

EUROSIA METAL

Your metal partner



www.eurosialtld.net



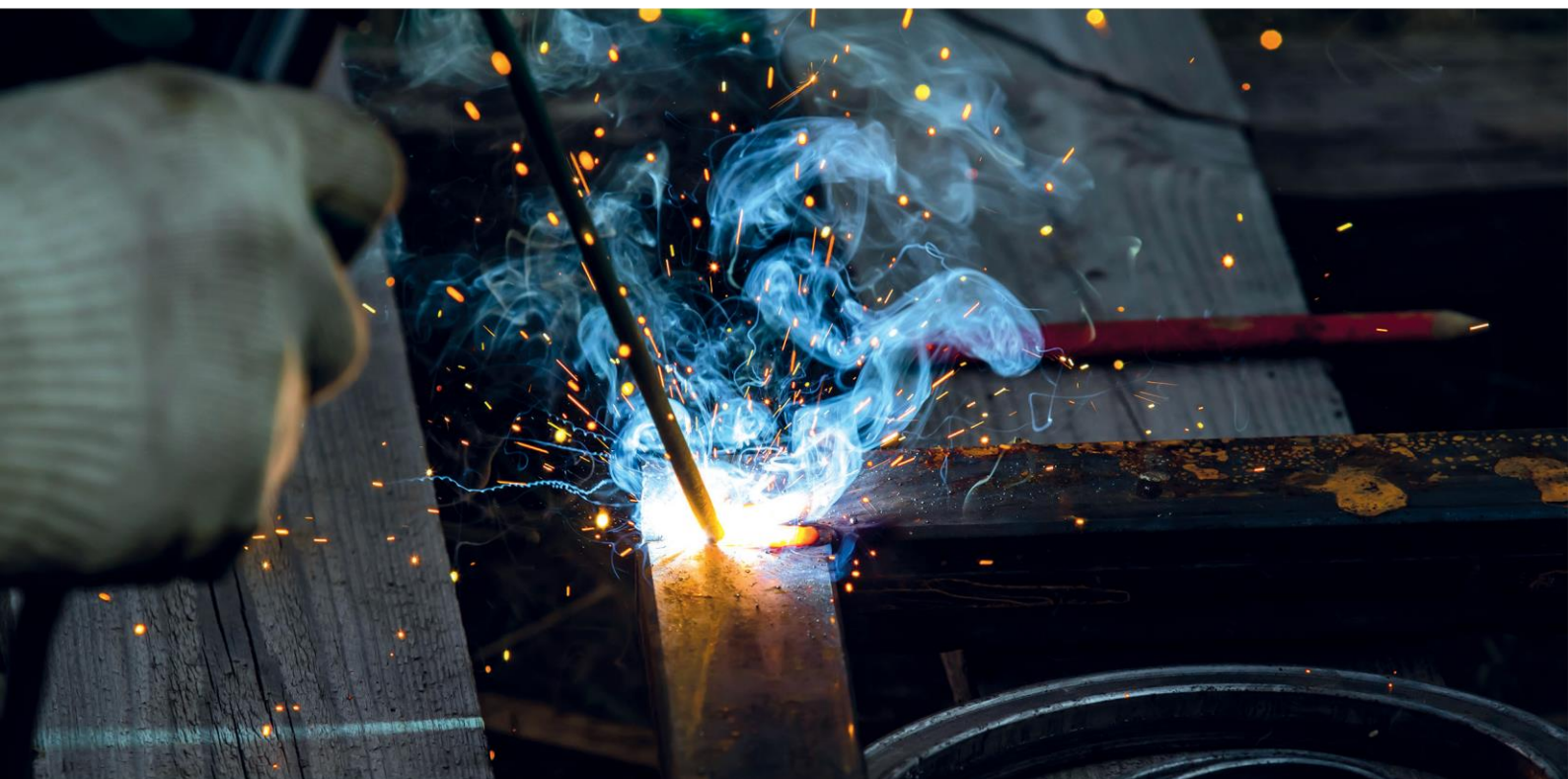
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Introduction

With decades of experience in process consumables industry, Eurosia Metal is a supply chain partner to some of the best known names among the Steel Mills and Foundries. Eurosia Metal effectively leverages its global mining and processing partnerships to supply metals, alloys and minerals using a network of offices, sales and service specialists as well as distribution centers. The focus in every transaction is quality and value addition to end users.

