
With the contribution of the LIFE financial instrument of the European Community
The domestic household sector is consuming around 30% of the total electrical energy supply, distributed over 140 million households. Refrigerators and freezers are accounted for around the 14% of household energy consumption.

The K12 Project aims to demonstrate the feasibility of an innovative Polyurethane (PU) technology significantly improving the thermal insulation.

The Project includes the production of an innovative type of insulated foam, the design of a new foaming equipment and an innovative refrigerators design.

The K12 refrigerator will also allow a solution for the reuse of the appliance scraps in the Circular Economy.
The K-12 Project For the Circular Economy

• The thermal insulation obtained with vacuum insulated panels is well known from years as the lowest thermal conductivity option to enhance insulation in the domestic refrigerators. Today solutions using VIP, containing, among others, fumed silica, cannot be recycled efficiently creating environmental issues.

• K12 does not include the use of VIP.
K-12 The new AFROS Lab plant for CO2 in different physical states

The challenging K12 plant is today working at the Afros Lab. Evidencing the technical effort made for the K12 project.
K-12 The new AFROS Lab plant for CO2 in different physical states

The use of two very special stations and of a specific mold are dedicated to the demonstration of the technology proposed.
K-12 The AFROS Lab team and plant dedicated to the project

The next step is the application to a refrigerator structure
Thank You for your attention