



INDRESMAT®
INDUSTRIAL RESINS & MATERIALS

INDRESMAT

is a highly innovative company based in Barcelona (ES) and Geleen (NL) redefining the envelope materials of buildings and houses to increase their energy-efficiency and sustainability while reducing their direct CO2 emissions.

With unique know-how in bio-Polyurethane (bioPUR) chemistry, INDRESMAT addresses 100% of the thermal loss problem in constructions through the use of low C-Footprint materials coming from vegetal renewable resources, providing innovative solutions for thermal and acoustic insulation.



WHAT IS OUR VISION?

Our vision is to create a big environmental impact on the building industry promoting energy-efficiency, resource-efficiency, and circularity of the building envelope to commit the EU Green Deal policies and meet the Sustainable Development Goals (SGD's).

OUR 3 MAIN PILLARS

ENERGY EFFICIENCY



Reduction of
CO2 emissions

RESOURCE EFFICIENCY



Decrease of
C-Footprint

CIRCULARITY



Re-use at
end-of-life

INNOVATION AND R&D LINES

The key differential value of our company is our exclusive know-how in bioPUR chemistry, as well as extensive expertise in different areas of our team, involving disruptive innovations in the following innovation fields:

Line 1

Technical features
Sustainability
Lifespan



MATERIAL DEVELOPMENT

Formulation of bioPolyurethane materials (bioPUR) with advanced properties.

Line 2

Performance
Maintenance
Circular design



PRODUCT DESIGN

Product design based on innovative Polyurethane materials.

Line 3

Manufacturing
Recycling



TECHNOLOGY ENGINEERING

Technology engineering for manufacturing and recycling Polyurethane products.

POTENTIAL MARKETS

Thermal &
acoustic
comfort

Lightweight
& safety

Energy-
efficiency &
tightness

Cushioning
& vibration

Robustness
& durability

Protection
& finishing

INFRASTRUCTURES

INDRESMAT's headquarters and pilot plant are based in Barcelona (Spain), having also an international office at Brightlands Chemelot Campus in Geleen (The Netherlands).





R&D LABORATORY



TRAINING ROOM



MARKETING STUDIO



OFFICES



International Office
Geleen (Limburg, NETHERLANDS)

EXECUTIVE & CORE TEAM



Pablo (CEO)

MSc. Polymer Chemist
Market Vision & Strategy



Ángela (COO)

Electronic Engineer
Operations & Supply Chain



Vincent (CBO)

PhD Chemist
Business Development



Ulises (CFO)

PhD Economist
Financial Strategy



Enrique

Accountant
Financial management



Guzide

PhD Architect
Project Manager



Aswhin

PhD Chemist
R&D Lab Scientist



Joan

Technician
R&D Applications

*High Education level &
multidisciplinary experience*

PRODUCTS - High Density

KLIMA-PUR® (Market ready)

KLIMA-PUR® is a new type of framing material for highly energy efficient windows and doors, using bioPUR as sole structural and functional material, thus acting as a thermal, acoustic and moisture barrier.

KLIMA-PUR® has achieved the CE marking, demonstrating its superior thermal performance, offering the lowest thermal transmittance with a single material $U_f = 0.81 \text{ W/m}^2\text{K}$.



Showroom in Barcelona

PRODUCTS - High Density

CircuPlank (Validation stage)

CircuPlank is a new type composite material consisting on a core of partially foamed biobased Polyurethane and an external layer of extruded plates laminated with a foil.

This new solution provides advantages related to installation, durability, weathering resistance and mechanical behavior due to the exceptional properties of bioPUR, as well as a low C-Footprint material (60-70% biobased and up to 20% recycled content).



CLADDING



FENCES



FLOORING



BENCHES



PRODUCTS - Low Density

BioPUR foams (Validation stage)



BioPUR is a low density insulation foam that has been formulated with 60-75% biobased raw materials (mainly coming from natural oils). With a working density range of 40-100 kg/m³ and a thickness range of 40-300 mm, bioPUR offers a thermal conductivity of 0.022-0.030 W/mK with a reduction of 30-40% C-Footprint.

