

**CANPR102****PRESS RELEASE**

## **Cannon Afros LIFE VICORPAN Project advances with development of formable, wide-size PU based VIP panels for commercial fridges and freezers**

**Caronno Pertusella (Varese), Italy, April 23, 2024**

Cannon Afros, part of the Cannon Group, is the world's leading supplier of dosing systems, mixing equipment, processing technologies and expertise for the thermal insulation of domestic and commercial refrigerators using polyurethane (PU) resin-based formulations.

The aim of the LIFE VICORPAN Project is the development of energy-efficient and recyclable Vacuum-improved Insulation by CORE shaped PANels and it is going to bring significant improvements in the energy consumption of refrigerators, freezers and cooling cabinets used in supermarkets, stores, restaurants with a direct sales function.

The project is led by Cannon Afros, with co-funding from the European Union's LIFE program (LIFE20 CCM/IT001644), in close cooperation with partners BASF Polyurethanes bringing knowledgeable insulation chemistry for open cell foam-based vacuum insulation panel (VIP) solutions, and EPTA, a multinational industrial Group specialized and leader in commercial refrigeration and who will integrate the new VIP panels into its products.

*“Cannon Afros has now developed new equipment to manufacture formable, extra-wide PU based VIPs, thereby expanding the scope of the project to better encompass large commercial fridges and freezers,”* said Simone Bechi, R&D Engineer and Operations Manager at Cannon Afros. *“Key to this significant advancement is the formability of the open-cell polyurethane core, which can now be shaped to meet manufacturers’ design requirements. Shaping the panels avoids the thermal bridges at the junctions of the top, bottom and side walls that greatly limit the energy efficiency of traditional VIPs. It also provides greater flexibility when inserting panels into the shell of cooling cabinets.”*

VIPs with an open-cell polyurethane core have a lower density, greater flexibility and are much lighter than traditional glass-fibre based VIPs. The improved VICORPAN design can now provide up to 17% lower heat transmission in commercial refrigerators and freezers compared with conventional PU foam insulation.

The initiative has a high potential to reduce CO2 emissions of commercial refrigerators, contributing an essential percentage of the total energy consumption related to cold chain cycles. The project responds to policy goals related to reducing greenhouse gas emissions, energy efficiency, and recyclability, as well as the technical development of refrigerating appliances for domestic and commercial use.

The project encompasses panel assembly in refrigerator prototypes produced in Italy and France by the project partner EPTA, as well as testing their operational use and energy efficiency, thereby helping manufacturers meet higher categories of energy efficiency labelling in Europe. First introduced for selected household appliances in 1994 and subsequently expanded in 2004, the EU energy label has been a key driver for helping consumers to choose products which are more and more energy efficient. The EU Energy Labelling (EU) 2019/2018 and Ecodesign (EU) 2019/2024 regulations, that establish the regulatory requirements for refrigerating appliances with a direct sales function (i.e. for commercial refrigerators), came into force in March 2021 and are giving a strong drive towards their efficiency. Both regulations are indirectly intended to promote innovation among manufacturers, to reduce the energy consumption and environmental impact of refrigeration equipment.

#### About Cannon Afros

Cannon Afros, a company of the Cannon Group founded in the early 1960s, is the world's leading supplier of dosing systems, mixing equipment and processing technologies for polyurethanes and multi-component resins. Today Cannon Afros offers an extensive range of processing technologies for molding, pouring, injection, spraying, and manufacturing abilities dedicated to a comprehensive range of resins such as polyurethanes, silicones, elastomers, epoxy resins, phenolic foams, and bi-component adhesives. Cannon Afros design, manufactures and sells a vast range of equipment from single mixing heads and stand-alone units to complex turnkey and customizable production plants to serve the following main industrial applications: automotive interiors and exteriors, appliances and refrigerator insulation, rigid insulation for the cold chain industry and refrigerated transportation, building and construction insulation, sanitary ware, piping insulation for oil heating and district heating, technical components and medical equipment, flexible padding and seats for furniture and automotive industries, sealing and gluing for lighting and electrical enclosures, and encapsulation and potting for electrical and electronic components.

