



**SANERGRID®**  
ENERGIES · ENVIRONNEMENT · SAFETY

# DESIGN AND MANUFACTURING OF OIL TRANSFORMER RISK MANAGEMENT SOLUTIONS



# OIL TRANSFORMER RISK MANAGEMENT

Retention solutions | Passive fire protection | Drainage systems for polluted rainwater

**SANERGRID®** has developed since 2007 a unique expertise in the design and manufacture of containment and fire-fighting solutions for electrical transformers. Our innovations, design office, factories and project managers are on hand to help you address environmental and safety issues throughout the lifecycle of your transformers: manufacture, transport, storage, commissioning and destruction.



## 1. TOTAL RETENTION SOLUTIONS

Industrial equipment containing hydrocarbons must be fitted with **retention systems capable of holding a volume at least equal (100%) to the volume of hydrocarbons they contain.**



Oil-filled power transformer with TRT®-W drip tray

**1.a. Metal retention:** SANERGRID® has designed a **complete range of "simple" metal containment solutions** for live or dead transformers (very long-term storage) for applications not subject to fire protection requirements.

**Ranges BDRG and BDRSA:** Tanks with 2, 3 or 4 removable fronts, so that the transformers can be rolled into the tank and the fronts closed tightly afterwards.

**Ranges TRT® | Ranges TRT® MODULO:** Fully welded watertight containers

- With or without extension beams for placing the transformer above or in the trough
- Hot-dip galvanised to ISO standard EN1461-2022
- In monobloc or modular containers that can be interconnected to suit the transport gauge



BDRG2 drip tray with open side panel and transformer roll-out



TRT®-AUX one-piece bund with roll-off system



TRT®-MODULO drip tray fitted with SPF® water filter



TRFLEX®-REFOR flexible storage bin with reinforced metal tubular

**1.b. Flexible retention:** Is your transformer delivery running late and exceeding the gas storage time (dry air, nitrogen or nitrogen)? Do you want to keep your old oil-filled transformer safe? Then **our range of TRFLEX® flexible temporary storage containers** is just what you need!

They enable you to create a short- or medium-term retention volume, at a lower cost, quickly and safely, while complying with environmental standards on hydrocarbon discharge for your transformers and heavy machinery filled with dielectric oils.

**Ranges TRFLEX® ECO | REFOR | ECO+ | ECO-TRUCK | ECO-MAINTENANCE:** Robustness, simplicity and high resistance to mechanical and chemical stress and ultraviolet rays for long or very long-lasting wear, depending on the model

- Reinforced PVC tarpaulin with double internal weft in high-strength polyester
- Double-sided vinyl-coated tarpaulin (PVC), grammage from 800g/m<sup>2</sup> to 1450g/m<sup>2</sup>
- Complete seal thanks to our unique double-sided ultrasonic welding process
- Angled metal structures, geotextiles and accessories for a turnkey solution



Flexible storage tank with high mechanical stress  
TRFLEX®-ECO+ with SPF® PETRO-PIPE filter



TRFLEX®-ECO TRUCK™ flexible bin for wheeled vehicles with  
bearing strips and equipped with a SPF® PETRO-PIT filter.



TRFLEX®-ECO MAINTENANCE flexible storage bin with draining and  
non-slip gratings



## 2. PASSIVES FIRE PROTECTION

Historically, pits were often filled with pebbles or stones to smother the fire. After a few years, these stones become almost impossible to clean and become slippery or even impermeable, preventing fluids from entering the pit and calling into question the fire-extinguishing properties of the pebble pit.

Over the years, SANERGRID® has developed unique expertise: **passively extinguish hydrocarbon pool fires linked to electrical transformers as soon as the fire starts**. To achieve this, our fire blankets **act simultaneously on the three parameters of the fire triangle**:

1. Prevent renewal of O<sub>2</sub> oxidant,
2. Prevent fuel stagnation (Hn-Cx-Oy),
3. Avoid thermal runaway (T).



CNPP tests ERT fireproof trays for electrical transformers

**2.a. Our EXTICOV® fire suffocating covers** provide you with a simple, reliable and robust system that's ready to use, keeping maintenance to a minimum. They are installed directly under electrical transformers in old or new concrete containment pits, on specially designed angles and beams.



EXTICOV®-CCF™ fire suffocating slats with non-slip gratings

### Ranges EXTICOV®-CCF™

Cover with shutters covered with non-slip gratings

- Single-slope shutters for faster drainage of fluid into the pit
- Galvanised steel shutters, 20/10 thick, for greater strength and to protect against falls
- System load-bearing capacity from 250 daN/m<sup>2</sup> to 500 daN/m<sup>2</sup>.



EXTICOV®-LHD® fire suffocating gratings cover

### Ranges EXTICOV®-LHD®

2 in 1 grating: fire-retardant and non-slip

- Based on 30 years of use in electrical substations and oil rigs
- Less messy, more robust and quicker to install
- Standard system load-bearing capacity of 500 daN/m<sup>2</sup>.

