPROOFING MEMBRANE.





Do's & don'ts in POND waterproofing with IMPERMAX.

DO:

1. Read Material Safety Data sheet and safety instructions in the labels of every product that will be handled.
3. Prepare the surface properly. Substrate must be as even as possible. There should not be differences in height larger than the thickness of membrane which will be applied (1,6mm). You may use cementitious mortar for making the surface of the pond as smooth and even as possible, but allowing enough time for this cement to cure.
4. Clean the surface and remove any traces of dust, micro-organism or materials which may interfere in the system's adhesion.
5. Apply humidity primer, if necessary in 2 coatings, in order to ensure both penetration into substrate (diluting the product with enough quantity of water), AND the creation of a barrier to vapour which may come up from the substrate, resulting in pinholes and bubbles in Impermax.
6. Start application by the walls, so you can move around the pond without problems, and apply enough layers (3-4) of Impermax until you reach the right thickness / consume the desired amount of product.
7. Prepare all details with Impermax and Geomax fleece imbedded in it before conducting the waterproofing job.
8. Use Geomax reinforcement fibre in all wall surface for a faster job and a more homogeneous thickness.
9. Apply Impermax in different layers of contrasting colours, in order to see properly the coverage of every layer and not get lost in the job.

DON'T:

1. Do not mix the IMPERMAX ST! You can apply it directly from the can.
2. Do not try to do the job using "any" tools. It is important to have access to a proper mixing machine or an adapted drill, scissors, protection equipment, short fibre rollers compatible with solvent based resins, solvent for cleaning, and to have all these available and in an orderly manner.
3. Do not take shortcuts and avoid steps in the process, which must be:
 - Substrate and tooling preparation
 - Priming (1 or 2 layers).
 - Treatment of details and edges, pipes, corners, stands, etc.
 - Impermax on walls (enough layers for the right thickness)
 - Impermax on Floor (at least 2 layers).
 - Top coat (if necessary)
4. Do not try to save product from the calculations provided by your official sales dealer, for the surface that must be done.
5. Do not apply Impermax as if it was a paint, diluting the product too much, or too thin, since product performance in the long term is directly related to its thickness.
6. Do not apply Impermax system on different substrates other than concrete without conducting a prior adhesion test with the different primers (Humidity primer / PU Primer) in order to determine bonding strength achieved.
7. Do not apply Impermax on a porous substrate (Cement / Concrete) at a high thickness during midday - hot hours, or when temperature is rising up, as you will have a lot of ascending air trapped into the membrane, resulting in a lot of bubbles being formed. Remember to always prepare the substrate with enough quantity of Humidity Primer so that the substrate is sealed.
8. Do not apply Impermax on moist or wet substrates, or if it's raining since this will result in blisters being formed, or a poor adhesion of the membrane into the substrate.
9. Do not leave more than 36 hrs between the application of Humidity Primer and the application of Impermax, in order to obtain sufficient adhesion between the 2 products.
10. Do not fill up the pond too quickly, until you can be sure that all the solvent has evaporated (± 15 days). It is also convenient to rinse the pond with some water before filling it up.



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DEPARTMENT OF THE INTERIOR

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