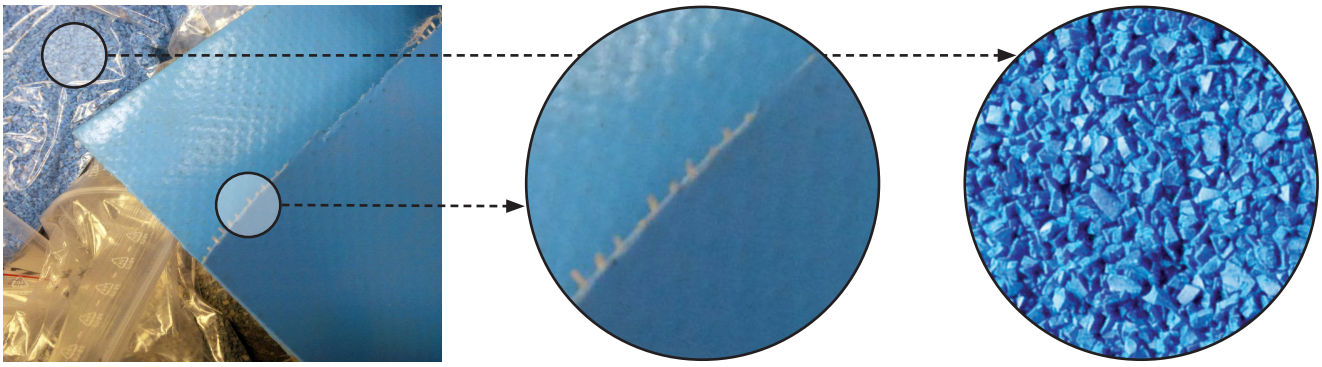
Reclaim and recycle PVC from films

Field report about cost-effective separation of polyester fibres and PVC



Material mix fibres and recyclate

PVC film with polyester fibers

Separated PVC regrind

Summary:

Polyester fibres are frequently embedded in the production of PVC films. These make the films tear-resistant and robust for applications such as roof seals and containers or for laminating construction components. Waste volumes from production are large and expensive to dispose of because of the material composites. HERBOLD has developed an efficient process for separation of materials which has been proven in practice and enables re-use of the PVC in production.

Task:

It is advantageous for manufacturers of PVC sheets which use embedded polyester fibres for reinforcement of the sheets to reduce the production waste for disposal. Disposal costs and costs of PVC raw material use can be reduced by sorted separation to reclaim the PVC portion of the sheets for re-use in production.

Benefits:

- Almost complete reclamation and re-[processing of the PVC portion
- Separation of the components and re-use of the PVC portion reduces both disposal costs and PVC raw material input use.
- High appliance throughput
- Low-maintenance appliance components
- High appliance profitability for PVC manufacturers

Solution:

HERBOLD has developed an impressive and efficient process with a combined granulator-sifter appliance for separation of the fibres from the PVC:

- Ideal material preparation is achieved with a HERBOLD granulator and precisely adjusted sieve perforation.
- The ground material from the granulator is transferred into a HERBOLD sifter.
- The prepared fibres and the fine particles are separated from the PVC sheet in the sifter.
- The sieved PVC falls onto a sieving machine as usable material, is sieved, and can be re-used in production.
- Any polyester fibres that are fed out as wadding with the PVC remain on the sieve surface and are removed to the containers as waste.
- If necessary, the sieved PVC material is fed to a second sifting stage to attain an even higher level of separation of fibres.
- The result is nearly pure PVC that can be re-used in extrusion.

Conclusion:

The high profitability of the HERBOLD appliance is an ideal opportunity for PVC producers to save both production costs and disposal costs. The re-use of the PVC portion of their production waste is also a step towards an ecological plastic circulation economy.

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