



Material Specifications

Revision #	Revision Date	Comments for Revision
2	4/27/2023	Material chemistry ranges, minor modifications
1	10/19/2018	Formatted document for release to suppliers

Policies and Procedures

- Supplier may not deviate from Charter Steel material specifications without prior written approval by authorized Charter Steel Procurement personnel. If material specifications are not met Charter Steel reserves the right to cancel any existing orders with a specific supplier. Any nonconforming material will be removed at the supplier's expense.
- All BOLs/shipping notices are required to have a current Charter Steel purchase order number with the properly assigned release number.
- All invoices submitted are required to have the current Charter Steel purchase order number, current release number and reference scale ticket number to insure timely payments.
- All purchased material is subject to our inspection and truck scale weights upon arrival of Charter Steel property.
- All material and people delivering material shall be free of radioactivity and mercury contamination. Charter Steel reserves the right to deny any load that triggers our alarm system.
- Truck drivers delivering material are to wear proper clothing, hard hat, safety glasses, hi-vis shirt, long pants and closed toe boots are required. Drivers are required to review our contractor safety video on an annual basis
- All loads are to be tarped from November thru March to protect across the accumulation of snow. Preloading material the day/night before a delivery is not allowed.
- No shipment is allowed to be "top dressed" with material that does not constitute a major portion of the material in the shipment.
- All material is to be evenly loaded into dump trucks or loaded on rail car and has the ability to be removed by magnet.
- Any disabled trucks or overturned trailers will be required to use Charter Steel's preferred wrecker and will be invoiced directly by that company.
- All trucks and trailers shall be inspected and be deemed in good operating condition before arriving on Charter Steel property. Shipper shall be responsible for all environmental cleanup costs associated with fluid spills, damage to property or cost from resulting plant downtime.
- Charter Steel reserves the right to cancel any order for reason of noncompliance
- The Supplier's quality system must be modeled after a published (ISO) standard and is required to maintain test results and methods at their location.

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Charter Steel

Purchased Materials Requirements

Material: Busheling

Description: Clean, prompt industrial carbon steel sheet scrap free from coatings

Physical Requirements:

- Acceptable Steel Series: 1000, 1300 & 1500
- Length/width: < 3.0 FT
- Densities Lbs/CuFt: > 60
- Maximum Thickness ¼"
- NO Slinkys, Coils & Mandrels



Chemistry Requirements:

Element	Busheling Specification %
Phosphorus (P)	< .0150
Sulfur (S)	< .0250
Nickel (Ni)	< .1000
Chromium (Cr)	< .1000
Molybdenum (Mo)	< .0400
Copper (Cu)	< .1000
Vanadium (V)	< .0005
Tin (Sn)	< .0010

Load Restrictions: Shall be free of non-ferrous or non-conforming material. Must not contain radioactive material or closed containers of any kind. No tin coated, de-tinned, municipal, leaded, rephosherized (1200 series) or resulfurized (1100 series) scrap.

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Charter Steel

Purchased Materials Requirements

Material: Shredded Clips

Description: Clean, dense shredded steel scrap

Physical Requirements:

- Densities Lbs/CuFt: > 70



Chemistry Requirements:

Element	Specification %
Phosphorus (P)	< .0150
Sulfur (S)	< .0250
Nickel (Ni)	< .1000
Chromium (Cr)	< .1000
Molybdenum (Mo)	< .0400
Copper (Cu)	< .1100
Vanadium (V)	< .0005
Tin (Sn)	< .0010

Load Restrictions: Shall be free of non-ferrous or non-conforming material. Must not contain radioactive material or closed containers of any kind. No tin coated, de-tinned, municipal, leaded, rephospherized (1200 series) or resulfurized (1100 series) scrap.

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Charter Steel

Purchased Materials Requirements

Material: Bundles

Description: Tightly compressed clean, prompts, industrial carbon material of “busheling” scrap. All material within the bundle must satisfy chemistry requirements

Physical Requirements:

- Cleveland Max Size: 30” x 30” x 30”
- Saukville Max Size: 24” x 24” x 24”
- Densities LBs/CuFt: > 70



Chemistry Requirements:

Element	Dealer Bundles Specification %
Phosphorus (P)	< .0150
Sulfur (S)	< .0250
Nickel (Ni)	< .1000
Chromium (Cr)	< .1000
Molybdenum (Mo)	< .0400
Copper (Cu)	< .1000
Vanadium (V)	< .0005
Tin (Sn)	< .0010

Load Restrictions: Shall be free of non-ferrous or non-conforming material. Must not contain radioactive material or closed containers of any kind. No tin coated, de-tinned, municipal, leaded, rephosherized (1200 series) or resulfurized (1100 series) scrap.

