

Ferrous

- The best way to describe ferrous metals is that they are magnetic. These metals tend to be much bulkier than non-ferrous metals therefore requiring more space. Ferrous metals are bought & sold by the ton with significantly lower values compared to non-ferrous metals.



Ferrous - Level 1

- Tin
 - **Description**
 - Any light gauge steel is considered tin. These items can range from home appliances to siding.
 - **Upgrade potential**
 - Within a truckload of tin, there might be some heavy gauge ferrous material such as HMS and/or P&S that can easily be sorted and upgraded. From time-to-time aluminum might be found mixed within tin in the form of aluminum siding; this further reiterates the importance of carrying a magnet at all times.
 - **ISRI definition** [*prepared for shipping to mills]
 - **209** No. 2 bundles.
 - Old black and galvanized steel sheet scrap, hydraulically compressed to charging box size and weighing not less than 75 pounds per cubic foot. May not include tin or lead-coated material or vitreous enameled material.



- Heavy Melt Steel [HMS]
 - **Description**
 - This material has two main categories: HMS# 1 is primarily heavy gauge material that is thicker than ¼ inch and cut down to 5'X2'. HMS #2 typically has a mix of light and heavy gauge material.
 - **Upgrade potential**
 - Within a truckload of HMS there are typically upgrades in the form of P&S which is usually ½” or thicker material. An experienced operator will notice the difference and sort the pile accordingly.
 - **ISRI definitions**
 - **200** No. 1 heavy melting steel.
 - Wrought iron and/or steel scrap 1/4 inch and over in thickness. Individual pieces not over 60 x 24 inches (charging box size) prepared in a manner to insure compact charging.
 - **203** No. 2 heavy melting steel.
 - Wrought iron and steel scrap, black and galvanized, 1/8 inch and over in thickness, charging box size to include material not suitable as No. 1 heavy melting steel. Prepared in a manner to ensure compact charging however, to be free of sheet iron or thin gauged material.



- Cast Iron
 - **Description**
 - Cast Iron is always in a shape since it was cast from a mold. Cast Iron is brittle compared to HMS and P&S. A simple method to identify cast iron is to drop it onto a hard surface as it will cause the material to break apart. Examples include Drums and rotors, cookware, and piping.
 - **Upgrade potential**
 - Within a truckload of cast iron, there might be HMS, P&S, and possibly cast aluminum. The magnet will help, but more importantly, trying to break this material will confirm whether it's cast.
 - **ISRI definition**
 - **257 Mixed cast.**
 - May include all grades of cast iron except burnt iron. Dimensions not over 24 inches x 30 inches and no piece over 150 pounds in weight.



- Plate & Structural [P&S]
 - **Description**
 - Plate and structural steel typically comes in the form of I-beam or plate over 1/2" thick. This is one of the highest grades of steel due to its 100% recovery when melted.
 - **Upgrade potential**
 - Since this is one of the highest grades of ferrous material there are few upgrades available other than sorting by size. Pieces cut under 5'x2' usually render a premium.
 - **ISRI definition**
 - **231** Plate and structural steel, 5 feet and under
 - Cut structural and plate scrap, 5 feet and under. Clean open hearth steel plates, structural shapes, crop ends, shearings, or broken steel tires. Dimensions not less than 1/4 inch thickness, not over 5 feet in length and 18 inches in width. Phosphorus or sulphur not over 0.05 percent.



Ferrous - Level 2

- Busheling
 - **Description**
 - Bushelings are pieces of metal cut from metal production. Bushelings must be clean, new factory stamps or clippings and may not be auto body material of any kind.
 - **Upgrade potential**
 - Uniform chemistry is important to receive the best price for this material so it is important to visit the source or make use of an analyzer.
 - **ISRI definition**
 - **207 No. 1 busheling**
 - Clean steel scrap, maximum size 2 feet by 5 feet, including new factory busheling (for example, sheet clippings, stampings, etc.). May not include old auto body and fender stock. Free of metal coated, limed, vitreous enameled, and electrical sheet containing over 0.5 percent silicon.



- Manganese
 - **Description**
 - Manganese is steel that has been hardened with 12-20% manganese added to the chemistry, making it one of the most resistant to wear and damage over any other metals. Crusher cones and plates, railroad frogs, grates & hammers are a few items considered manganese. Manganese can look similar to P&S and is classified as a ferrous material, although it has a slight magnetic draw.
 - **Upgrade potential**
 - This material might be purchased as P&S; however, when tested with a magnet or an analyzer, it will be identified as a higher value item.



- Vehicles

- **Description**

- Scrap vehicles are end of life cars and trucks. While these vehicles are no longer street-worthy and aren't worth salvaging, they are a worthwhile commodity in the scrap yard. Yards equipped to receive vehicles can be rewarded with approximately 2,400 pounds of steel and 300 pounds of aluminum per vehicle. Some scrap yards can take a vehicle as-is and will put it through a depollution system onsite to remove fluids prior to recycling. Depolluted vehicles will then be sent to a shredder to be broken into small pieces.

- **Upgrade potential**

- There are many upgrades that come from vehicles such as lead/acid batteries, harness wire, aluminum wheels, starters, alternators, and catalytic converters.



- Shred
 - **Description**
 - Shred is a term used to describe a blend of tin, automobiles, and unprepared steel that has been shredded.
 - **Upgrade potential**
 - Shredded electric motors are removed during the sorting process.
 - **ISRI Definition**
 - **211** Shredded scrap
 - Homogeneous iron and steel scrap magnetically separated, originating from automobiles, unprepared No. 1 and No. 2 steel, miscellaneous baling and sheet scrap. Average density 70+ pounds per cubic foot.

