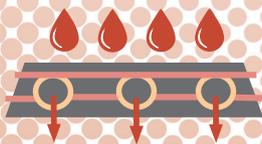


## Contaminated sites & soils

A complete sub-slab on grade solution for ground water drainage & gas venting



Drainage



Lining



Protection

*Contaminated Sites & Soils*



## Specialist manufacturer & supplier of soil drainage, reinforcement & waterproofing solutions

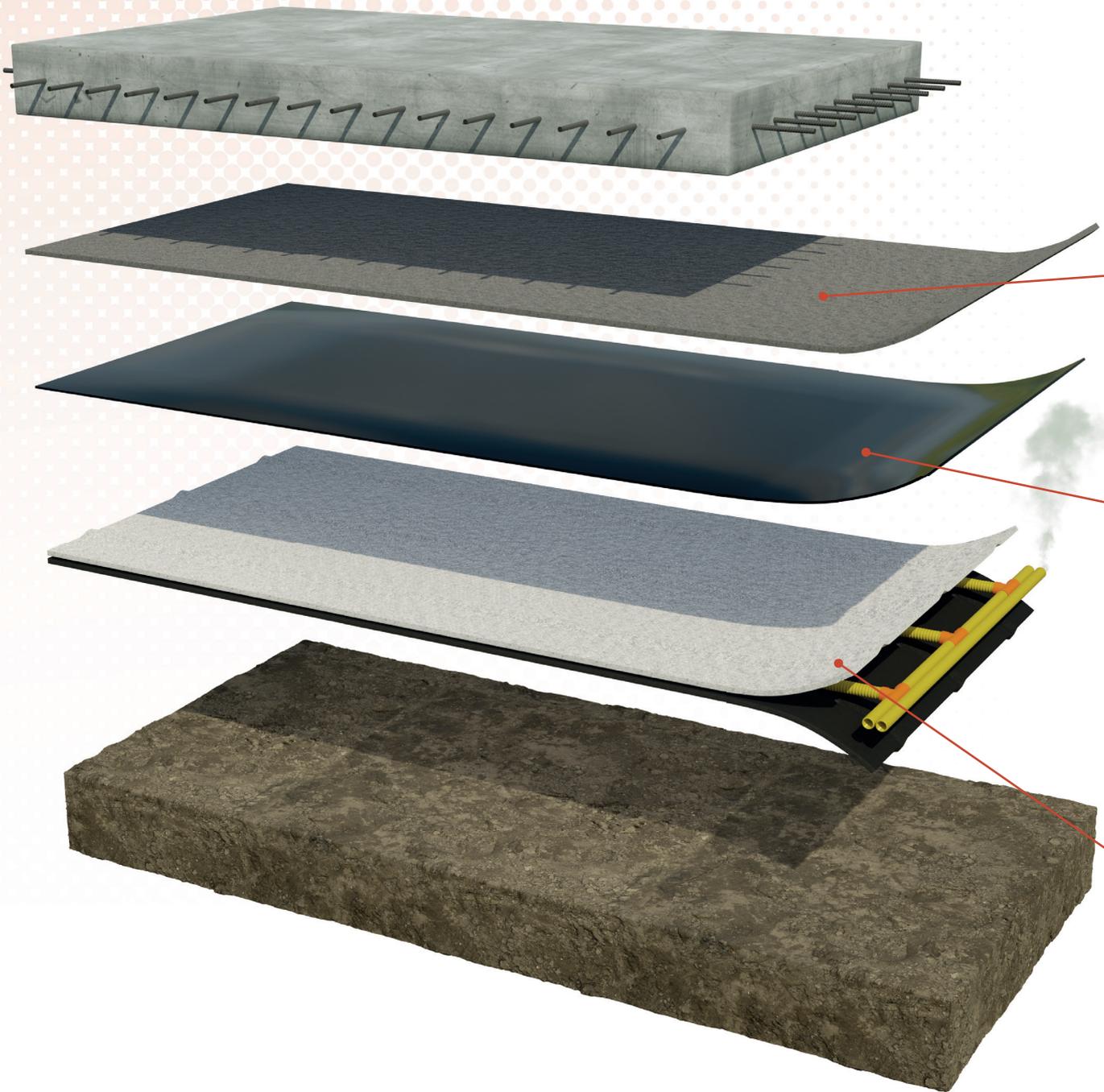
### 30 years' expertise in geotechnical applications

The core business of AFITEXINOV, member of the AFITEX Group, is in soil drainage reinforcement and waterproofing. Today, AFITEX stands as a market leader in geosynthetic solutions.

