THE USE OF GLASS CULLET: A KEY COMPONENT OF THE FIBER GLASS SUSTAINABILITY STORY

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Waste management companies often find collecting glass unprofitable.

Waste management companies attempt to re-write their contracts with local governments by demanding that glass collection be removed from the contract.

To bolster their position, the waste management companies suggest/state there is not a market for glass cullet.

NAIMA is actively stepping in to set the record straight.
Since 1992, NAIMA has conducted an annual survey of member companies to determine the volume of glass cullet used by NAIMA’s members.

Glass cullet numbers are collected for both U.S. and Canadian fiber glass insulation companies.

This presentation focuses on glass cullet used in North America and specifically throughout the Northeastern United States.
The most recent survey showed that in 2016, NAIMA member companies in the United States and Canada used more than 2.2 billion pounds of recycled glass.

The data showed that in 2016, facilities in the United States used more than 1.9 billion pounds of recycled glass.

NAIMA tracks the use of pre- and post-consumer glass cullet.
The data for Canadian facilities showed that in 2016, 346 million pounds of recycled glass was used in the production of fiber glass insulation products.

That is a total of 2.2 billion pounds of recycled glass used in 2016.

Since 1992, when NAIMA started collecting recycling data, 55 billion pounds of recycled material have been diverted from the waste stream.
Fiber glass insulation is the second largest user of glass cullet

Fiber glass insulation manufacturers are the highest users of mixed bottle cullet (a mix of flint, amber, and green) and, as such, are responsible for recycling more of this material than any other source
Benefits of Glass Cullet

- By using glass cullet, raw materials (sand, soda ash, etc.) use will be reduced.
- Energy in producing the raw materials will be decreased.
- The life of the furnaces will increase up to 30 percent due to decreased melting temperatures and a less corrosive batch.
- Reports have shown that compared to 100 percent raw materials, using 30 percent glass cullet reduces silica use by 60 percent, soda ash by 40 percent, and saves 10 percent in energy costs.

Future Glass Cullet
Location of NAIMA Members Manufacturing Plants
Northeast Manufacturing Capacity

- Delmar, New York – Owens Corning
- Berlin, New Jersey – Johns Mansville
- Scarborough, Ontario – Owens Corning
- Ottawa, Ontario – CertainTeed Corporation
Insulation makes buildings more energy efficient

Insulation keeps buildings cool in the summer and warm in the winter

Energy efficient buildings save money and lower utility bills

A typical pound of fiber glass insulation saves 12 times as much energy in its first year in place as the energy used to produce it
Reduced energy consumption translates into reduction of air pollutants
Therefore, installation of insulation reduces air pollutants
The Harvard School of Public Health has published studies that show specific correlation between insulation and reduction of greenhouse gases
The same study concludes that insulation’s reduction of emissions greatly improves public health
The use of glass cullet is an important part of sustainable messaging
Glass Cullet Challenges

- Supply is not always consistent
- Contaminants in glass cullet can wreak havoc with the manufacturing process
- Paper and plastic labels, caps, cork, and other debris
- Cullet sometimes results in additional pollutants
  - NOx
  - Chromium
  - VOCs
California mandates specific recycled content for fiber glass insulation – California recognizes the sporadic nature of glass cullet supply and allows averaging of cullet usage.

EPA’s RMAN Guides suggest specific levels for recycled content in fiber glass products before they can be purchased or used in government funded projects.

The Federal Trade Commission’s Green Guides also allows averaging on recycled content claims.
NAIMA Advocacy on Behalf of Recycling Glass

- Testimony and written comments before City of Houston
  - These joint efforts were successful

- State of Georgia
  - Fiber glass insulation is the largest user of cullet in Georgia
  - Participation in Georgia Recycling Coalition forum was an important educational tool

- City of Fayetteville, Arkansas
  - Again, joint efforts were successful in preserving City’s curbside collection program

- State of Massachusetts
  - Support for bottle bill

- State of California
  - Support of Recycling Centers

- State of Iowa
  - Success
Fiber glass could use a much higher recycled content if it were available

- Cullet is easier and most cost-effective to melt
- Clean cullet is the issue
- Fiber glass insulation manufacturers are committed to the use of glass cullet