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Charter Steel

Purchased Materials Requirements

Material: Auto Shred

Description: Automotive bodies shredded and magnetically separated to meet our physical requirement

Physical Requirements:

- Densities Lbs/CuFt: > 65



Chemistry Requirements:

Element	Specification %
Phosphorus (P)	< .0150
Sulfur (S)	< .0250
Nickel (Ni)	< .1000
Chromium (Cr)	< .1500
Molybdenum (Mo)	< .0400
Copper (Cu)	< .2000
Vanadium (V)	< .0005
Tin (Sn)	< .0010

Load Restrictions: Shall be free of non-ferrous or non-conforming material. Must not contain radioactive material or closed containers of any kind. No tin coated, de-tinned, municipal, leaded, rephosherized (1200 series) or resulfurized (1100 series) scrap. Contain no visible copper or free flowing copper.

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Charter Steel

Purchased Materials Requirements

Material: R/R Wheels

Description: Prime heavy scrap consisting of railroad wheels

Physical Requirements:

- Wheels only – No protruding axles



Chemistry Requirements:

Element	Specification %
Phosphorus (P)	< .0150
Sulfur (S)	< .0250
Nickel (Ni)	< .1000
Chromium (Cr)	< .1000
Molybdenum (Mo)	< .0400
Copper (Cu)	< .1500
Vanadium (V)	< .0005
Tin (Sn)	< .0010

Load Restrictions: Shall be free of non-ferrous or non-conforming material. Must not contain radioactive material or closed containers of any kind. No tin coated, de-tinned, municipal, leaded, rephosherized (1200 series) or resulfurized (1100 series) scrap.

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Charter Steel

Purchased Materials Requirements

Material: R/R Crops

Description: Prime heavy scrap consisting of railroad crops

Physical Requirements:

- Length/width: < 3.0 FT
- NO Clips, Spikes or Plates



Chemistry Requirements:

Element	Specification %
Phosphorus (P)	< .0150
Sulfur (S)	< .0250
Nickel (Ni)	< .1000
Chromium (Cr)	< .1000
Molybdenum (Mo)	< .0400
Copper (Cu)	< .1500
Vanadium (V)	< .0005
Tin (Sn)	< .0010

Load Restrictions: Shall be free of non-ferrous or non-conforming material. Must not contain radioactive material or closed containers of any kind. No tin coated, de-tinned, municipal, leaded, rephosherized (1200 series) or resulfurized (1100 series) scrap.

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Charter Steel

Purchased Materials Requirements

Material: P & S Alloy Free

Description: Clean and cut structural scrap

Physical Requirements:

- Length/width: < 3.0 FT
- Densities LBs/CuFt > 55
- Minimum Thickness ¼"
- NO Plate



Chemistry Requirements:

Element	Specification %
Phosphorus (P)	< .0150
Sulfur (S)	< .0250
Nickel (Ni)	< .1000
Chromium (Cr)	< .1000
Molybdenum (Mo)	< .0400
Copper (Cu)	< .1000
Vanadium (V)	< .0005
Tin (Sn)	< .0010

Load Restrictions: Shall be free of non-ferrous or non-conforming material. Must not contain radioactive material or closed containers of any kind. No tin coated, de-tinned, municipal, leaded, rephosherized (1200 series) or resulfurized (1100 series) scrap.

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Charter Steel

Purchased Materials Requirements

Material: Alloy Heavy

Description: Clean scrap free of excessive oil & oxidation meeting the Chemistry requirements specified below

Physical Requirements:

- Length/width: < 3.0 FT



Chemistry Requirements:

Element	Specification %
Phosphorus (P)	< .0150
Sulfur (S)	< .0250
Nickel (Ni)	.40 - .60
Chromium (Cr)	.40 - .80
Molybdenum (Mo)	.20 - .40
Copper (Cu)	< .2500
Vanadium (V)	< .0005
Tin (Sn)	< .0010

Load Restrictions: Shall be free of non-ferrous or non-conforming material. Must not contain radioactive material or closed containers of any kind. No tin coated, de-tinned, municipal, leaded, rephosherized (1200 series) or resulfurized (1100 series) scrap.

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Charter Steel

Purchased Materials Requirements

Material: Pig Iron

Description: Cast iron pigs produced in iron foundry operations

Physical Requirements:



Chemistry Requirements:

Element	Specification %
Carbon ©	3.5-4.5
Phosphorus (P)	< .15
Sulfur (S)	< .050
Silicon (Si)	< 1.5
Tin (Sn)	< .0010

Load Restrictions: Shall be free of non-ferrous or non-conforming material. Must not contain radioactive material or closed containers of any kind. No tin coated, de-tinned, municipal, leaded, rephosherized (1200 series) or resulfurized (1100 series) scrap.

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Charter Steel

Purchased Materials Requirements

Material: HBI

Description: Hot briquetted iron fines or pellets

Physical Requirements:



Chemistry Requirements:

Element	Specification %
Phosphorus (P)	< .0800
Sulfur (S)	< .0250
Tin (Sn)	< .0010

Load Restrictions: Shall be free of non-ferrous or non-conforming material. Must not contain radioactive material or closed containers of any kind. No tin coated, de-tinned, municipal, leaded, rephosherized (1200 series) or resulfurized (1100 series) scrap

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