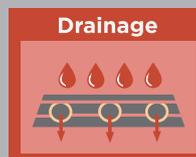
By designing, manufacturing and selling its products and services, the group meets the needs within construction, public works, environmental and mining industry sectors. The AFITEX Group has grown internationally, securing a strong presence in Europe, Africa, the Middle East, Oceania, South America and North America. Building on its experience and skills, the group relies on 3 major strengths: quality of service, high production standards, ongoing innovation backed by high investment in R&D. Our drainage and reinforcement geosynthetic brands are internationally recognized and widely used with confidence: SOMTUBE®, DRAINTUBE®, NOTEX®, GEOTER®, SOMDRAIN®, ALVÉODRAIN®, ALVEOTER®, PROTECTERRE®.



# A multi-layer solution dedicated to contaminated sites and soils



**1** solution **3** installations  
**3** functions



---

**AFITEXINOV** provides efficient, cost effective solutions that comply with the various construction problems associated with contaminated sites and soils.

The products are known for their ease of use and rapid installation in addition to their benefit in reducing the project overall carbon footprint. All our products are designed to offer reliable long term performance.

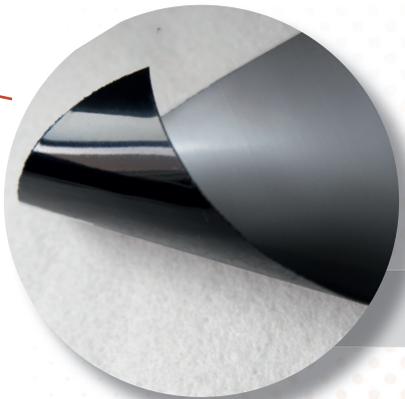
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## **MECANICAL PROTECTION OF THE GEOMEMBRANE**

**AFITEX ST 300**

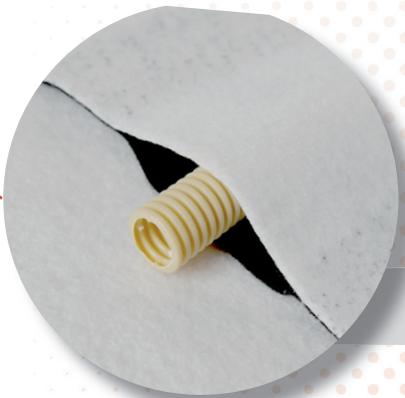
Page 09



## **GAS BARRIER LINER**

**AFIFLEX EVOH**

Page 08



## **GAS DRAINAGE**

**DRAINTUBE® GAZ**

Pages 06 - 07



# DRAINTUBE® GAZ

Gas drainage

HORIZONTAL APPLICATION

Protective  
Geotextile  
AFITEX ST 300

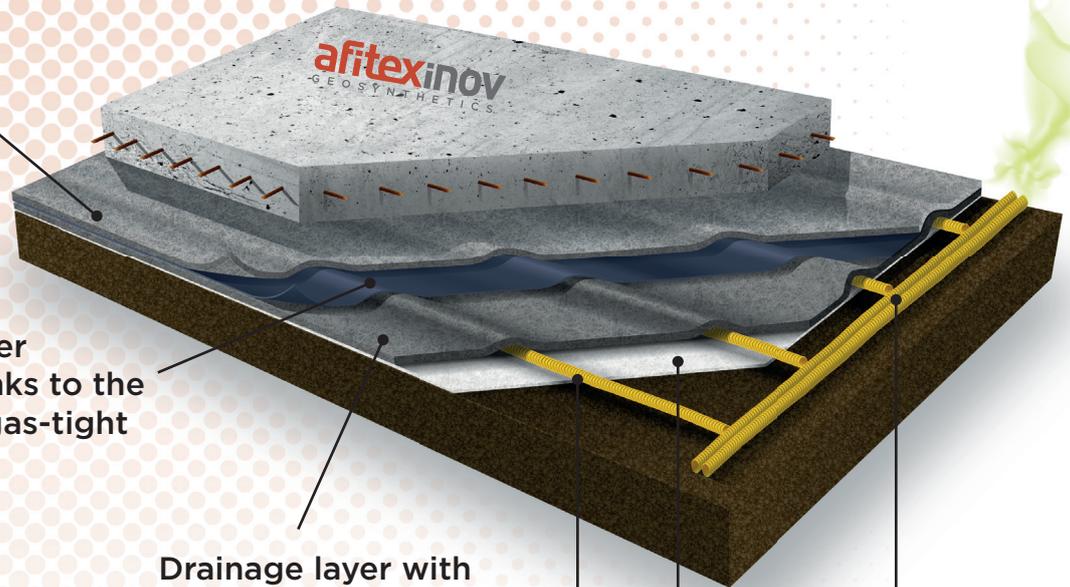
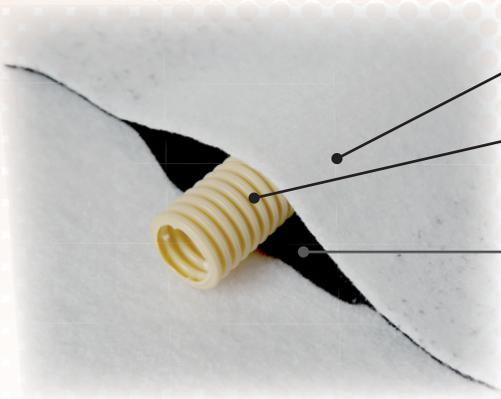
AFIFLEX EVOH liner  
manufactured thanks to the  
co-extrusion of 7 gas-tight  
layers

