



**ISRI**<sup>™</sup>

# SAFETY GUIDANCE MATERIAL

## SAFETY OPERATIONS GUIDANCE

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

### SHREDDER

**DEFINITION:** Large, usually stationary scrap processing machine that uses rotating hammers inside a mill to reduce scrap that is further separated using magnetic and/or air systems.

#### Potential Hazards:

- High-velocity flying metal fragments
- Falling material from conveyors
- Dust
- Aerosolized particles
- Electric shock
- Explosive atmosphere
- Fire
- Moving hydraulic parts
- Noise
- Pinch points
- Slippery walking/working surfaces
- Jagged edges on finished product
- Confined spaces
- Mobile equipment traffic
- Pedestrian traffic

#### Guarding/Shielding:

- Point-of-operation guards must prevent a worker from placing any body part into the machine's danger zone during the operation cycle. Danger zone includes pinch points, rotating parts, flying material.
- Access doors must be equipped with interlock or similar mechanism that shuts operation down when door is opened.
- All conveyors must be guarded to within 7' of ground.
- Access under conveyors must be blocked or guarded during operation.
- A "No Entry Zone" should be clearly posted to keep foot and vehicle traffic away from field of flying debris from rotor shaft.
- Power transmission apparatus including gears, shafts, belts, and drive pulleys must be guarded to prevent accidental entanglement.



### **Protective Equipment:**

Hard hats\*

Safety glasses\*

Steel toe/steel shank work boots\*

Leather gloves\*

Hearing protection as needed

Gloves as needed

Respirator as needed

*\*minimum requirements*

### **Safety Procedures:**

- Lockout/Tagout procedures must be developed, followed, and enforced for equipment maintenance and servicing. Allow NO SHORTCUTS.
- Determine, through air monitoring, whether use of respirators is required.
- Practice good housekeeping especially on catwalks to prevent slips/falls.
- Maintain adequate drainage/collection of fluids.
- Maintain proper number and location of emergency stops.
- Eye wash station must be present and clearly identified.
- Fire extinguishers must be present in sufficient number, well labeled, with unobstructed access. Us no CO2 or liquid fire extinguishers in electrical rooms.
- Post emergency shut-down procedures.
- Unacceptable materials should be clearly posted for customers and regularly inspected for and rejected. These unacceptable materials will vary based on type and size of shredder and local requirements and might include wood, rubber, lead acid batteries, PCB-containing capacitors, compressed gas cylinders, refrigerant-containing cooling systems, and gas tanks.
- Guardrails should be present where needed and in good repair.
- Air monitoring should be used to determine the need for respiratory protection.
- Areas of travel of explosive doors and panels should be marked "off limits" during shredder operation.
- Automobile hulks and other feed material should be stored with adequate travel room between stacks.
- Post procedure for response to explosion or fire.
- Workers must not cross over moving conveyors except with the use of ladders or elevated walkways.
- Written confined space entry procedures, where required, must be developed and strictly followed and enforced.