

Andela Glass Beneficiation System Process Description

In response to your request for a glass recycling system, we would propose the following system and operating suggestions:

The following system includes glass handling, breaking and screening equipment we manufacture along with ferrous and non-ferrous metal detection equipment to be combined into a total system that meets the specifications for furnace ready cullet.

Acceptable cullet sized glass are produced by the Andela glass breaker and trommel screen separator. The metal detection system will remove any residual metal to meet furnace ready cullet standards.

The glass beneficiation system includes the following equipment:

Glass Infeed Conveyor - The cases of bottles will be emptied into the hopper of the glass breaker infeed conveyor. The cleated conveyor with high sides will transport the glass up into the breaker for crushing. The glass is color sorted prior to processing.

Andela Breaker Model - The infeed conveyor feeds all the glass into the 34"-58" wide breaker infeed opening. The breaker accepts and process 10-15 tons/hr of glass. The glass is crushed into a cullet less than 1" in size but the plastic and metal caps are left whole and in their larger form.

Cross-belt magnet and magnetic head pulley - The magnet is installed over the trommel infeed conveyor after the breaker as part of the conveyor system between the breaker and the trommel screen. The magnets remove the ferrous caps and other ferrous metal. Both a cross-belt magnet and magnetic head pulley are recommended to most efficiently remove the ferrous metal.

Andela Trommel Separator - The trommel screen has 5/8" to 7 /8" screen hole size that allows the glass to fall through the screen and the oversized labels, plastic caps etc. to exit the end of the screen and separate from the glass. The screen size can be determined by customer requirements.

An air vacuum system is not included in this proposal but if one is required to reduce the paper content with the glass, the trammel screen can be configured to first remove the fines and then use an air vacuum system to remove paper from the larger glass as it falls from the trammel screen.

Metal Detection System - Furnace ready cullet needs to be free of any metal tabs or rings. The glass cullet is conveyed under a metal detector to detect and then remove any small pieces of ferrous and non-ferrous metals. The metal is detected and a sweep arm removes a small amount of glass along with the pieces of metal. This rejected glass will fall onto another conveyor and can go under a second metal detector or be manually cleaned and re-circulated back into the material flow.

The prices included in this quotation do not include any facility modifications which are the responsibility of the buyer. We can offer technical assistance and installation of the mechanical and electrical aspects of this system. Estimated prices for the shipping, installation and training are included with this proposal subject to change with the final design and facility drawings.

The Andela Breaker and Trommel screen are the heart of the glass recycling system. The magnet and metal detection equipment are recommended to meet the standards required of furnace ready cullet.