#### About Cannon Group

Founded in 1965, Cannon Group comprises 30 companies, with a global presence in more than 40 countries, and is recognized as the market leader in technologies for the processing of polyurethanes and urethane elastomers, and multi-component and reactive resin systems for the plastics and composites industries. The Group, operating worldwide, is composed of several companies focused on specific application segments, that work in synergy and combine their experience and know-how to manufacture bespoke solutions based on customer needs for the following main industrial applications: automotive, aerospace, refrigerator insulation, building and construction insulation, technical components and medical equipment, wind power, sanitary, furniture and consumer and industrial goods. Cannon Afros is the world's leading supplier of dosing systems, mixing equipment, and processing technologies, including an extensive array of solutions for molding, pouring, injection, spraying, and manufacturing abilities dedicated to a comprehensive range of resins such as polyurethanes, silicones, elastomers, epoxy resins, phenolic foams, and bi-component adhesives. Cannon Ergos is dedicated to manufacturing turnkey plants and machinery for polyurethane, composite, and thermoplastic materials (and die-cast aluminum processing). Cannon Tipos specializes in developing specific tools for a wide range of technologies for plastics and composite materials, supplying dedicated, tailor-made solutions. Cannon Legos is a top-level integrator of machines, equipment, and complete production lines matching the manufacturing requirements of each application and specific geographic limitations.

A comprehensive R&D department support customers worldwide in developing innovative tailor-made technologies and production processes by designing, manufacturing, and installing customized facilities or developing their production projects through the realization of prototype molds, the production of trial parts to tune the process, and part validation. Cannon Group is committed to reducing the ecological footprint of all the Group's technologies and industrial processes offered to the market through energy efficiency, resource consumption reduction, and emissions reduction. Cannon Group delivered net sales of €280 million in 2023. To learn more, visit [www.cannon.com](http://www.cannon.com)

#### About EPTA

**EPTA** – A multinational Group specialising in commercial refrigeration, which operates globally through its brands **Costan** (1946), **Bonnet Névé** (1930), **Eurocryor** (1991), **Misa** (1969), **Iarp** (1983) and **Kysor Warren** (1882). In both domestic and international markets, Epta is a partner capable of producing and marketing complete refrigeration systems, thanks to the individual product ranges it has incorporated. These include traditional, vertical, and semi-vertical positive fridge cabinets, negative vertical and horizontal cabinets and built-in units (plug-ins) for Retail, Food & Beverage and Ho.Re.Ca., along with mid- and high-power units and cold-rooms and a complete portfolio of pre and after sales services. With headquarters in Milan, it employs more than 6,000 people and boasts a number of production sites in Italy and abroad. It also has a far-reaching technical and sales force worldwide, guaranteed by over 40 technical and commercial sites.

#### About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. Around 112,000 employees in the BASF Group contribute to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio comprises six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of €68.9 billion in 2023. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the United States. Further information at [www.basf.com](http://www.basf.com).

#### About BASF's Performance Polymers division

BASF's Performance Materials division encompasses the entire materials' know-how of BASF regarding innovative, customized plastics under one roof. Globally active in four major industry sectors – transportation, construction, industrial applications and consumer goods – the division has a strong portfolio of products and services combined with deep understanding of application-oriented system solutions. Key drivers of profitability and growth are our close collaboration with customers and a clear focus on solutions. Strong capabilities in R&D provide the basis to develop innovative products and applications. More information: <https://plastics-rubber.basf.com>.

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Images



Caption:  
Cannon Afros has now developed new equipment to manufacture formable, extra-wide PU based VIPs, thereby expanding the scope of the project to better encompass large commercial fridges and freezers. (Photos: Cannon Group)