



FERVER
European Federation of Glass Recyclers
Fédération Européenne des Recycleurs de Verre

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FERVER Position on Fines

FERVER, the European Federation of Glass Recyclers, is an International Non-Profit Organization, created in 2004 under Belgian law by private companies active in the collection and recycling of glass.

The federation currently gathers 40 members from 14 EU-countries and 4 non-EU-countries, active in the recycling of waste glass into high quality cullet - a key and valuable raw material used by the glass manufacturing industry to produce new products. Those members are jointly responsible for the recycling of approximately 70% of the total packaging glass waste collected in the European Union.

FERVER was, together with FEVE (the Federation of European manufacturers of glass containers), one of the most active stakeholders in Sevilla during the setup of the Commission Regulation (EU) No 1179/2012 of 10 December 2012 establishing criteria determining when glass cullet ceases to be waste under Directive 2008/98/EC of the European Parliament and of the Council and becomes a product.

Members of FERVER make intensive use of the above-mentioned regulation as globally more than 95% of their production of recycled glass, the so called 'Furnace Ready Cullet' (FRC) is handled under the European regime of End of Waste (EOW).

The objective of this document is to argue for an increased recycled content in the production of new glass packaging to absorb the increased glass collection.

Close the glass loop, some data

Present situation

The European yearly production of glass packaging is 21 mio tons. From this production, 16.7 mio tons are put on the European market (including Norway and Switzerland).

The yearly collection of glass packaging is equal to 12.8 mio tons, representing 77% of the input

Considering an average loss rate, during the recycling process of glass collected via the bottle bank system, of 10% , the production of recycled glass FRC is estimated to be 11.52 mio tons (90% of 12.8 mio tons). From this amount, almost 11 mio tons are handled with a European End of Waste status.

In case the totality of this recycled glass would be incorporated in the glass packaging production, a recycled content of 69 % would be reached.

The actual average recycled content of the European glass packaging is only 52%.



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In other words, a 'reserve' of almost 3 mio tons of recycled glass material is available for the glass sector. Nowadays the glass sector (recyclers and producers) is forced to find solutions for this valuable material.

The situation with the reached objective of 'close the glass loop'

The target of 90% collection for recycling set by the voluntary 'Close the glass loop' initiatives, represents in function of the above-mentioned data, a quantity equal to 15 mio tons collected glass packaging waste.

Taking the targeted collection volume of 15 mio tons, the foreseen production of recycled glass, with the same average loss rate of 10% would be equal to 13.50 mio tons.

In case the totality of these 13.50 mio tons would be incorporated in the production of glass (option taken of a stable production of 16.7 mio tons), it would represent a recycled content of 81%.

Perspective

The expected increase of recycled glass, thanks to the 'close the glass loop' initiative represents a potential of more than 10% and in comparison, with the actual recycled content, an increase of almost 30%

Interaction between glass recycling, glass production and fines

The recyclers of glass are permanently improving the quality of their recycled output to meet the increased requirements of the glass producers, allowing them to increase the average of recycled material in their production badges. The intake of glass has clearly a triple environmental advantage, fully in line with the circular economy and closed loop approach:

1. Reduced consumption of primary raw materials
2. Reduced consumption of energy
3. Reduced emission of CO₂

The improved quality of produced FRC (Furnace Ready Cullet) requires more handling of the incoming glass (additional handling, e. g. dryers, additional optical sorting, repeated optical sorting, ...).

The mode of collection influences also the quality of the material: if glass is collected with compaction trucks and/or transhipped several times, an increased proportion of fines is unnecessarily created.

On their side, the producers of glass packaging, in the context of eco-design, reduced continuously the average weight and in particular the wall thickness of their containers.



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Collection systems, more sorting steps and reduced thickness automatically increase the proportion of fine glass in the final product. The FRC quality of the total range of cullet size became significantly better over the last years! By installing dryers, etc. the organic and CSP were more efficiently removed, with a partial migration into the fines.

Quality of fines

The higher efficiency of the optical sorting is partially decreasing the size of the glass pieces. As a result, the average percentage of impurities (i.e. organics, CSP) is a little bit higher than in the bigger size fraction. But in general, the fine fraction meets the criteria set in the EOW Regulation 1179/2012.

It is necessary, for further setting of quality criteria, to define the size range of the Fine fraction.

A benchmark shows that glass factories allow significant percentages of fines in the FRC.

It would be useful to define the percentage of fines allowed without significantly influencing the global quality of the FRC.

Fines can also be further processed, in order to produce the so-called glass sand or glass powder, with a granulometry of max. 800 µm or max 1 mm.

Initiatives are ongoing to reach an End of Waste qualification thanks to set minimum quality requirements.

Intake of fines in the glass production

As explained above, the incorporation of fines with a given quality and a defined percentage does not significantly interfere in the production process of glass.

Several glass factories, managing their own glass recycling facility consume the totality of the fines produced by them. This incorporation happens either directly as fines, or after its processing into glass sand.



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Conclusion

The target of 90% collection for recycling set by the voluntary initiative 'close the glass loop' represents a significant increase of material fit to produce higher quantities of FRC with at least the same quality as today.

The quality of this increased collection will most probably require additional efforts of the glass recyclers to guarantee the quality of their production of FRC.

These efforts must be safeguarded by a similar effort of the glass industry to consume the increased production of FRC.

The ultimate objective of the 'close the glass loop' initiative is to recycle more glass.

The only way to guarantee the intake of the increased collected glass, is an actual increase of the average recycled content of the packaging glass productions through an increased incorporation of Furnace Ready Cullet (FRC) in its global structure.

An average recycled content of 81%, based on the above data is a SMART (Specific – Measurable – Achievable – Relevant – Time-bound) objective

To guarantee such objective, the following actions are required:

1. Define quality and quantity criteria for the Fines
2. Define quality and quantity criteria for the glass sand
3. Agree on - and settle the way of sampling Furnace Ready Cullet: how, where exactly and what volume to take from trucks, vessels and lots.