Our portfolio of raw materials for the Steel Mills and Foundries cover a comprehensive list of process consumables used in manufacture of low alloy, mild and high alloy steel. These materials provide properties such as high corrosion resistance, weldability, deoxidising and are used in high strength steel as well as industry specific solutions. They are available in metal and alloy form with different chemistry's to suit customer's needs. With extensive end user network and decades of experience in raw materials supply chain management solutions, we ensure strict adherence to input quality and improvement in recovery and efficiency. This catalog provides an overview of the core materials we engage in and supply to Steel Mills and Foundries worldwide.

Forging Partnerships

- Smaller is Beautiful
- Value of risk taking by challenging the status quo and engaging in constructive confrontation
- Tireless pursuit of results
- Moral humility

The EUROSIA METAL Ethos

EUROSIA METAL's Core purpose is to provide exemplary value to our customers and partners by ensuring quality and dependability in every action.

- **Steel**

Our portfolio of raw materials for Steel & Stainless Steel mills include materials applicable to manufacturing of low alloy, mild and high alloy steel.

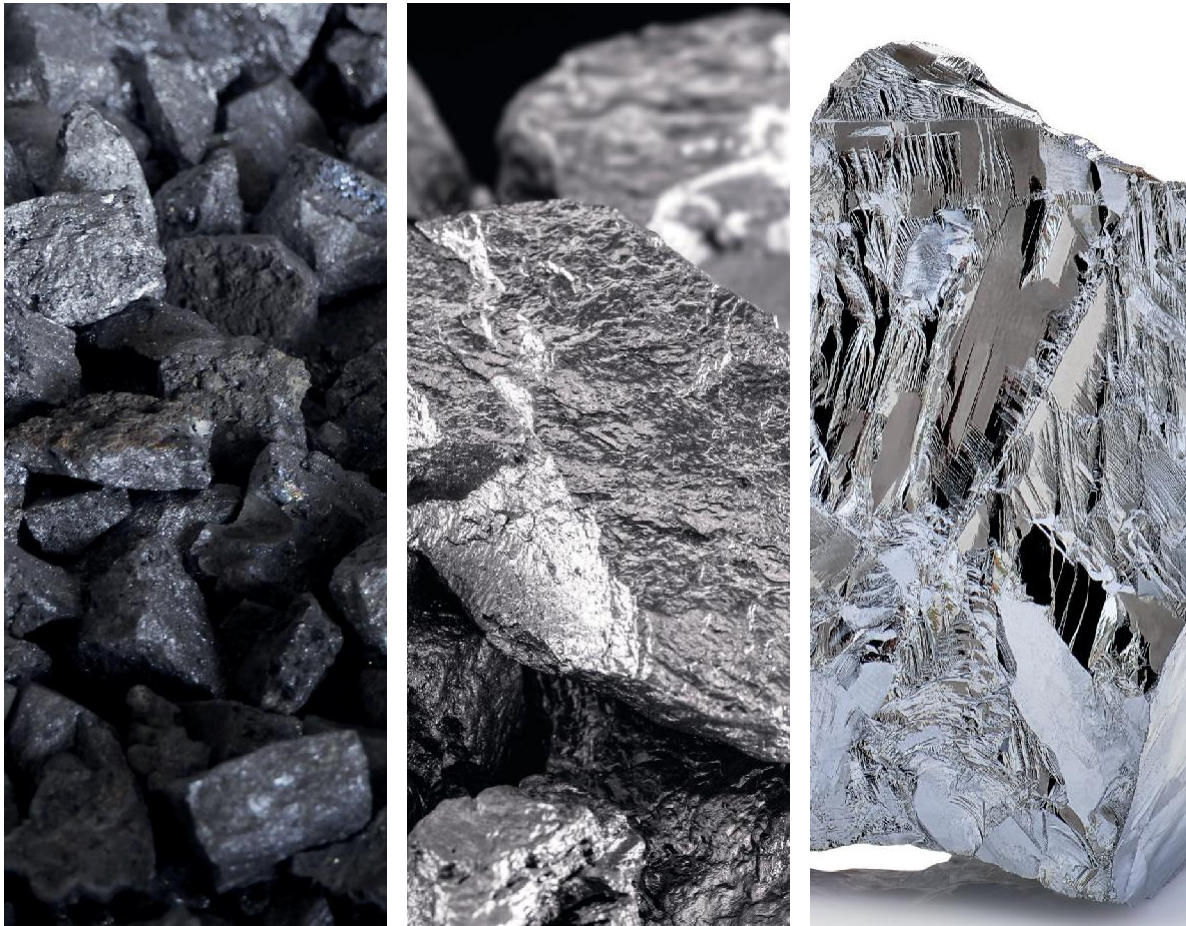
- **Foundry**

Our portfolio of raw materials for Foundry Industries cover a comprehensive list of commonly consumed raw materials used in manufacturing of casting steel, stainless steel, Nickel and Aluminum based products.

- **Welding Consumables**

Our portfolio of raw materials for Welding Consumables manufacturing covers materials widely consumed in the process of making Coated Arc Welding Electrodes, Submerged Arc Welding Fluxes and Flux Coated Welding Wires.





- **Ferro Alloys**

A wide range of Ferro Alloys consisting of several categories, each with different grades and varying specification. Suitable for Steel Mills, Foundries and Welding Consumables Manufacturing.

- **Metals & Alloys**

A good representation of Base Metals, Minor Metals and Alloys applicable to a wide array of Metal working and casting.

- **Minerals & Chemicals**

