



Un sistema produttivo meno impattante sull'ambiente, mescole bio a basso impatto ambientale, meno emissioni e meno scarti. La nostra transizione ecologica è già cominciata.

A production system with less impact on the environment, organic compounds with a low environmental impact, lower emissions and less waste. Our ecological transition has already begun.

## Compounds from green materials

**T**he circular economy pursued by Evercompounds is based on the development and production of compounds containing ingredients from organic sources or produced using recycled materials with high energy-saving mixing procedures. Moreover, as far as manufacturing is concerned, 80% of Evercompounds' production is powered by self-produced energy from 100% renewable sources.

Evercompounds' transition from a traditional to virtuous chemistry is based on three different development pillars:

- **Energy saving:** the purchase of the new 1.5 l laboratory intermix, which has the same rotor architecture as the company's 4 HF IM 250 production mixers, has enabled the optimization of production cycles' energy consumption. This was possible by using the new machine's software, which allows assessing the energy impact of every single operation of the mixing cycle with a good approximation.

- **Recycling compounds:** a new series of EPDM-based compounds designed for continuous vulcanization and called DEV has been developed. These compounds are proposed in three hardness ranges (60-70-80 sh) and contain devulcanized material obtained from the regeneration of the wastes

induced by profiles extrusion.

- **Bio-based compounds:** Evercompounds created a "general purpose" EPDM compound for continuous vulcanization, called CIRC 70, which was certified according to the C 14 detection, by the ASTM D 6866 standard. The idea of developing an EPDM bio-based compound comes from the fact that EPDM is the polymer that Evercompounds employs the most.

### THE EXPERIMENTAL PHASE

After a long phase of research of the right green materials, chosen accord-

ing to the principles of non-competition with the food industry, Evercompounds moved on to the experimental phase, which involved a long series of tests aimed at optimizing the dosage of the various components, especially the plasticizers that, given their high polar character, do not guarantee good cohesion with the polymeric matrix of the EPDM. In this regard, the choice made on the use of a specific type of bio-plasticizer derives from an initial evaluation of the characteristics relating to solubility parameters, iodine number and viscosity. Once the compound is made, the

assessment of the result is based on the observation of the bleeding trend after the vulcanization of the plate.

### POSSIBLE APPLICATIONS

The development and creation of a rubber compound for building profiles with a certified 40% bio component is a good result, but it is not of course, Evercompounds' final goal. The company is engaged in increasing its bio-material usage target by evaluating new opportunities for raw materials obtained from local renewable sources. In particular, since the company operates in a context of solid agricultural expansion, Evercompounds is now also exploring the numerous technical solutions available to use processing waste generated from the food chain. ◆

The infographic features the text 'CIRC 70' in large orange letters at the top left. To its right are two images: a roll of black extruded profile and a cross-section of the profile. Below these are four icons in orange boxes, each with a corresponding text block:

- 40% OF BIO-BASED CARBON CONTENT**: Accompanied by a leaf icon.
- REDUCED DEPENDENCY ON FOSSIL RESOURCES**: Accompanied by an icon of a wind turbine.
- RAW MATERIAL FROM RENEWABLE SOURCES**: Accompanied by an icon of a sun and leaves.
- LOW IMPACT ON USAGE OF FARMLANDS**: Accompanied by an icon of a tree and a field.

The Evercompounds logo is at the bottom right of the infographic.