Drainage layer with  
needle-punched  
nonwoven fabric

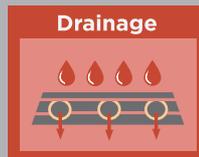
20mm diameter  
perforated drain pipe

Nonwoven filtering  
geotextile

Gas extraction  
Network



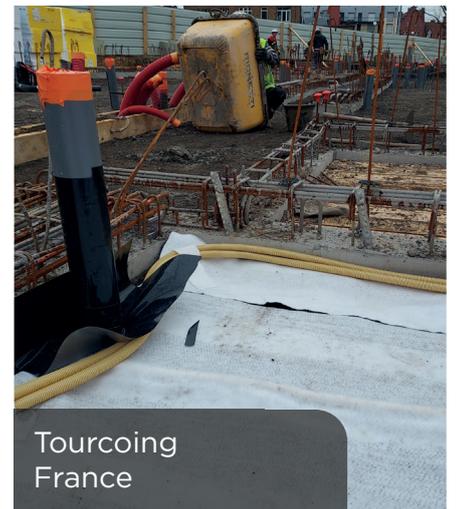
**1** product **1** installation  
**2** functions



Romainville  
France



Azay-sur-Cher  
France



Tourcoing  
France



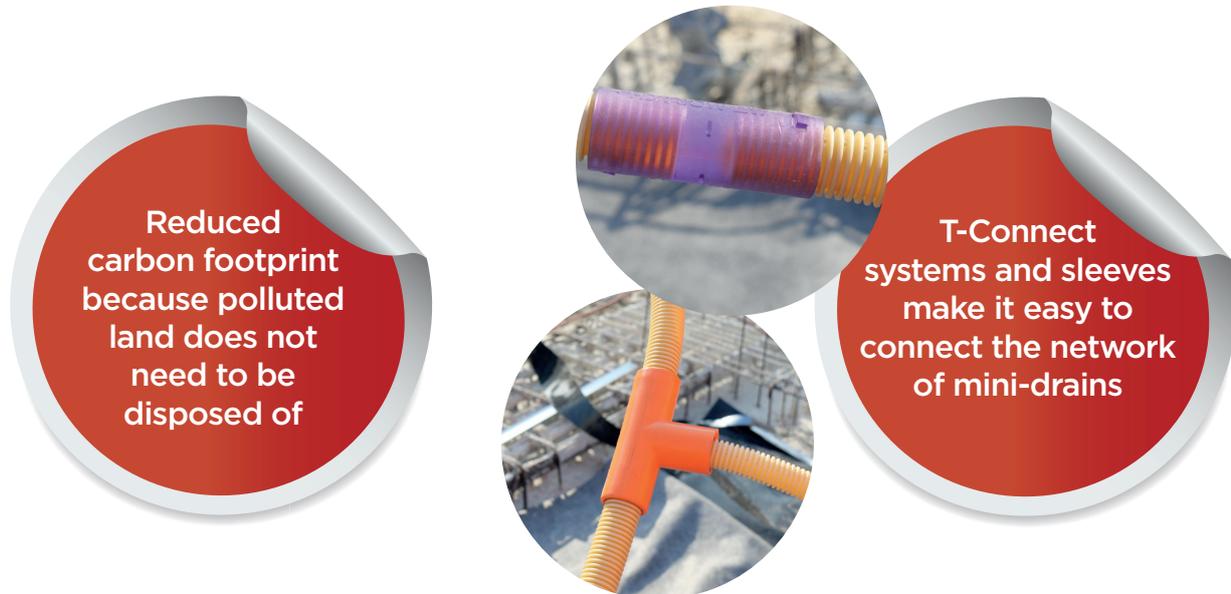
## APPLICATION

When remediating sites with high levels of contamination in the soil, it is extremely costly to treat and/or dispose of the excavated soil. Typically the gases present on the site may pose a health risk, requiring gas venting combined with EVOH® geomembrane sealing.