Mineral Sands and Powders applicable to manufacturing of welding consumables as well as other steel sectors, supplied with custom specification. Bulk Minerals widely consumed in Steel Mills and chemicals applicable to Steel fabrication.



Ferro Manganese

Its mainly applicable as a desulfurizer, deoxidizer and the most prevalent alloying agent after Carbon. Our range covers Standard ferromanganese, Medium-carbon and Low-carbon ferromanganese both in lump and powder shape.

	Mn	C	Si	P	S
FeMn HC	75 % min	6-8 %	1.50 % max	0.25 % max	0.03 % max
FeMn HC Low P	76/78 % min	6-8 %	1.50 % max	0.10 % max	0.03 % max
FeMn MC	80 % min	1.50 % max	1.50 % max	0.20 % max	0.03 % max
FeMn LC	80 % min	0.50 % max	0.50 % max	0.025 % max	0.03 % max
SIZE	1-3 mm / 3-10 mm / 10-50 mm / 10-100 mm				
PACKING	Bulk or 1 mt big-bag				



Ferro Silicon Manganese

Silico Manganese is very effective for both steel deoxidation and alloying. Ferro Silico Manganese can be used as a substitute for Ferro Silicon and Ferro Manganese when added to make different types of steel.

	Mn	Si	C	P	S
FeSiMn 6014	60 % min	14 % min	2 % max	0.30 % max	0.05 % max
FeSiMn 6517	65 % min	17 % min	2 % max	0.30 % max	0.03 % max
FeSiMn 7018	75 % min	1.50 % max	2 % max	0.30/0.50 % max	0.03 % max
SIZE	10-50 mm / 10-80 mm				
PACKING	Bulk or 1 mt big-bag				

Ferro Phosphorus

Ferro phosphorus is used mainly as the additives in the foundry industry to improve the floatability of foundry iron, thus improving the quality of the castings. Phosphorus content can increase the wearing resistance and improve the cutability in the castings. Ferro phosphorus is also used as additive in the steel production, which can improve the corrosion resistivity in certain steel products.

	P	Si	C	S	Cu	V
FeP	23-28 %	1-2 %	0.1 % max	0.01 % max	0.5 % max	0.5 % max
SIZE	10-50 mm / 10-100 mm					
PACKING	1 mt big-bag					



Ferro Chrome

Ferrochrome is an alloy made up of chromium and iron. Steel Ferrochromium is used for alloying steel, and foundry ferrochromium serves as an intermediate in the production of ferrochrome silicon. Within welding consumables, Ferrochromium is mainly used for production of stainless steel welding consumables. High Carbon, Medium Carbon and Low Carbon Ferro Chromium in shapes of Powder and lumps are available within our portfolio.