SPRAY/ INJECTION FOAMING

It's a type of internal insulation that is applied in situ with a special machine that is able to inject/spray the foam into air chambers or surfaces for walls, roof or floor. When applied, it creates a continuous barrier with excellent thermal performance and tightness.



SANDWICH PANEL

It's a prefabricated external insulation system easy-to-install that reduces the installation time. Its customization capacity and the wide range of colors and textures makes it perfect for most building renovations.



ETICS PANEL

It's an external insulation system manufactured in situ with excellent thermal performance and superior water tightness as well as customized textures and excellent finishing.



INJECTION MOULDING

Molded parts, such as insulation of blind boxes are possible with our low density insulation foams, thus providing much better insulation values than competitor insulating materials.



PRODUCTS - Low Density

SAFE-PUR® foams (In development)



SAFE-PUR® is a new type of insulating foam patented by INDRESMAT that offers superior passive fire safety and it's characterized by a reduced flammability and slow fire propagation. SAFE-PUR has a suppressed smoke emission and toxicity in case of fire when compared to highly toxic fumes released by conventional foams. Moreover, SAFE-PUR foams are not sensible to UV radiation and they have much higher chemical stability than PUR.

HYDRO-PUR foams (In development)



HYDRO-PUR is a porous foam with a honeycomb structure that allows the germination of plants (feeded by water drop irrigation) or insect nesting inside its macroporous structure. Despite this foam has no thermal or acoustic performance, it is designed for its integration on natural ecosystems in urban environments.

INSULATED GREEN WALLS

By combining a first layer of bioPUR insulation foam and a second layer of Hydro-PUR foam with an irrigation system, a solution that allows the germination and growth of plants is achieved. Altogether, this system avoids the use of 7 layers of materials used in typical green wall systems.



SUSTAINABILITY

Raw materials, single material configuration, high biobased content, easy recycling, and circular design; makes possible to provide a low C-Footprint.

BIOBASED MATERIALS & CIRCULARITY



We offer an alternative to fossil-based products. Bio-based versions(bioPUR) includes a high content of renewable raw materials



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Natural oil-based
(60-70% Biobased)

Natural oils & lignin-based
(65-75% biobased)

We offer an alternative to fossil-based products. Bio-based versions(bioPUR) includes a high content of renewable raw materials

Our product are manufactured with a very low energy-consuming technology (0.13 kWh/kg), thus reducing the CO2 emissions in their manufacturing.

RIGID POLYURETHANE RECYCLING

INDRESMAT is committed to products designed with a single material, which facilitates their future separation and recycling. Our manufacturing process allows the reuse of our by-products.



MECHANICAL RECYCLING

- Low energy consumption
- No chemicals involved
- In-house processing

VS

- Chemicals & reagents involved
- Low reproducibility
- Large infrastructure required

CHEMICAL RECYCLING



INDRESMAT has been awarded with the SOLAR IMPULSE LABEL for KLIMA-PUR®, which is a certification that applies to products, processes and services combining economic profitability and environmental sustainability.

INDRESMAT is committed to the SDGs.



COLLABORATIVE EU PROJECTS



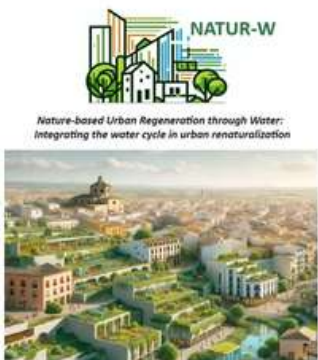
UP2BIOPUR (Up2circ - Cascade funding)

The Up2BioPUR project by INDRESMAT focuses on enhancing circularity in bio-based polyurethane (bioPUR) formulations used in high-efficiency window frames and insulation products. The primary goal is to incorporate 35-60% chemically recycled content, improving sustainability beyond the current 10% limit achieved via mechanical recycling. This approach aims to significantly reduce carbon footprint, aligning with SDGs 12 and 13 by promoting material recycling and decreasing greenhouse gas emissions. The project includes a six-month feasibility study, covering market research, supply chain analysis, and technical validation to establish a scalable model for eco-friendly bioPUR solutions across the construction sector.



