



*This safety resource was written for the recycled materials industry by the recycled materials industry and was developed to assist you in making your recycling operation a safe place for employees, customers, and visitors. This resource covers OSHA requirements that may or may not be applicable to your operation.*

## **BRIQUETTING**

### **DEFINITION:**

Process by which metal turnings, borings, wire, or cable is compressed by a hydraulic ram into a briquette. The process may include heating precompressed metal in a rotary kiln to remove water, grease or oil.

### **Potential Hazards:**

- Aerosolized particles
- Cutting fluids
- Electric shock
- Explosive atmosphere
- Fire
- Flammable gas/vapor
- Hazardous fumes
- High-velocity flying metal fragments
- Moving hydraulic parts
- Noise
- Oil or hydraulic fluids
- Pinch points

### **Guarding/Shielding:**

- Point of operation guards must prevent a worker from having any part of his/her body in the machine's danger zone during the operating cycle.
- Fixed shielding with overhead protection must be installed when the operating station is situated near overhead hazards.
- Power transmission parts such as gears, shafts, belts or chains must be guarded to prevent accidental contact.

### **Protective Equipment:**

Hard hats\*  
Safety glasses\*  
Steel toe/steel shank work boots\*  
Gloves as needed  
Respirator as needed  
*\*minimum requirements*

### **Safety Procedures:**

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- Prior to performing any maintenance operation, the briquetter and all equipment directly associated with it, including conveyors, rams and any other moving parts, must be locked and/or tagged out to prevent inadvertent activation. The same applies to fuel tanks and valves.
- Briquetting operations may trigger a number of OSHA regulations. You should familiarize yourself with the standards for lead, copper, aluminum and magnesium oxide.
- Provide emergency stops that are easily accessible from any point along the operating line, including not only the briquetter itself, but also any conveyor mechanism that feeds it. Briquetters and conveyors should be interlocked, such that stopping one automatically stops the other.
- Sufficient safe clearances must be allowed between machinery and adjacent aisles or passageways. Permanent aisles and passageways must be clearly marked.
- Motors and other electrical equipment must be grounded.
- All walking/working surfaces must be kept clean and dry.
- Where the vertical distance between walking or working surfaces exceeds four feet (48 inches), railings or fall protection equipment must be utilized.
- Designate and enforce a safety zone, the area in which the operator of the equipment must be while the equipment is in use.
- Keep suspended loads clear of walking/working areas, power lines, obstructions, buildings, and other hazardous locations.
- Operators of the machinery and of material handling equipment (cranes, material handlers, skid steers, loaders, etc.) must maintain positive contact with each other at all times, either visually, or by radio or other audible device.

**If operating a kiln:**

- Main fuel shut-off valve must be located away from the kiln, easily accessible and clearly marked.
- Post at the entrance of the building that houses the kiln the type of fuel that is being used.
- Continuously monitor for fuel gas leaks.
- Where kiln ducts or stacks pass through combustible walls, floors, or roofs, noncombustible insulation or clearance or both must be utilized to insure that surfaces temperatures never exceed 160 degrees F.
- Metal frames of the kiln must be grounded.
- Gas-fired kilns must automatically shut down if the pilot light is extinguished.