	Cr	C	Si	P	S
FeCr HC-Charge CR	55-60 %	6-8 %	3.0 % max	0.03 % max	0.04 % max
FeCr HC	60-65 %	6-8 %	1.5 % max	0.02 % max	0.02 % max
FeCr MC	60-65 %	0.5/1.0 % max	1.0 % max	0.03 % max	0.03 % max
FeCr LC	65-70 %	0.10/0.25 % max	1.0 % max	0.03 % max	0.03 % max
FeCr LC high purity	65-70 %	0.03/0.06 % max	1.0 % max	0.03 % max	0.03 % max
SIZE	4-10 mm / 10-50 mm / 10-80 mm / 10-100 mm				
PACKING	Bulk or 1 mt big-bag				



Ferro Silicon

Ferrosilicon is used as a source of silicon to deoxidize steel and other ferrous alloys. In the manufacture of cast iron, ferrosilicon is used for inoculation of the iron to accelerate graphitization.

	Si	Al	C	P	S
FeSi 45 %	45 % min	2.00 % max	0.20 % max	0.03% max	0.02 % max
FeSi 65 %	65 % min	1.50 % max	0.15 % max	0.03% max	0.02 % max
FeSi 75 %	75 % min	1.50 % max	0.15 % max	0.03% max	0.02 % max
FeSi 75 % Low Al	75 % min	1.00 % max	0.05 % max	0.03% max	0.02 % max
FeSi 75 % High Purity	75 % min	0.10 % max	0.03 % max	0.03% max	0.02 % max
SIZE	1-3 mm / 3-10 mm / 10-50 mm / 10-100 mm				
PACKING	Bulk or 1 mt big-bag				



Ferro Molybdenum

Ferromolybdenum is a harden-ability agent and is a constituent of many heat treatable alloy steels and improves the corrosion resistance of stainless steels. Ferro Molybdenum could be tailored both in Lump and Powder forms for different applications.

Mo	60 / 65 % min
Cu	0.5 % max
Si	1.5 % max
S	0.1 % max
C	0.1 % max
P	0.05 % max
SIZE	10-50 mm / 10-100 mm
PACKING	1 mt big-bag / steel drums



Ferro Niobium

Niobium is frequently alloyed with steel because of its strength. It is light and strong at high temperatures, making it perfect for aerospace applications. Niobium alloys are consumed to produce steel and super alloys.

Nb	63 / 65 % min
Al	2 / 3 % max
Si	2.5 / 3 % max
C	0.3 % max
P	0.2 % max
SIZE	5-30 mm / 10-50 mm
PACKING	1 mt big-bag / steel drums



Ferro Titanium

Ferro titanium improves the properties of alloys. It increases their wear resistance and improves machining properties. Ferro titanium is also used as a deoxidizing and degassing component in the production of steel.

Ti	40 / 70 % min
Al	0.5 / 4.5 % max
V	3 % max
N	0.2 / 0.5 % max
S	0.03 % max
P	0.04 % max
C	0.20 % max
Mn	1.5 % max
SIZE	10-50 mm / 10-100 mm
PACKING	1 mt big-bag / steel drums



Ferro Vanadium

Ferro Vanadium is a universal hardener, strengthener and anti-corrosive additive for steels like high-strength

low-alloy HSLA steel, tool steels, as well as other ferrous-based products.

V	78-82	%
Al	0.5 / 1.5	% max
Si	1.5	% max
C	0.1 / 0.25	% max
S	0.05	% max
P	0.05	% max
Cu	0.1	% max
As	0.05	% max
SIZE	5-50 mm / 10-50 mm / 10-80 mm	
PACKING	1 mt big-bag / steel drums	



Ferro Boron

Ferro Boron is used in the production of alloy steel and foundry iron as additives, which can improve the

quenching degree and mechanical properties in carbon steel and alloys structural steel, the strength of heat-resistivity in heat-resistant steel and heat-resistant alloy steel.

B	18	% min
Si	1.5	% max
Al	0.5	% max
C	0.5	% max
P	0.1	% max
S	0.01	% max
SIZE	10-50 mm	
PACKING	1 mt big-bag	

Base Metals



Nickel

Nickel is considered as a corrosion-resistant metal, and therefore is widely used as an alloy metal in the nickel

steels and nickel cast irons, of which there are many varieties.