SOLSTICE (Horizon Europe - RIA)

SOLSTICE is a collaborative project integrating 24 European organizations demonstrating 4 replicable systemic solutions for the territorial deployment of the circular economy for the major industrial sector of textiles (62Mton/y). Within the project, the partners aim to develop tools and strategies to implement the 5R approach going beyond applying CEC and directly targeting waste prevention. Chemical recycling of complex textiles will allow the developed solutions to be replicated and crosslinked with the plastics value chain. Finally, the consortium will set-up a traceability system based on a Digital Product Passport (DPP) and designed in relation to existing initiatives, allowing to prove that newly created products are made from EU-recycled materials.



NATUR-W (European Urban Initiative)

NATUR-W is a collaborative project integrating 8 European organizations integrating several municipalities, universities and innovative SMEs addressing urban challenges brought by a situation of energy poverty and climate change. Specifically, the increase in temperatures and extreme heat events and water resources scarcity. In this context, the city of Lorca in Murcia aims to meet these challenges. The proposed solution will develop NatUR-W Plans to implement innovative, inclusive, sustainable and self-sufficient Nature-based Solutions (NbS) that integrate the natural water cycle of the area to improve the energy efficiency of social housing and public buildings and regenerate the urban area.



INBUILT (Horizon Europe - IA)

INBUILT is a collaborative project integrating 18 European organizations developing 10 innovative and promising solutions based on locally sourced bio-/geobased materials, reused and recycled products, suitable for either new buildings construction or for existing buildings' renovation. We will optimise/foster their integration on existing buildings using a BIM-based digital WEB platform providing multi-objective optimisation and iterative approach. All these solutions will be founded in the principles of circularity, embedding very low or negative carbon footprint, and respecting the architectural and historic values of buildings.



ZERAF (Horizon Europe - EIC Pathfinder)

ZERAF is a collaborative project integrating 5 European organizations, aiming to develop an adaptive opaque facade for improving the envelope performance of buildings. The proposed façade concept is disruptive, because it shifts the opaque building façade technologies from being static thermal barriers to be able to dynamically adapt their thermal behaviour according to the outdoor climate conditions and indoor needs, hence optimizing the thermal performance of the building while assuring high indoor environmental quality.



BIO4EEB (Horizon Europe - IA)

BIO4EEB is a collaborative project integrating 17 European organizations aiming to develop a portfolio of bio-based insulation solutions in the form of Posidonia panels and fibers, complex polyelectrolytes, PLA and bio-polyurethane, bio-based windows and finally a pre-fabricated façade element which aggregates these different materials. The complementarity between the solutions that will be developed in BIO4EEB is a strong point for the project. Indeed, BIO4EEB does not focus on a narrow solution, but on a wide spectrum of solutions, adapted to various situations and an additional concept which is the renovation packages.



RE-SKIN (Horizon Europe - IA)

RE-SKIN is a collaborative project integrating 21 European organizations, aiming to enhance total energy and environmental efficiency in the building sector, intensively applying at the same time the life cycle sustainability and circular economy principles. At a glance, the project is expected to develop and demonstrate an integrated, multi-technology and low-impact renovation package for energy retrofit and smart upgrade of residential, public and commercial buildings.



EASI-ZERO (Horizon Europe - IA)

EASI-ZERO is a collaborative project integrating 16 European organizations, having as main objective the development of materials for improving the performance and sustainability of the facades through several novel insulation technologies. This project will demonstrate cost-efficient and easy installation in green deep renovation and also new construction operations. The re-use of components and the integration of recycled materials enhance circular economy by closing carbon cycle and raise resilience in the construction value chain.



SURPASS (Horizon Europe - RIA)

SURPASS is a collaborative project integrating 14 European organizations, having as main objective maximizing the rate of difficult-to-recycle plastics coming from several waste streams (packaging, construction and related sectors) through disruptive recycling technologies. SURPASS will also support SMEs with a digital guiding tool that will impart knowledge and providing Safe and Sustainable by Design Assessment in their development of new polymers.



MEZeroE (Horizon 2020 - NMBP)

MEZeroE is an Open Innovation Test Bed integrated by European organizations with the aim of measuring envelope products and systems contributing to next generation healthy nearly Zero Energy Buildings. Within MEZeroE, INDRESMAT will perform the product certification and p implementation of KLIMA-PUR windows & SAFE-PUR foa thus accelerating their market entry.

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