

## EUROPEAN STEEL SCRAP SPECIFICATION

### General Conditions applicable to all grades

As it practically achievable in customary preparation and handling of the grade involved

The definitions of this list of specifications apply only to non-alloy carbon steel scrap as raw material for the steel industry.

### A) SAFETY

All grades shall exclude:

- 1) pressurised, closed or insufficiently open containers of all origins which could cause explosions. Containers shall be considered as insufficiently open where the opening is not visible or is less than 10 cm in any one direction;
- 2) dangerous material, inflammable or explosive, fire arms (whole or in part), munitions, dirt or pollutants which may contain or emit substances dangerous to health or to the environment or to the steel production process;
- 3) hazardous radioactive material:
  - material presenting radioactivity in excess of the ambient level of radioactivity
  - radioactive material in sealed containers even if no significant exterior radioactivity is detectable due to shielding or due to the position of the sealed source in the scrap delivery.

### B) STERILES (cleanness)

All grades shall be free of all but negligible amounts of other non ferrous metals and non metallic materials, earth, insulation, excessive iron oxide in any form, except for nominal amounts of surface rust arising from outside storage of prepared scrap under normal atmospheric conditions.

All grades shall be free of all but negligible amounts of combustible non metallic materials, including, but not limited to rubber, plastic, fabric, wood, oils, lubricants and other chemical or organic substances.

All scrap shall be free of larger pieces (brick-size) which are non-conductors of electricity such as tires, pipes filled with cement, wood or concrete.

All grades shall be free of waste or of by-products arising from steel melting, heating, surface conditioning (including scarfing) grinding, sawing, welding and torch cutting operations, such as slag, mill scale, baghouse dust, grinder dust, and sludge.

## C) RESIDUAL AND OTHER METALLIC ELEMENTS

### Copper

All grades shall be free of visible metallic copper which means free of copper – wound electric motors, sheets and copper coated materials, bearing shells, winding, and radiator cores.

All grades shall be free of all but negligible amounts of wire, insulated wire and cable tubing and other copper, brass items mixed with, attached to, or coating ferrous scrap.

All grades shall be free of material with high dissolved copper content such as rebars and merchant bars which will be grouped in the high residual grades.

### Tin

All grades shall be free of tin in any forms such as tin cans, tin coated materials etc. as well as bronze elements such as rings, bearing shells etc.

### Lead

All grades shall be free of lead in any forms such as batteries, solder, wheel weights, terne plate, cable ends, bearings, bearing shells etc.

### Chromium, Nickel, Molybdenum

All grades shall be free of alloyed steels and stainless steels as well as of mechanical parts (which mainly contain these elements) such as motors, drive gears for trucks, axles, gear boxes, gear wheels, tools and dies as well as non magnetic pieces.

Aimed Analytical Contents (see page 5 of this specification)

The levels indicated for certain of these metallic elements in the different grades listed here, are typical maximum contents.

Supply of scrap not falling within the analytical limits of this list of grades is, nevertheless, permitted with specific prior agreement between supplier and consumer based on the knowledge of the real nature/content of the material in question.

Specific or contractual maximum contents are subject to agreement between supplier and purchaser and should be specified when ordering.

## D) MIXTURE OF GRADES

No delivery shall contain a mixture of grades, unless by joint agreement.

