



## ISRI Guidelines for Ferrous Scrap: FS-2005

a. Cleanliness. All grades shall be free of dirt, nonferrous metals, or foreign material of any kind, and excessive rust and corrosion. However, the terms "free of dirt, nonferrous metals, or foreign material of any kind" are not intended to preclude the accidental inclusion of negligible amounts where it can be shown that this amount is unavoidable in the customary preparation and handling of the particular grade involved.

b. Off-grade material. The inclusion in a shipment of a particular grade of iron and steel scrap of a negligible amount of metallic material which exceeds to a minor extent the applicable size limitations, or which fails to a minor extent to meet the applicable requirements as to quality or kind of material, shall not change the classification of the shipment, provided it can be shown that the inclusion of such off-grade material is unavoidable in the customary preparation and handling of the grade involved.

c. Residual alloys. Wherever the term "free of alloys" is cations given herein, it shall mean that any alloys contained in the steel are residual and have not been added for the purpose of making an alloy steel. Steel scraps shall be considered free of alloys when the residual alloying elements do not exceed the following percentages:

	percent
Nickel	0.45
Chromium	0.20
Molybdenum	0.10
Manganese	1.65

The combined residuals other than manganese shall not exceed a total of 0.60 percent.

d. Deviations. Any deviations from the general classifications of iron and steel scrap may be consummated by mutual agreement between buyer and seller.

ISRI

Code Item  
No.

**200 No. 1 heavy melting steel.** Wrought iron and/or steel scrap 1/2 inch and over in thickness. Individual pieces not over 60 x 24 inches (charging box size) prepared in a manner to insure compact charging.

**201 No. 1 heavy melting steel 3 feet x 18 inches.** Wrought iron and/or steel scrap 1/4 inch and over in thickness. Individual pieces not over 36 inches x 18 inches (charging box size) prepared in a manner to insure compact charging.

**202 No. 1 heavy melting steel 5 feet x 18 inches.** Wrought iron and/or steel scrap 3/8 inch and over in thickness. Individual pieces not over 60 inches x 18 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 insure compact charging.

**204 No.2 heavy melting steel\*.** Wrought iron and

steel scrap, black and galvanized, maximum size 36 x 18 inches. May include all automobile scrap properly prepared.

**205 No.2 heavy melting steel 3 feet x 18 inches.** Wrought iron and steel scrap, black and galvanized, maximum size 36 x 18 inches. May include automobile scrap, properly prepared, however, to be free of sheet iron or thin gauged material.

**206 No.2 heavy melting steel 5 feet x 18 inches.** Wrought iron and steel scrap, black and galvanized, maximum size 60 x 18 inches. May include automobile scrap, properly prepared, however, to be free of sheet iron or thin gauged material.

**207 No. 1 busheling.** Clean steel scrap, not exceeding 12 inches in any dimensions, 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.

**207 A New Black Sheet Clippings.** For direct charging, maximum size 8 feet by 18 inches, free of old automobile body and fender stock, metal coated, lined, vitreous enameled and electrical sheet containing over 0.5 percent silicon, must lay reasonably flat in car.

**208 No. 1 bundles.** New black steel sheet scrap, clippings or skeleton scrap, compressed or hand bundled, to charging box size, and weighing not less than 75 pounds per cubic foot. (Hand bundles are tightly secured for handling with a magnet.) May include Stanley balls or mandrel wound bundles or skeleton reels, tightly secured. May include chemically detinned material. May not include old auto body or fender stock. Free of metal coated, limed, vitreous enameled, and electrical sheet containing over 0.5 percent silicon.

**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.

**210 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 50 pounds per cubic foot.

**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

**212 Shredded Clippings.** Shredded 1000 series carbon steel clippings or sheets. Material should have an average density of 60 pounds per cubic foot.

**213 Steel Can Bundles.** Steel can scrap compressed to charging box size and weighing not less than 75 pounds per cubic foot. Cans may be baled without removal of paper labels, but free of other non-metallics. May include up to 5 gallon tin coated

containers.