Ni	99.970 % min
Co	0.00010 % max
C	0.00010 % max
S	0.00070 % max
Fe	0.00600 % max
Cu	0.00020 % max
Zn	0.00005 % max
Pb	0.00002 % max
SIZE	5-13 mm granules / 4x4 cm Cut Cathodes
PACKING	in 250 kg steel drums



Zinc

Zinc is most commonly used for Galvanization which is the most familiar form of using zinc as an anti-corrosion agent. Zinc is also widely used as its alloy with Copper known as Bronze and Brass which is generally more ductile and strong compare to copper and has superior corrosion resistance.



Copper

Copper is mostly used as a metal, but it is also used in alloys such as brass and bronze.

Minor Metals



Silicon Metal

Silicon is used in the steel refining, aluminum-casting, and fine chemical industries (often to make fumed silica). Silicon metal is added to molten cast iron as ferrosilicon or silicocalcium alloys in order to improve performance in casting thin sections.

Grade	Composition				
	Si Content (Min.%)	Impurities(%)			
		Fe (Mak.%)	Al (Mak.%)	Ca (Mak.%)	P (ppm)
441	99.1	0.4	0.4	0.1	40-100
553	98.7	0.5	0.5	0.3	40-100
775	97.0	0.7	0.7	0.5	40-100



Molybdenum

Molybdenum is used as an alloying agent in most high-strength and high-temperature super alloys. Molybdenum is also used in steel alloys for its high corrosion resistance and weldability.

Mo	99.80	% min
W	0.20	% max
O2	0.50	% max
SIZE	Size Bar / plate	
PACKING	1 mt bigbags / steel drums	

MOLYBDENUM METAL - BRIQUETTES		
Mo	99	% min
SIZE	Briquette (1'X1'X3')	
PACKING	in 300 kgs boxes	

Minor Metals



Chrome Metal

Chromium was regarded with great interest because of its high corrosion resistance and hardness; steel could be made highly resistant

to corrosion and discoloration by adding chromium to form stainless steel.

Cr	99.5 % min
Fe	0.10 % max
Si	0.05 % max
Al	0.02 % max
Cu	0.001 % max
C	0.005 % max
N	0.01 % max
P	0.003 % max
S	0,005 % max
SIZE	2-50 mm
PACKING	in 500 kg steel drums



Manganese Metal

Is a metal with important industrial metal alloy uses, particularly in stainless steels.

Manganese is essential to iron and steel production

by virtue of its sulfur-fixing, deoxidizing, and alloying properties.

Mg	99.9 % min
Fe	0.04 % max
Si	0.02 % max
Ni	0.002 % max
Cu	0.01 % max
Al	0.02 % max
Cl	0.05 % max Mo 0.03 % max
Na	not stated % max
SIZE	7.5 ± 0.5 Kgs. ingot/ granules
PACKING	on pallets



Cobalt

Cobalt is used in the preparation of magnetic, wear-resistant and high-strength alloys. Cobalt-based super alloys consume most of the produced cobalt. Cobalt-based alloys are also corrosion and wear-resistant.

Co (% min)					
Co Ingots	99.30	Co Cathodes	99.90	Co Briquettes	99.80



Fluorspar

Industrially, Fluorspar is used as a flux for smelting, and in the production of certain glasses and enamels. There are three principal types of industrial use for natural Fluorspar, corresponding to different grades of purity; **Metallurgical grade Fluorspar** (60–85% CaF_2), that has been used as a flux to lower the melting point in steel production to aid the removal of impurities, and later in the production of aluminum; **Ceramic grade Fluorspar** (85–95% CaF_2) and **Acid grade Fluorspar** (97% or more CaF_2).



Rutile

Is the most common natural form of TiO_2 . Rutile has among the highest refractive indices of any known mineral and also exhibits high dispersion. The main uses for Rutile are the manufacture of refractory ceramic, as a pigment, and for the production of titanium metal. Rutile is also widely used as an important welding electrode covering ingredient. However, Titanium dioxide pigment is the single greatest use of titanium worldwide.



