

## High-quality agglomerate from mixed plastics

Gesellschaft für System Technologie mbH (SYSTEC), Germany, offers a dry preparation technology for economical processing of mixed plastic waste into an agglomerate. Mixed plastics agglomerate can be produced to specifications and meets high quality standards. It has high bulk density, low chlorine content, low content of fines and little residual moisture. The process comprises several shredding and separation stages. The plastic mixture is first coarsely shredded and then different devices are used to separate impurities. While air separators remove stones, glass and large wood pieces, overbelt magnets extract pieces of ferrous metal, while eddy-current separators isolate non-ferrous metals like aluminium. Electrostatic separation is used to remove PVC.

In the agglomeration stage, plastics are compacted into a pourable bulk material using frictional heat. All the agglomeration processes take place at a temperature below the melting point of the plastics. Different processes available include:

- In the pelletizer, waste is compacted under pressure and pressed through the holes of a matrix. The material softens under the friction heat and sticks together. Rotating knives then cut the emerging strands down to pellets less than 10 mm in size.
- In the disc compactor, plastic particles are compacted between a rotating and a stationary disc and softened by friction heat. The material is then pressed from the centre of the discs into the grooves and at the rim chopped into pieces.
- In the pot agglomerator, rotating knives stir the shredded plastics, creating a friction heat of almost 140°C which ensures that the plastic particles soften and stick together. The dough-like mass is quenched with water and solidifies. Rotating knives then chop the material down into small particles.

SYSTEC's dry preparation technique offers considerable cost benefits over wet mechanical techniques. *Contact: Mr. Der Grüne Punkt, Gesellschaft für System Technologie mbH, Frankfurter Straße 720-726, D 51145 Cologne, Germany. Tel: +49 (2203) 937 170; Fax: +49 (2203) 937 653; E-mail: [contact@systec.k.uunet.de](mailto:contact@systec.k.uunet.de).*