LOGICBASE SINGLE-PLY PVC SYNTHETIC MEMBRANES

PVC MEMBRANES FOR UNDERGROUND WATERPROOFING SYSTEMS
The development of underground space is a growing trend in modern cities, which suffer from a lack of area for development, population growth and increased traffic flows. Underground parking, metro stations, and stores have become common in many cities around the world. Underground structures are under the continuous influence of subsurface water and aggressive environmental conditions.

LOGICBASE is a homogeneous unreinforced multi-layer waterproofing membrane based on high-quality PVC-P. It is used for waterproofing of tunnels, basements and structures.
INTRODUCTION

UNIQUE PROPERTIES OF PVC

Results of a multiaxial puncture test on a PVC membrane sample in a pressure vessel at 10 bar (J. Chris Christensen et al.1995).

Unreinforced PVC-P membrane at a depth of 50 m.
INTRODUCTION

PRODUCTION FACILITIES

LOGICBASE is produced at LOGICROOF (Russia) and IMPER (Italy) factories.

Our materials are produced on advanced automated lines using co-extrusion technology, which insures material conformity.

We produce the compatible components that are necessary to build a waterproofing system.

A single source for your supplies represents a convenient and secure approach to seamless waterproofing system installation. Both factories are ISO 9001 certified.
RANGE OF MATERIALS AND PRODUCT ADVANTAGES
LOGICBASE WATERPROOFING PVC-P MEMBRANES

LOGICBASE V-SL

This premium quality material is used for waterproofing of tunnels, foundations, underground parts of buildings and structures.

It has a yellow signal layer for prompt and easy detection of waterproofing layer damage due to installation or transportation. The advantages of the material are durability, high strength and elasticity, resistance to mechanical impact and high chemical stability.

LOGICBASE V-ST

LOGICBASE V-ST is a special PVC membrane, which is used for waterproofing of tunnels, foundations, underground parts of buildings and structures as the second layer in double-layer PVC waterproofing systems with vacuum quality control. It is also used as a protective layer of the waterproofing PVC system.

A specially textured surface of the material prevents two membranes of a double-layer waterproofing system from sticking together during the vacuum quality control.
LOGICBASE V-PT

This is a special PVC membrane, which is used as a protective layer of waterproofing PVC systems. The material is welded with the hot air to the main waterproofing layer at certain points along the whole area. Overlap seams are welded by hot air welding equipment.

High impact resistance of the material provides a reliable protection for the main waterproofing layer from mechanical damages during construction works.

ECOBASE V

This is a simple brown single-layer membrane.

It is used for waterproofing building foundations, as well as shallow and artificial reservoirs.
ADVANTAGES OF LOGICBASE PVC MEMBRANES

LOGICBASE FEATURES

We supply integrated waterproofing systems, which include a wide range of membranes, produce our own compatible additional components and offer practical assistance during all phases of design and implementation.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Durability</strong></td>
<td>Extremely high polymer stability and low water absorption make LOGICBASE very durable. It is made of highly stable virgin polymers using co-extrusion technology, thus it has very low water absorption.</td>
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<tr>
<td><strong>Resistance to mechanical impacts</strong></td>
<td>LOGICBASE is able to withstand the impact of a falling object from a height of more than 700 mm (according to EN 12691). It is also resistant to static deformations.</td>
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<tr>
<td><strong>Elasticity at low temperatures</strong></td>
<td>One of the essential features of LOGICBASE is its elasticity at low temperatures, as low as -30 °C (for LOGICBASE V-SL).</td>
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<tr>
<td><strong>Integrity</strong></td>
<td>Technical assistance for designers, engineers and investors throughout the entire process from design to realization of a waterproofing project. Production of compatible accessories.</td>
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<tr>
<td><strong>High chemical stability</strong></td>
<td>Groundwater may contain aggressive substances. Waterproofing membranes made of polymers are resistant to them.</td>
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<tr>
<td><strong>High tensile strength</strong></td>
<td>Unreinforced LOGICBASE is strong enough to stay watertight even when stretched more than 200 %.</td>
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DURABLE PACKAGING FOR EVERY ROLL:

- Every roll of LOGICBASE is protected with individual UV- and contamination-resistant individual PE packaging
- All rolls of synthetic membranes have white labels identifying the membrane, its thickness, length and width
- Rolls of synthetic membranes are delivered on pallets
- Rolls of synthetic membranes should be stored lying down on pallets fully protected from moisture with clean canvas tarpaulins
- Keep the minimum distance of 1 m from any source of heat
RANGE OF ACCESSORIES
COMPATIBLE COMPONENTS

WATERSTOPS

INJECTION FLANGES AND PIPES

GEOTEXTILE, RONDELS, FITTINGS, SUPPORTS

INJECTION COMPOUNDS
COMPATIBLE COMPONENTS

TECHNONICOL WATERSTOP PROFILES

TECHNONICOL WATERSTOPS are elastic tapes made of plasticized PVC, designed for sealing construction and movement joints in concrete structures that are under continuous or temporary pressure from underground water.