The AFITEXINOV solution, which consists of 1 in 3 products, is a proven and cost-effective solution because it confines the contaminated soil on site whilst mitigating gas problems under the construction.

**DRAINTUBE® GAZ** is installed directly above the contaminated soil. This reliable geocomposite creates a preferential drainage path and prevents any accumulation of gas on the underside of the geomembrane beneath the building. The drained gases are evacuated towards one or more collectors placed around the periphery of the treated area, and connected to one or more evacuation stacks. This solution is supported by high levels of confidence due not only to our vast successful experience but also by reliable ISO standards of design & manufacture, ensuring long term performance and peace of mind.



## BENEFITS

- Underfloor drainage replaces the crawl space.
- Lightweight, flexible product for rapid installation.
- Tailor-made dimensions to suit the characteristics of the project.
- T-Connect system for easy and efficient interconnection.
- Constant drainage flow, even under heavy loads, no creep in compression even when subjected to stresses of up to 2000 kPa.



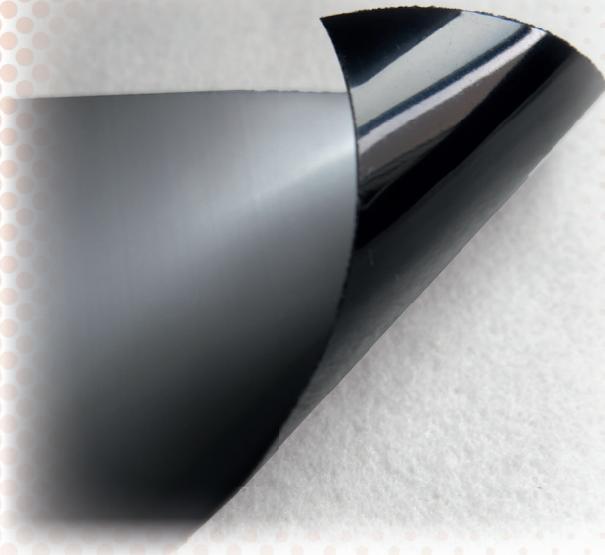
## CHARACTERISTICS

<b>Composition</b>	- Filtering and draining polypropylene geotextiles. - 20mm diameter high compress strength perforated pipe drains
<b>Standard roll size</b>	1.95m x 50m
<b>Weight of one roll</b>	13kg
<b>Output of the complete solution</b>	600-800m <sup>2</sup> closed per week

# AFIFLEX® EVOH

Gas barrier liner

HORIZONTAL APPLICATION



**AFIFLEX® EVOH** is the second product in the solution. It is usually applied directly over the **DRAINTUBE® GAZ**.

This EVOH (ethylene vinyl alcohol) liner is made up of 7 co-extruded layers, which, thanks to their technical characteristics, allow gases to be confined underneath the building. The membrane strips are welded together and fixed around the edges of the building using a metal plate and silicone seal to guarantee the sealing of the system, ensuring long term performance.

The gases are thus confined and evacuated towards the gas extracting stacks thanks to a network of collector pipes.

Gas-tight  
containment with  
sealed AFIFLEX  
EVOH membrane

1 product 1 installation  
1 function

Waterproofing



## BENEFITS

- A fast, cost effective technical solution.
- Strong, reliable & proven gas barrier.
- Design by an accredited design office available on request.



## CHARACTERISTICS

Composition	EVOH membrane with 7 layers Thickness : 0,5mm Unit weight : 500g/m <sup>2</sup>
Standard roll size	2m x 50m 4m x 50m
Weight for one roll	50kg 100kg
Ouput of the complete solution	600-800m <sup>2</sup> closed per week



Le Pellerin  
France

# AFITEX® ST 300

Puncture protection geotextile



**AFITEX® ST 300** is applied directly over **AFIFLEX® EVOH** to **provide the required protection from the next construction operation e.g. concrete slab casting.**

**AFITEX® ST 300** geotextile is designed to protect the EVOH membrane thanks to its puncture resistance qualities.

The geotextile can be laid quickly and economically, simply by unrolling it over the entire surface to be protected as recommended on our installation guidelines. Then the concrete is poured directly onto the geotextile or covering it with insulation panels to continue the construction project.