- 214 No. 3 bundles.** Old sheet steel, compressed to charging box size and weighing not less than 75 pounds per cubic foot. May include all coated ferrous scrap not suitable for inclusion in No.2 bundles.
- 215 Incinerator bundles. Tin** can scrap, compressed to charging box size and weighing not less than 75 pounds per cubic foot Processed through a recognized garbage incinerator.
- 216 Terne plate bundles.** New terne plate sheet scrap, clip-pings or skeleton scrap, compressed or hand bundled, to charging box size, and weighing not less than 75 pounds per cubic foot. (Hand bundles are tightly secured for handling with a magnet.) May include Stanley balls or mandrel wound bundles or skeleton reels, tightly secured.
- 217 Bundled No.1 steel.** Wrought iron and/or steel scrap  $\frac{1}{8}$  inch or over in thickness, compressed to charging box size and weighing not less than 75 pounds per cubic foot Free of all metal-coated material.
- 218 Bundled No.2 steel.** Wrought iron or steel scrap, black or galvanized,  $\frac{1}{8}$  inch and over in thickness, compressed to charging box size and weighing not less than 75 pounds per cubic foot. Auto body and fender stock, burnt or hand stripped, may constitute a maximum of 60 percent by weight. (This percent based on makeup of auto body, chassis, driveshafts, and bumpers.) Free of all coated material, except as found on automobiles.
- 219 Machine shop turnings.** Clean steel or wrought iron turnings, free of iron borings, nonferrous metals in a free state, scale, or excessive oil. May not include badly rusted or corroded stock.
- 220 Machine shop turnings and iron borings.** Same as machine shop turnings but including iron borings.
- 221 Shoveling turnings.** Clean short steel or wrought iron turnings, drillings, or screw cuttings. May include any such material whether resulting from crushing, raking, or other processes. Free of springy, bushy, tangled or matted material, lumps, iron borings, nonferrous metals in a free state, grindings, or excessive oil.
- 222 Shoveling turnings and iron borings.** Same as shoveling turnings, but including iron borings.
- 223 Iron borings.** Clean cast iron or malleable iron borings and drillings, free of steel turnings, scale, lumps and excessive oil.
- 224 Auto slabs.** Clean automobile slabs, cut 3 feet x 18 inches and under.
- 225 Auto slabs.** Clean automobile slabs, cut 2 feet x 18 inches and under.
- 226 Briquetted iron borings.** Analysis and density to consumers specifications.
- 227 Briquetted steel turnings.** Analysis and density to consumers specifications.
- 228 Mill scale.** Dark colored, ranging from blue to black, ferro-magnetic iron oxide forming on the surface of steel articles during heating and working.

\*The identical designations given for these two

classifications are in accordance with established industry practices in specifying the materials desired.

## RAILROAD FERROUS SCRAP

**(2) Axles, Steel.** Solid car and/or locomotive friction bearing, 8 inch diameter and under (free of axles with key-way between wheel seats, no axles of shorter lengths than distance between wheel seats to be included).

**(2A) Axles, Steel.** Solid car and/or locomotive friction bearing over 8 inch diameter (free of axles with key-way between wheel seats, no axles of shorter length than distance between wheel seats to be included).

**(3) Axles, Steel.** Roller bearing 8 inch diameter and under (no axles of shorter lengths than distance between wheel seats to be included).

**(3A) Axles, Steel.** Roller bearing over 8 inch diameter (no axles of shorter length than distance between wheel seats to be included).

**(4) Spikes, Track Bolts and Nuts, and Lock Washers,** may include Rail Anchors.

**(5) Tie Plates.** Steel.

**(6) Rail Joints, Angle and/or Splice Bars.** Steel.

**(9) Bolsters and/or Truck Sides, Frames:** Uncut. Cast steel.

**(11) Cast Steel, No 2. Steel castings, over 18 inches wide and/or over 5 feet long.**

**(11 A) Cast Steel, NO 1.** Steel castings, 18 inches and under, not over 5 feet long, including cut truck side frames and bolsters.

**(12) Cast Iron, No. 1.** Cast iron scrap, such as columns, pipes, plates, and/or castings of miscellaneous nature, but free from stove plates, brake shoes, and burnt scrap. Must be cupola size, not over 24 inches x 30 inches in dimensions and no piece to weigh over 150 pounds. Must be free from foreign material.

**(13) Cast Iron, No 2** Pieces weighing over 150 pounds, but not more than 500 pounds. Free from burnt cast.

**(14) Cast/ron, No. 3.** Pieces weighing over 500 pounds; includes cylinders, driving wheel centers and/or all other castings. (Free from hammer blocks or bases.)