Zircon

Zircon is a mineral belonging to the group of nesosilicates. Zircon forms in silicate melts with concentrated incompatible elements and accepts high field strength elements into its structure. Zircon is mainly consumed as a opacifier in the decorative ceramics industry. It is also the principal precursor to metallic zirconium, although this application is small, and all compounds of zirconium including zirconium oxide (ZrO_2), one of the most refractory materials known.



Chromite Sand

Silicon carbide is used for the de-oxidation and re-carburation of cast iron and steel in foundries.

Cr_2O_3	46.00	Mak.46.5%
SiO_2	1.00	Mak.0.7%
FeO	26.50	“
Al_2O_3	14.50	“
CaO	0.18	“
MgO	10.20	“
TiO_2	0.69	“
V_2O_3	0.34	“
P	0.0027	“
S	0.0029	
Cr:Fe ratio	1.56: 1 typical	
SIZE	AFS 40-50	



Graphite

The mineral graphite is one of the allotropes of carbon. graphite is an electrical conductor, a semimetal. It is, consequently, useful in such applications as arc lamp electrodes. It is used in thermochemistry as the standard state for defining the heat of formation of carbon compounds. Natural

graphite is mostly consumed for refractories, steelmaking, expanded graphite, brake linings, foundry facings and lubricants. Natural graphite in steelmaking mostly goes into carbon raising in molten steel. Also, graphite is used in production of coated welding electrodes.



Bauxite

Bauxite is an aluminum ore and is the main source of aluminium. Most of the world' s bauxite reserves are used for manufacturing of aluminum. Also, bauxite is widely used as a refractory material, consumed for production of refractory blocks and cements; it is also consumed in metallurgical

applications such as production of submerged arc welding fluxes.

Silicon Carbide



Silicon carbide is used for the de-oxidation and re-carburation of cast iron and steel in foundries.

	SiC	SiO ₂ + Si	C	Fe ₂ O ₃	Al ₂ O ₃
SiC	88.0 - 92.0 % min	0.5 - 4.0 %	0.5 - 5.0 %	0.8 % max	0.5 % max
SIZE		0 - 10 mm			
PACKING		Big-bags / Paper Bags wrapped on Pallets			

Recarburiizers



Recarburiizer use in the casting, which can significantly increase the amount of scrap steel and reduce the consumption of pig iron or enable even not using of pig iron.

	Fix Carbon	Sulphur	Nitrogen	Hydrogen	Size(mm)
CARBON S	99.85 % min	0.01 % max	0.001 % max	0.007 % max	0.5-4 max
CARBON G	99.50 % min	0.50 % max	0.05 % max	0.20 % max	0.5-4 max
PACKING		Big-bags / Paper Bags wrapped on Pallets			

Ferro Silico Magnesium



Alloys are master alloys of Magnesium with Iron and Silicon. They facilitate small additions of Magnesium to Iron, required to transform graphite flakes to spheroids.

	Mg	Si	Ca	TRE	La	Ba	Al
FeSiMg 6	5.5-6.5 %	43-47 %	1.0-1.5%	0.5-0.7%			< 0.80 %
FeSiMg 7	6.2-7.2 %	43-47 %	2.7-3.2%	0.5-0.7%			< 0.80 %
FeSiMg 10	8.0-10.0%	42-50 %	0.8-1.2%	< 0,25		0,25	< 1 %
SIZE	0,6-6 mm/ 2-10 mm / 5-25 mm / and as per customers requirements						
PACKING	appr. 1,2 mt big-bag / paper bag of 25 kg						

Mg Cored Wire



	Mg	Si	Ca	TRE	Al
Composition 1	29-31	41-47	2.0-3.0	1.0-2.0	0,3-0,5
Composition 2	29-31	44-52	3.0-4.0	1.0-2.0	0.5-1.0
Composition 3	27-29	46-52	4.0-6.0	0	0.5-1.0
Diameter		9mm-13mm / and as per customers requirements			
Packing		appr. 1,3 - 1,8 mt /per coil			
Length			appr. 4900 m		





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Eurosia Metal is the joint venture of Eurosia Consulting and Trading Ltd., T.L.M. SRL and Aga Metal Industry and Trade Ltd. Co.

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