Lightweight,  
flexible product for  
ultra-fast  
installation



1 product 1 installation  
1 function



## BENEFITS

- A fast, cost effective technical solution.
- Puncture protection of the membrane.
- The concrete slab can be poured directly onto the geotextile, or insulation panels can be laid on top.



## CHARACTERISTICS

Composition	Needled nonwoven geotextile for protecting EVOH membrane
Standard roll size	1.95m x 100m 3.90m x 150m
Weight for one roll	58,5kg 175.5kg
Output of the complete solution	600-800m <sup>2</sup> closed per week



Azay-sur-Cher  
France

# FOR NEW CONSTRUCTIONS

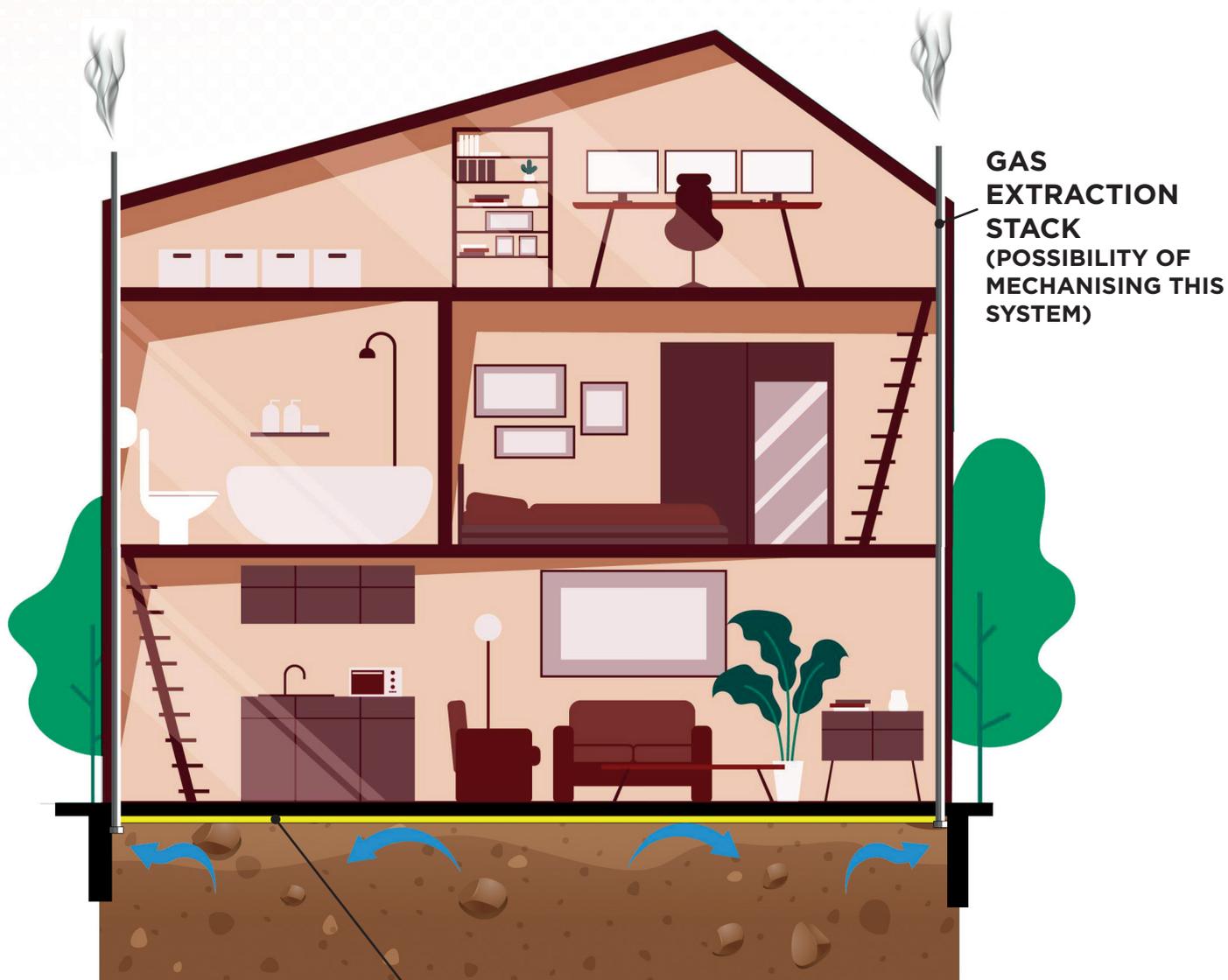


## APPLICATION

This AFITEXINOV solution is quick to apply and ideal for a **new construction**, but can also be applied in the case of a **renovation**, if gas leaks are discovered after the building has been completed.

