

Wine flexitanks

Recycling and Recovery

December 2020

Recycling Facts about our Flexitanks:

Single Layer flexitank (VinBulk SL)

The liner is made of 100% virgin grade LLDPE (linear low density polyethylene) – fully recyclable.

Multi-layer flexitank (VinBulk ML)

The inner liners are made of 100% virgin grade LLDPE (linear low density polyethylene) and Polypropylene (PP) outer sleeve– both fully recyclable.

VinBulk ML flexitank uses **18.6% less polymer** packaging by weight compared to VinBulk SL based upon 24cbm flexitank.

The VinBulk SL is an ideal sustainable option for transporting wine as the resulting used flexitanks are relatively straightforward to mechanically recycle due to the film quality, consistency and thickness.



Carbon Footprint – an independent study conducted by Hillebrand in 2019 evidenced that CO2 emissions from a flexitank, based upon an average of different routes, is 10% less than that of an ISO tank over the same routes, during the complete life cycle.

What are the recycling options?

Mechanical Recycling

Recovering plastics waste via mechanical processes (grinding, washing, re-granulating and compounding) turning them into secondary raw material or products. *Ideal for flexitanks which have transported wine and some food products.*

Chemical Recycling or “Feedstock Recycling”

Now being recognised as the next best alternative to mechanical recycling, there are 2 main forms:

- **Depolymerisation:** breaking down polymers into their monomers for use as a feedstock to make new virgin grade quality polymers – very high quality resultant polymer.
- **Pyrolysis:** turning mixed plastic waste into either a naphtha to make fuel or new polymers.

Energy Recovery

A resource recovery method converting waste material into useable heat, electricity, or fuel through a variety of methods including combustion, gasification to generate heat or electricity. In general, not used for VinBulk flexitanks but for those which transported non-food products which are more difficult to clean.

Landfill is not recycling and we should be actively discouraging this practice for used flexitanks where other solutions are available.



Challenges of recycling flexitanks

4 main determinants of being able to mechanically recycle the flexitanks:

Product

Used Hillebrand VinBulk flexitanks are relatively straightforward to mechanically recycle as the resulting materials can be easily washed.

Location

What recycling infrastructure is available in that location in that country?

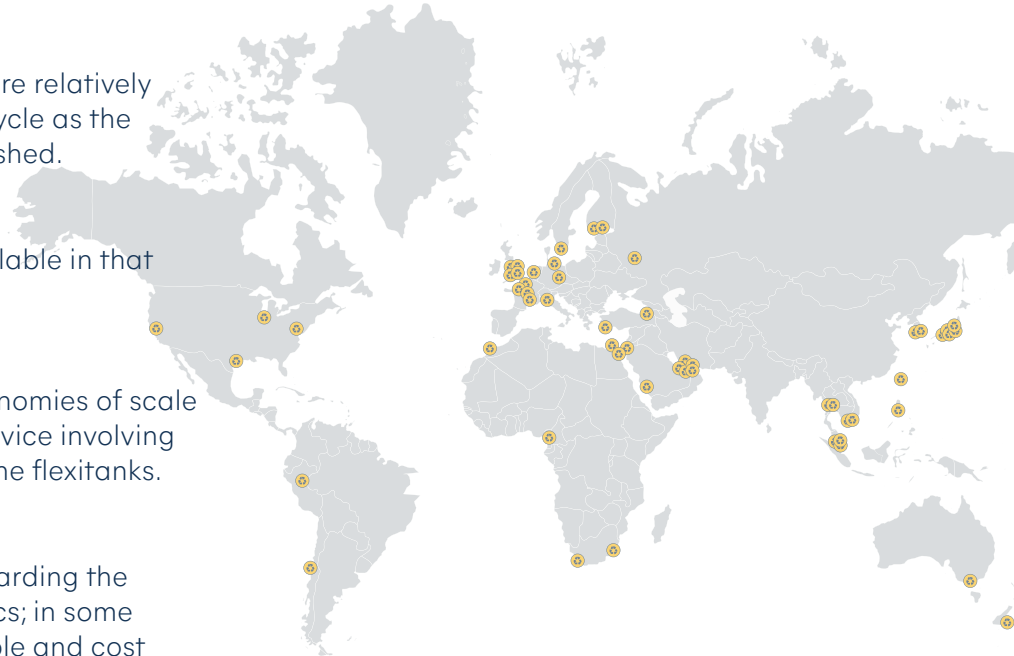
Volume

The higher the volume, the more economies of scale to facilitate an efficient recycling service involving transport and physical handling of the flexitanks.

Regulations

Every country has different rules regarding the disposal or recycling of waste plastics; in some countries Landfill is still an acceptable and cost effective form of disposal, in which case we will offer a certificated disposal solution

Hillebrand has depots and agreements with recycling facilities in +50 locations including all the key wine import markets.



What happens to our Flexitanks and Bulkheads after Discharge?

75%

of our used **VinBulk flexitanks** are **mechanically recycled**

80%

if we include **Energy Recovery**

60%

of our **bulkheads** are **recovered for reuse**

The importance of the recovery and recycling of the flexitanks?

The global spotlight on recycling **single use plastics** will continue to escalate and we are seeing many of our customers on the industrial side of our business invest in joint ventures to produce secondary raw materials to reduce the reliance on fossil fuels. This is very much driven by both the consumer (market perception) and also by eventual reduced cost of the raw materials.

Recovery and recycling is now a necessity and a key differentiating service for Hillebrand when comparing with our competitors. Hillebrand are in a very strong position to offer **customised** solutions using our global integrated network of own offices providing specialized technical services. We are in a unique position to offer full **end to end logistics**; we source the polyethylene film, we design the flexitanks using our in-house design team, we manufacture the flexitanks in our own facilities and we can provide a full logistics service from Door to Door to include the recovery and the recycling of the flexitanks at destination. **Full traceability and visibility.** Hillebrand's objective is to capitalise on these strengths and resources and become the industry leader on offering global sustainable solutions for flexitanks for the good of our industry and our environment.