**2.b. Our fire-extinguishing tanks** are the result of combining SANERGRID®'s extinguishing know-how with our retention expertise. You benefit from a unique solution that combines retention and extinguishing.

**Ranges ERT® and ERT®-MODULO** fitted with EXTICOV®-CCF™ fire suffocating slats.



ERT fixed-beam retention tank with fire suffocating slats



ERT-MODULO 2 tank with railing, stairs and non-slip gratings



ERT-MODULO 5 tank with access stairs

**Ranges TRT®-LHD et TRT®-LHD-MODULO** fitted with EXTICOV®-LHD® fire-suffocating gratings.



TRT-LHD retention tank with adjustable beams and fire-suffocating gratings



TRT®-LHD-MODULO 3 extinguishing retention tank with SP® filtration system



TRT-LHD-MODULO 3 retention tank with railing and access stairs for MIDEL 7131 transformer

### 3. DRAINAGE AND DEPOLLUTION OF RAINWATER: over 30 years of expertise

The SANERGRID® Group is the European subsidiary of the inventor and world leader in hydrocarbon filtration solutions, S.P.I.

How can you simply, autonomously and safely evacuate rainwater from your retention areas, avoiding the risk of hydrocarbon or dielectric pollution?

Our SPI® anti-hydrocarbon filters respond to this problem by performing 3 main functions:

1. **Drainage:** The filter, placed at the lowest point of your retention area or connected to a pump, continuously evacuates rainwater.
2. **Filtration:** In the event of traces of oil, the SPI® filter lets the water through and absorbs the pollution thanks to a unique chemical reaction known as "Tackfying" or "Tackifier" which solidifies the hydrocarbons with a rejection rate of less than 5 ppm in accordance with standard EN 858-1 and the Water Act.
3. **Blocking:** When the oil leak becomes too large or the filter reaches saturation, the active material in the complete filter solidifies, preventing any fluid from being released into the environment.

This means you can drain flexible or metal tanks, concrete pits or new or existing remote pits, and reduce your waste treatment volumes and costs, while enjoying great flexibility.



PETRO PIT anti-hydrocarbon filtration kit

#### SPI® gravity filters:

Ranges PETRO PIPE, PIT, BARRIER, PLUG, STORM BARRIER & SKID PIPE

Cartridge or skid placed at low points in pits, operating by gravity.



Pumped hydrocarbon filtration system PETRO-BARRIER

#### SPI® pumped filters:

Ranges PETRO BARRIER POMPE & PETRO PIPE POMPE

Cartridges and chassis placed on the surface, connected to lift pumps.



PETRO PIPE PH-616-M2 filters connected in parallel



PETRO PIT 416 filter mounted on a concrete retention pit



SKID PIPE for remote pit gravity drainage, approx. 200 L/min



PETRO PIPE POMPE mobile for ENEDIS remote pit pumping

### 4. SERVICES AND EXPERTISE: SONEC® at the service of your projects



Site visit and measurements - Turnkey project

To support you throughout your projects, right through to the implementation of our solutions, our group service company, SONEC® can provide you with all the group's services throughout France: from on-site measurements to the decontamination of your pits, including the installation of our fire suffocating covers and modular retention tanks, supervision operations, maintenance and after-sales service. We can also assist you with turnkey projects that comply with safety and environmental standards.

### 5. SANERGRID® CSR POLICY, CERTIFICATIONS AND STANDARDS

Since 2020, the SANERGRID® Group has had a CSR policy focusing on 3 key areas: waste reduction, social diversity and well-being, and reducing carbon emissions.

Our manufacturing plants are certified ISO 9001 for their quality management process and ISO 14001 for their environmental management process and are all based in France, Spain, Denmark and Western Europe to favour short circuits and limit the carbon emissions linked to the manufacture and transport of SANERGRID® products.



Nos usines certifiées ISO 9001 et ISO 14001

- Our retention solutions comply with French standards NF C13-100, NF C13-200 and EN 61936-1, CIGRE 23-07 recommendations and IEEE 980 concerning the management of electrical risks, earthing, fire risks, soil pollution and rainwater management.
- SONEC®'s EXTICOV®-CCF™ and SANERGRID®'s EXTICOV®-LHD® fire damper covers have been tested several times in independent laboratories such as CNPP, MFPA Leipzig No GU IV/99-011-1 Germany and SP Technical Research Institute Sweden 5P05551.
- Our SPI® rainwater drainage systems comply with the French Water Act (Decree 77-254), the ICPE decree and the EN 858-1 standard for hydrocarbon separator discharges. SPI® filters have been regularly tested by independent laboratories for over 30 years: Bureau Veritas COFRAC I.D. report: 003606/2776443/1/1/1 in 2015 (France), SPI Phoenix I.D. reports: AR67044 in 2002, 2004, 2005, 2009, 2018, 2022 (USA), TÜV report Nr 2432974 in 2016 (Germany)...

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