Depending on the type of foundation, it may therefore be advisable to install it on the vertical walls or at floor level in order to confine the gases and create a preferential drainage path for their evacuation around the house.

## FOR A NEW CONSTRUCTION

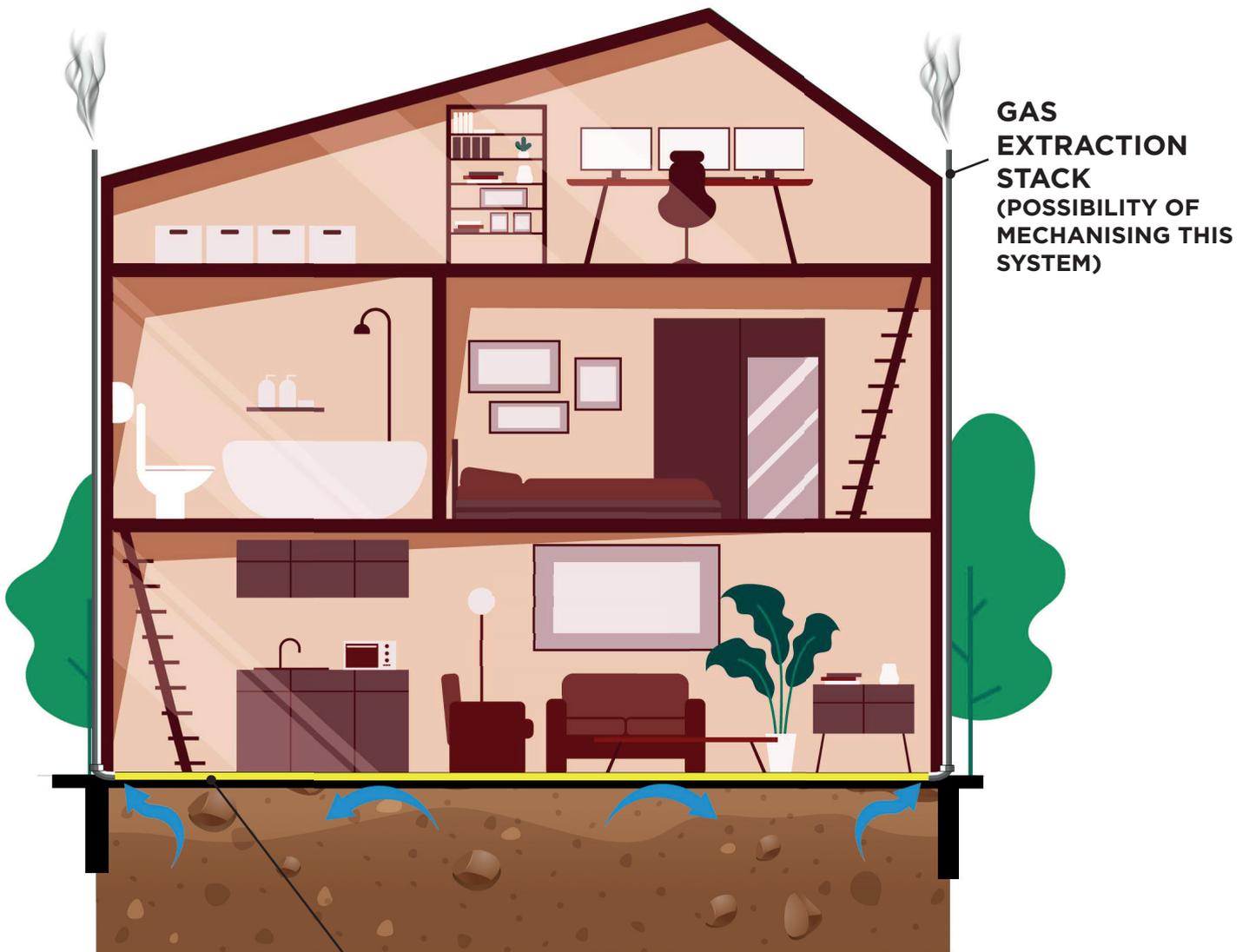


**AFITEX® ST 300**  
**+ AFIFLEX® EVOH**  
**+ DRAINTUBE® GAZ**

Solution implemented under the foundations

# AND FOR RENOVATIONS

## FOR A RENOVATION



**GAS  
EXTRACTION  
STACK  
(POSSIBILITY OF  
MECHANISING THIS  
SYSTEM)**

**AFITEX® ST 300  
+ AFIFLEX® EVOH  
+ DRAINTUBE® GAZ**  
Solution implemented on the existing floor



## **BENEFITS**

- A proven complete solution for over 30 years.
- Easy and efficient connection of drain pipes network thanks to the T-Connect system.
- Can be used in horizontal or vertical versions.
- Tailor-made to suit the characteristics of the project.