EXTERNAL WATERSTOPS FOR COMPARTMENTALIZATION OF WATERPROOFING AND SEALING COLD JOINTS

WATERSTOPS FOR SEALING MOVEMENT JOINTS

INTERNAL WATERSTOPS FOR SEALING COLD JOINTS IN CONCRETE
WATERPROOFING SYSTEMS
### FOUNDATION WATERPROOFING SYSTEMS

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>DESCRIPTION</th>
<th>EXCAVATION WITH BACKFILL</th>
<th>EXCAVATION WITH DIAPHRAGM WALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TN FOUNDATION BARRIER</td>
<td>No repair system</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>TN FOUNDATION PROF</td>
<td>Repair system: compartmentalization with waterstops and Injection system</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>TN FOUNDATION EXPERT</td>
<td>Two-layer system with vacuum quality control</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

![Diagram of foundation waterproofing systems](image-url)
TN FOUNDATION WATERPROOFING SYSTEMS

TN FOUNDATION BARRIER for projects involving excavation with backfill:

1. Diaphragm wall
2. Leveling plaster
3. Geotextile, density 500 g/m²
4. LOGICBASE V-SL PVC membrane
5. Geotextile, density 500 g/m²
6. 200 micron polyethylene film
7. Foundation wall
8. Foundation slab
9. Protective screed
TN FOUNDATION PROF for projects involving excavation with a diaphragm wall:

1. Soil
2. Diaphragm wall
3. Leveling plaster
4. Drainage membrane with geotextile PLANTER geo
5. Geotextile, density 500 g/m²
6. PVC fixing rondels
7. LOGICBASE V-SL PVC membrane
8. PVC waterstop
9. Geotextile, density 500 g/m²
10. 200 micron polyethylene film
11. PVC injection flange
12. Injection pressure hose
13. Corner expansion
14. Injection hose collector
15. Foundation wall
16. Drainage pipe
TN FOUNDATION PROF with a protective membrane:

1. Soil
2. Diaphragm wall
3. Leveling plaster
4. Geotextile, density 500 g/m²
5. PVC fixing rondels
6. LOGICBASE V-SL PVC membrane
7. LOGICBASE V-PT protective PVC membrane
8. PVC waterstop
9. Polystyrene corner protection
10. PVC injection fittings
11. Injection pressure hose
12. Protective screed
13. Injection hose collector
14. Foundation wall
TRAINING AND SUPPORT ON SITE

Regular trainings of application specialists are held in our training centers at LOGICROOF (Russia) and IMPER (Italy). Our specialists provide the following services on site:

- Monitoring installation quality
- Installation supervision and contractor training
- Consultancy regarding LOGICBASE application
SUPPORT OF DESIGNERS

We assist designers by:

- Providing drawings of typical waterproofing details
- Creating customized solutions for waterproofing specific objects
- Developing complete waterproofing projects for specific objects including compartmentalization, injection system and any necessary details
REFERENCES
REFERENCE LIST

BUSINESS CENTER "MOSCOW CITY“, MOSCOW

Foundation waterproofing
Area: 85,000 m²
Material: LOGICBASE V-SL 2.0 mm
FOUNDATION WATERPROOFING 

SHOPPING AND ENTERTAINMENT CENTER, MOSCOW

Foundation waterproofing
Area: 55,000 m²
Material: LOGICBASE V-SL 2.0 mm
TUNNEL ON THE ROAD M-27, RUSSIA-GEORGIA

Tunnel waterproofing
Area: 35,000 m^2
Material: LOGICBASE V-SL 2.0 mm
Metro station waterproofing
Area: 20,000 m²
Material: LOGICBASE V-SL 2.0 mm
LENINGRAD NUCLEAR POWER STATION, SAINT PETERSBURG

Waterproofing of foundation
Area: 100,000 m²
Material: LOGICBASE V-SL 2.0 mm
THANK YOU FOR ATTENTION!

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