**(15) Cast Iron, No 4.** Burnt cast iron scrap, such as grate bars, stove parts and/or miscellaneous burnt scrap.

**(16) Cast Iron Brake Shoes. Brakes shoes of all types** except composition-filled shoes

**(17) Couplers and/or Knuckles.** Railroad car and/or locomotive steel couplers, knuckles and/or locks stripped clean of all other attachments.

**(18) Frogs and/or Switches,** uncut Steel frogs and switches that have not been cut apart, exclusive of manganese.

**(18A) Railroad Manganese Frogs and Switch Points** with manganese inserts that have not been cut apart.

**(23) Malleable.** Malleable parts of automobiles, railroad cars, locomotive and/or miscellaneous malleable castings.

**(24)** Melting Steel, Railroad No. 1. Clean wrought iron or steel scrap, 1/4 inch and over in thickness, not over 18 inches in width, and not over 5 feet in length. May include pipe ends and material 1/8 inch to 1/4 inch in thickness, not over 15 inches x 15 inches. Individual pieces cut so as to lie reasonably flat in charging box.

**(27)** Rail, Steel No 1. Standard section tee rails, original weight 50 pounds per yard or heavier, 10 feet long and over. Suitable for rerolling into bars and shapes. Free from bent and twisted rails, frog, switch, and guard rails, or rails with split heads and broken flanges. Continuous welded rail may be included provided no weld is over 9 inches from the end of the piece of rail.

**(28A)** Rail, Steel Na 2 Cropped Rail Ends. Standard section, original weight of 50 pounds per yard and over, 18 inches long and under.

**(28B)** Rail, Steel Na 2 Cropped Rail Ends. Standard section, original weight of 50 pounds per yard and over, 2 feet long and under.

**(28C)** Rail, Steel Na 2 Cropped Rail Ends. Standard section, original weight 50 pounds per yard and over, 3 feet long and under.

**(29)** Rail, Steel Na 3. Standard section tee, girder, and/or guard rails, to be free from frog and switch rails not cut apart, and contain no manganese, cast, welds, or attachments of any kind except angle bars. Free from concrete, dirt, and foreign material of any kind.

**(30)** Sheet Scrap, No. 1. Under 3/16 inch thick, may include hoops, band iron and/or steel, scoops and/or shovels (free of wood). Must be free from burnt or metal coated material, cushion, or other similar springs.

**(31)** Sheet Scrap, Na 2. Galvanized or tinned material and/or gas retorts, and/or any other iron or steel material not other-wise classified.

**(32)** Steel, Tool. (Specify kind in offering.)

**(33)** Steel, Manganese. All kinds of manganese, rail, guard rails, frogs and/or switch points, cut or uncut.

**(34)** Steel, Spring. Coil and/or elliptical, minimum thickness 1/4 inch may be assembled or cut apart.

**(34A)** Steel, Spring. Coil only.

**(35)** Structural, Wrought Iron and/or Steel Uncut All steel or steel mixed with iron from bridges, structures and/or equipment that has not been cut apart, may include uncut bolsters, brakebeams, steel trucks, underframes, channel bars, steel bridge plates, frog and/or crossing plates and/or other steel of similar character.

**(36)** Tires. All locomotive, not cut to specified lengths.

**(38)** Turnings. No. 1. Heavy turnings from wrought iron and/or steel railroad axles or heavy forgings and/or rail chips, to weigh not less than 75 pounds per cubic foot. Free from dirt or other foreign material of any kind. Alloy steel scrap may be excluded from these specifications by mutual agreement between buyer and seller.

**(38A)** Turnings, Drillings and/or Borings. No.2. Cast, wrought, steel and/or malleable iron borings, turnings and/or drillings mixed with other metals.

**(40)** Wheels, No. 1. Cast iron car wheels.

**(42)** Wheels, Na 3. Solid cast steel, forged, pressed and/or rolled steel car and/or locomotive wheels, not over 42 inches diameter. (Specify kind in offering.)

**(45)** Destroyed Steel Cars. Bodies of steel cars cut apart sufficiently to load. (Specify kind.)

**(45A)** Destroyed Steel Car Sides and Box Car Roofs. Cut to a maximum length of... and a maximum width of... suitable for use in super presses and shears without additional preparation.