# COMMITMENTS IN FAVOUR OF SUSTAINABLE DEVELOPMENT



## Reduction in greenhouse gas emissions

The use of AFITEX geosynthetics contributes to a significant reduction in the transport impact of natural drainage materials (gravel, sand, clay) by road or rail.



## Combating soil pollution

Using AFITEX's drainage and waterproofing geosynthetic solutions contribute to waste containment whilst preventing pollutants from seeping into the natural water phreatic source.



## Conservation of natural resources

The installation of AFITEX geosynthetics helps to dramatically reduce the use of quarried granular materials.



## Water resource protection and storage

AFITEX geosynthetics are utilised for water protection and storage when used in lining of tanks, ponds, canals and irrigation structures.



## Longer service life of structures

The use of AFITEX geosynthetics contributes positively towards the sustainability of infrastructures. They delay road cracking, protect slopes, riverbanks and shores by limiting erosion and improved stability.



## Products promoting the circular economy

The raw materials used to manufacture AFITEX geosynthetics are carefully selected. The inclusion of cutting edge technology and high quality recycled polymers, in essence, do heavily promote the circular economy.



## Protection of existing infrastructure

AFITEX's drainage geosynthetics are instrumental in safeguarding the existing infrastructure. Their use helps to significantly reduce the transport of granular materials by trucks. The existing infrastructure are less used and better preserved, hence lower carbon foot print.

# EXPERTISE & ASSISTANCE



## TAILORED SUPPORT

Our experts support you from the very first contacts and are present throughout all stages of your project:

- Collaborative project assessment.
- Typical cross section of the proposed solution.
- Drafting and supply of a pre-calculation note.
- Issue of a quotation.
- Supply of the selected technical solution.

For each type of application, the **AFITEXINOV** technical department can advise and evaluate the best solution according to:

- The project input data.
- The applicable standard.

There are standards and calculation methods to check the feasibility of the solution for every application.

Furthermore, it is also possible to have a calculation note drawn up by an independent engineering office, upon request.

Project start up assistance for the installation of the products and a toolbox talk are also provided.

Our teams can travel to the site to train and assist the teams on sensitive points related to the installation of our solutions.

From A to Z, your AFITEXINOV representatives are at your disposal.

## LYMPHEA™: DESIGN SOFTWARE DEDICATED TO DRAINAGE



AFITEXINOV has developed technical software that is used to evaluate and optimise the solutions proposed to project managers and contractors.

The LYMPHEA™ software was developed by

AFITEXINOV jointly with the Laboratoire Régional des Ponts et Chaussées de Nancy and the University of Grenoble.

It is used to determine the flow capacity of the system based on the geometric and hydro-geotechnical characteristics of the project:

- drainage length,
- drainage slope,
- stresses on the geocomposite,
- allowed hydraulic pressure.

This theoretical tool has been validated by full-scale experiments and makes it possible to very accurately define the solution best suited to the site's actual drainage needs. Our teams use it every day to fulfil your needs.

## QUALITY THAT MEETS YOUR TECHNICAL REQUIREMENTS

The main objective of AFITEXINOV's quality management system is to provide products and services that meet or exceed the needs of the market and regulatory requirements, guaranteeing your maximum satisfaction and the efficiency of the system.

The scope of the **AFITEXINOV** quality management system covers all services: design, production and sale of geosynthetics. The goal: to provide consistent and high level service and products.

