



POLYPLASTIC INVESTS IN POLYMER RECYCLING

POLYPLASTIC Group has bought the necessary equipment and launched a two-stage re-granulation line that allows it to recycle up to 600 t of polymers a month.

The production line that is outfitted with fine melt filtration systems cleans the incoming material by filtering out particulates, volatile fractions and excess moisture, while also making it possible to introduce the desired additives and components. Its output is high-quality granules of high-density polyethylene (HDPE) with defined properties.

POLYPLASTIC works to introduce technologies for recycling own production waste and used HDPE products. By doing this, the group plans to decrease the cost of its pipe products while also solving the issue of waste disposal.

In accordance with GOST requirements, POLYPLASTIC uses recycled materials in outer layers of non-pressure pipes for sewage systems, wastewater disposal, and process pipelines. Production and application of recycled HDPE is done based on the recommendations of the Group's R&D centre and under the constant monitoring of certified labs.

Mikhail Reznikov, Head of Recycling Projects at POLYPLASTIC Group, said: "Each of our plants has such lines, with the requirements being quite simple – just filter out particulate matter from recycled materials and turn them into granules for use in injection moulding machines at our facilities. Recently, we decided to take this a step further and use feedstock sourced from landfills such as canisters, vials, barrels that used to store materials no higher than hazard class 3 – all of them blow-moulded products. This is done for very specific polyethylene grades with strictly defined properties that are suitable for our needs."

Materials that come from landfills need to undergo processing and preparation. Upon arriving at the plant, items are thoroughly cleaned and ground, which prevents chemicals, substances and impurities from contaminating the materials about to be recycled. The resulting ground polyethylene flakes move on to the two-stage re-granulation line. At the first stage, they get melted, filtered, degassed and cleaned of impurities. At the second stage, they are melted again, go through fine filters, get degassed and then are given the form of recycled granules. To be used in production, these recycled granules usually need to be combined with regular granules in certain proportions.

"However, we have developed a new solution. For our products, all of which have their own special properties, we create a whole range of composite granule grades using our two-stage re-granulation line. We make these granules out of recycled materials, primary polyethylene grades, and necessary additives. In the end we get a semi-recycled product having specific properties and ready to be used in injection moulding machines," said Mikhail Reznikov. "This approach allows us to not only optimise production, but also to contribute towards solving the issue of plastic waste and help the environment. We do it by recycling plastic waste from landfills, preventing it from turning into microplastics, and transforming waste into usable feedstock."

