

# HIGH-PERFORMANCE ECO-SUSTAINABLE THERMOPLASTIC POLYMER FILM AND COMPOUND FOR APPLICATIONS IN THE FIELD OF TRANSPORT, COATINGS AND PACKAGING

**Innovations and benefits** - Development of micro and nano composite polymeric compounds, fiber-reinforced for the manufacture of products even in the form of films with high mechanical characteristics, high resistance to flame and abrasion, reduced permeability to gases, water vapor and hydrocarbons, high dimensional stability and reduced environmental impact.

**Use** - Development of biodegradable-matrix compounds and fiber-reinforced with natural fibers for applications in the transport sector (vehicle interior, structural elements).  
Development of compounds for the realization of products with particular fire resistance characteristics. Development of environmentally sustainable films for food packaging.

**Applications and ongoing Activities** - Creation of demonstration prototypes for packaging by thermoforming laminates in compacted PLA / linen fabric.  
Development of thermoplastic-matrix compounds (LLDPE, PA6, PBT, PP) with high mechanical and fire resistance characteristics (MAVETT, MAIND, INCOR, MITT).  
Development of films with particular functional characteristics (sensitive to mechanical or thermal stress).  
Development of compounds reinforced with natural short fibers (vegetable and non-vegetable) and fillers of vegetable origin.  
Development of films for food packaging in biodegradable material and functionalized with UV-activated antibacterial coatings (SAFE & SMART Project - National Agrifood Clan-Cluster).



Container thermoformed in textile commingled



Films biodegradable for food packaging