# OUR LATEST PROJECTS



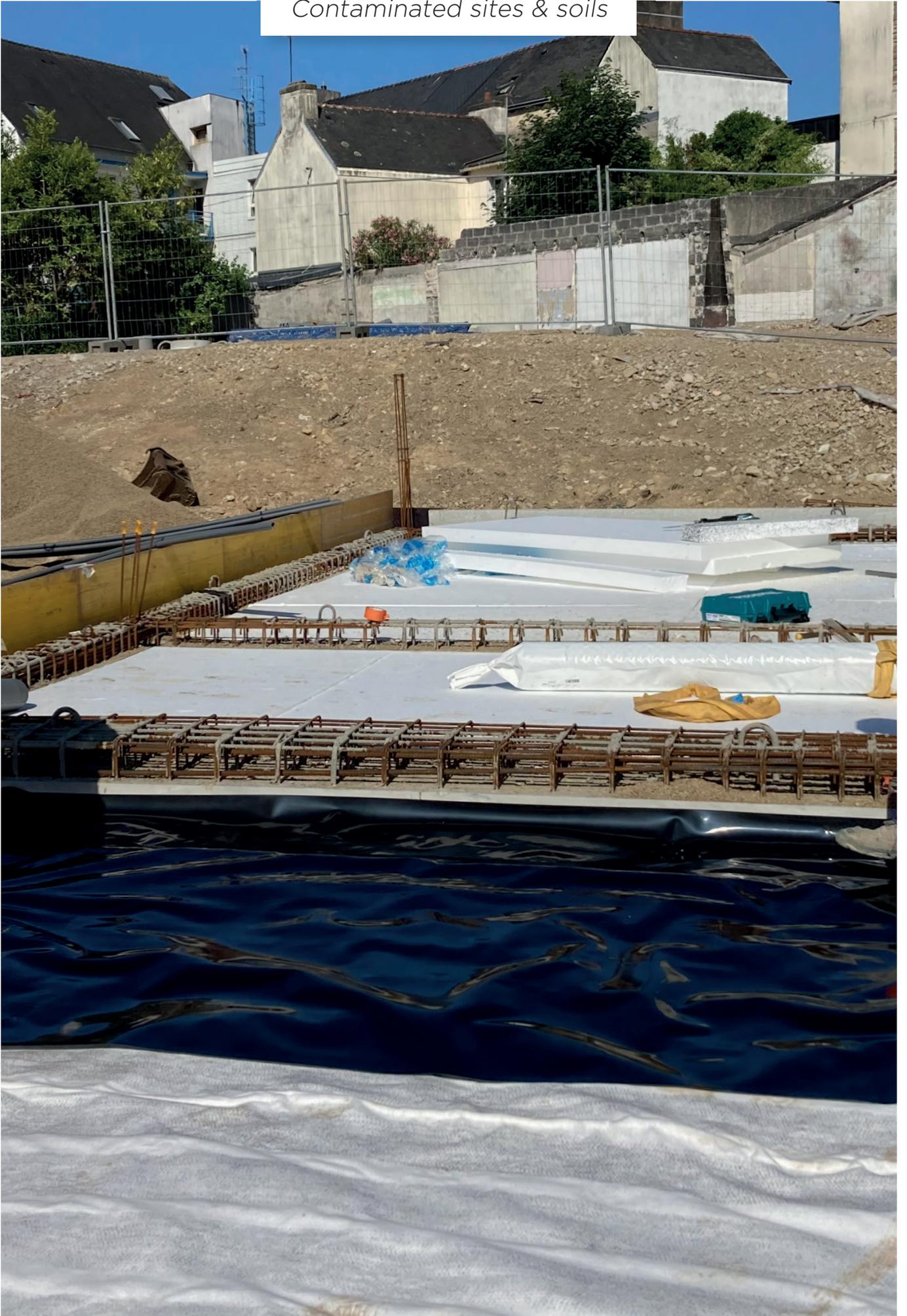
The AFITEXINOV teams have been successful for over 30 years in responding effectively to the requests and needs of our customers.

Our Sales and Technical teams, made up of experts in geosynthetics and geotechnical engineers, provide high-quality support throughout all stages of the projects, from the initial request to on-site implementation.

Here are a few examples of recent projects carried out using our solution in contaminated sites and soils.

Country	Contracting authority	Company	Date	Surface
CANADA	CEC	WALLACE	2020	22 089m <sup>2</sup>
CANADA	CEC	CLIFFTON HOUSE	2020	6 200m <sup>2</sup>
CANADA	TEXEL	CENTRAL CONCRETE	2021	2 700m <sup>2</sup>
ROMANIA	PUBLIC USE BUILDING IN BUCAREST	INOVECO	2021	4 500m <sup>2</sup>
CANADA	TEXEL	EXP	2022	10 764m <sup>2</sup>
CANADA	CEC	-	2022	441 324m <sup>2</sup>
FRANCE	ALDI	GCBAT	2023	1 700m <sup>2</sup>
FRANCE	LINKCITY	BREZILLON	2023	1 100m <sup>2</sup>
FRANCE	GEFEC	EMULITHE	2023	4 000m <sup>2</sup>

*Contaminated sites & soils*





# afitexinov

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