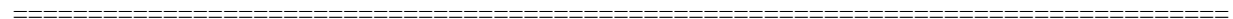
## JBF STEEL SCRAP SPECIFICATION

SPECIFICATION	DESCRIPTION	DIMENSIONS	DENSITY
JBF-2	<p>Thick new production steel scrap predominantly more than 3 mm thick prepared in a manner to ensure direct charging. The steel scrap must be uncoated and free of rebars and merchant bars even from new production. Must be free of metallic copper, tin, lead, (and alloys), mechanical pieces and sterlies to met the aimed analytical contents.</p> <p>Refer to points B and C of the general conditions.</p>	<p>Thickness 3 mm MAX SIZE 1,5x0,5x0,5 m</p>	0,70 ton/m <sup>3</sup>
JBF-3	<p>Old thick steel scrap, predominantly more than 6 mm thick in sizes not exceeding 1,5x0,5x0,5 m, prepared in a manner to ensure direct charging. Must be free of rebars and merchant bars, free of metallic copper, tin, lead (and alloys), mechanical pieces and steriles to meet the aimed analytical contents. Refer to points B and C of the general contitions.</p>	<p>Thickness 4 mm MAX SIZE 1,5x0,5x0,5 m</p>	0,70 ton/m <sup>3</sup>
JBF ½ MIX	<p>A mixture of thin and thick old steel scrap, in sizes not exceeding 1,5x0,5x0,5 m, prepared in a manner to ensure direct charging. Must be free of rebars, merchant bars, silicon bearing, tinoated and incineratorscrap. Must also be free of metallic copper, tin, lead (and alloys), mechanical pieces and steriles to meet the aimed analytical contents.</p> <p>Refer to points B and C of the general conditions.</p>	<p>MAX SIZE 1,5x0,5x0,5 m</p>	0,75 ton/m <sup>3</sup>
JBF-8	<p>Thin new production steel scrap predominantly less than 3 mm thick prepared in a manner to ensure direct charging. The steel scrap must be uncoated unless premitted by joint agreement and be free of unbound ribbons to avoid trouble when charging. Must be free of metallic copper, tin, lead, (and alloys), mechanical pieces and steriles to beet the aimed analytical contents.</p> <p>Refer to points B and C of the general conditions.</p>	<p>Thickness 3 mm MAX SIZE 1,5x0,5x0,5 m</p>	0,75 ton/m <sup>3</sup>
JBF-40	<p>Shredded steel scrap. Old steel scrap fragmentized into pieces not exceeding 200 mm in any direction for 95% of the load. No pies, in the remaining 5%, shall exceed 1000 mm. Should be prepared in a manner to ensure direct charging. The scrap shall be free of excessive moisture, loose cast iron and incinirator material (exspecially tin cans). Must be free of metallic copper, tin, lead, (and alloys), mechanical pieces and steriles to meet the aimed analytical contents.</p> <p>Refer to points B and C of the general conditions.</p>		0,90 ton/m <sup>3</sup>

JBF-E5M	<p>Mixed lots of carbon steel turnings, free from excessive bushy and free from turnings from free cutting steel. Should be prepared in a manner to ensure direct charging. The turnings must be free from all contaminants such as non ferrous metals, scale, grinding dust and heavily oxidized turnings or other materials from schemical industries.</p>	0,70 ton/m <sup>3</sup>
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JBF-CAST	<p>Mixed cast iron scrap may include all grades of cast iron except burnt iron, and no piece over 1000 kg. Must be free of metallic copper, tin, lead, (and alloys), mechanical pieces and steriles to meet the aimed analytical contents. Refer to points B and C of the general conditions.</p>	<p>MAX SIZE 1,5x0,5x0,5</p>	0,9 ton/m <sup>3</sup>
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JBF-RAIL	<p>Mixed railroad scrap consist of rail, axles and wheels. The wheels and axles must be dismantled and free of bearings. Spikes and bolts is not allowed. Must be free of metallic copper, tin, lead, (and alloys), mechanical pieces and steriles to meet the aimed analytical contents. Refer to points B and C of the general conditions.</p>	<p>MAX LENGTH RAIL 1,5 m</p> <p>MAX LENGTH AXEL 2,3 m</p>	1,3 ton/m <sup>3</sup>
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## AIMED ANALYTICAL CONTENTS

The values retained for the analytical contents are those which have been experienced in real terms in the various countries of the European Union and are achieved by scrap yards working normally with standard methods and standard equipment.

CATEGORY	Specification	Aimed Analytical Contents (residuals) in %				
		Cu	Sn	Cr,Ni,Mo	S	P
OLD	JBF-3 E3	≤0,250	≤0,010	Σ≤0,250		
SCRAP	JBF-1/2 mix E1	≤0,400	≤0,020	Σ≤0,300		
NEW SCRAP Low residuals uncoated  (2)	E2	Σ ≤0,300				
	E8	Σ ≤0,300				
	E6	Σ ≤0,300				
SHREDDED	E40	≤0,250	≤0,020			
STEEL TURNINGS  (3)	E5H	Prior Chemical Analysis could be required				
	E5M	Cu≤0,400	≤0,030	Σ≤1%	≤0,100	
HIGH RESIDUAL SCRAP	EHRB	Cu≤0,450	≤0,030	Σ≤0,350		
	EHRM	Cu≤0,400	≤0,030	Σ≤1,0		
FRAGMENTED SCRAP FROM INCINERATION	E46	≤Cu 0,500	≤0,070			