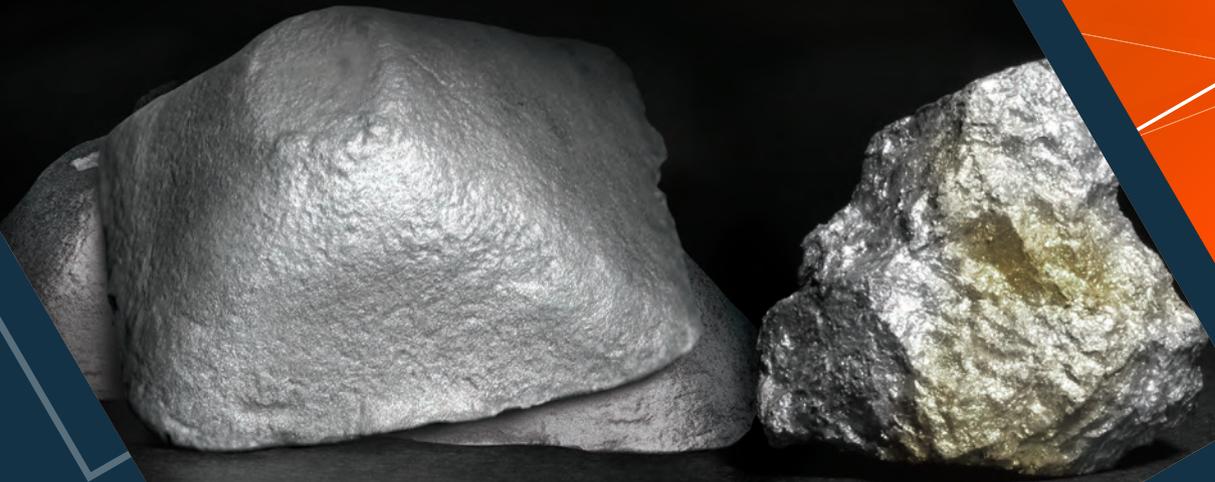




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# Company Profile

Since 1995 AVEKS AS has been a supplier of raw materials for industrial production and steel.

With this experience in conjunction with our broad spectrum of suppliers AVEKS AS offers a wide range of products including; pig irons, ferroalloys, noble alloys, coke and recarburizers, metals and minerals, a variety of core wires, abrasives, refractory products, and chemicals for iron, steel, nonferrous industries. Thanks to our well-established position in the market and our advantageous relationship with producers around the world, we are continually developing new products and expanding our customer base.

We try to create close relationships with customers to ensure their happiness and satisfaction by offering our products at competitive prices. Both are cost-effective and creative solutions within this market have enabled us to accommodate ourselves to the needs of the even larger growing world market.



We take pride not only in the reliability and quality of our products but also in the speed in which transactions are made. Our commitment to excellence has helped expand our customer base to cover: Turkey, Europe, CIS, and the Middle East.

We have successfully undertaken numerous obstacles to minimize or diminish customer hassles by utilizing our organized professional services. Our offices (Istanbul, Beijing, Kolkata, Dammam, Dubai, Cairo, Geneva, and Nikolaev) around the world, our warehouses in different locations and skilled personnel try to optimize the quality of goods by protecting imported goods against damage, loss and inefficient utilization.

Over the years we have elevated ourselves to become one of the most trusted suppliers of all kind of metallurgical raw materials.

Above all, our primary goal is to help better serve you with your needs.

# PIG IRONS



## NODULAR PIG IRON

	C	Si	Mn	P	S
<b>NODULAR</b>	3.50-4.50 %	1.00 % max	0.05 % max	0.05 % max	0.015 % max
<b>NODULAR HP</b>	3.50-4.50 %	1.00 % max	0.04 % max	0.04 % max	0.010 % max
<b>Size</b>	10-12 kg ingots without notches				
<b>Packing</b>	Bulk				

NODULAR PIG IRON is used in the manufacture of ductile [also known as nodular or spheroidal graphite - SG] iron castings.

## FOUNDRY PIG IRON

	C	Si	Mn	P	S
<b>L1</b>	3.50-4.50 %	3.20-3.60 %	0.40-0.80 %	0.08 % max	0.04 % max
<b>L2</b>	3.50-4.50 %	2.80-3.20 %	0.40-0.80 %	0.08 % max	0.04 % max
<b>L3</b>	3.50-4.50 %	2.40-2.80 %	0.40-0.80 %	0.08 % max	0.04 % max
<b>L4</b>	3.50-4.50 %	2.00-2.40 %	0.40-0.80 %	0.08 % max	0.04 % max
<b>L5</b>	3.50-4.50 %	1.60-2.00 %	0.40-0.80 %	0.08 % max	0.04 % max
<b>L6</b>	3.50-4.50 %	1.20-1.60 %	0.40-0.80 %	0.08 % max	0.04 % max
<b>L5-L6 Low Mn</b>	3.50-4.50 %	1.00-2.00 %	0.099 % max	0.08 % max	0.04 % max
<b>Size</b>	10-12 kg ingots without notches				
<b>Packing</b>	Bulk				

HEMATITE PIG IRON [also known as FOUNDRY PIG IRON] is used mainly in the manufacture of grey iron castings in cupola or induction furnaces.

## BASIC PIG IRON

	C	Si	Mn	P	S
<b>Low Mn</b>	3.50-4.50 %	1.20 % max	0.099 % max	0.08 % max	0.05 % max
<b>PL1 / PL2</b>	3.50-4.50 %	0.60-1.20 %	0.40-0.80 %	0.08 % max	0.05 % max
<b>Size</b>	10-18 kg ingots without notches				
<b>Packing</b>	Bulk				

BASIC PIG IRON is used mainly in electric arc steelmaking.

# NODULARISERS

# INOCULANTS



## FERRO SILICO MAGNESIUM

	Mg	Si	Ca	TRE	La	Ba	Al
<b>FeSiMg 522</b>	4.5-5.5 %	43-47 %	1.8-2.6%	2.0-2.4%			< 0.80 %
<b>FeSiMg 522- low Al</b>	4.5-5.5 %	43-47 %	1.8-2.6%	2.0-2.4%			< 0.50 %
<b>FeSiMg 610</b>	5.5-6.5 %	43-47 %	1.0-1.5%	0.25%			< 0.80 %
<b>FeSiMg 611</b>	5.5-6.5 %	43-47 %	1.0-1.5%	0.5-0.7%			< 0.80 %
<b>FeSiMg 611A</b>	5.5-6.5 %	43-47 %	1.0-1.5%	0.9-1.2%			< 0.80 %
<b>FeSiMg 731</b>	6.2-7.2 %	43-47 %	2.7-3.2%	0.5-0.7%			< 0.80 %
<b>FeSiMg 731A</b>	6.2-7.2 %	43-47 %	2.7-3.2%	0.9-1.2%			< 0.80 %
<b>FeSiMg 931</b>	8.4-9.6 %	45-50%	2.7-3.2%	0.9-1.9%			< 0.80 %
<b>FeSiMg+La</b>	5.6-6.2 %	43-47 %	0.8-1.2%		0,35-0,55		< 0.80 %
<b>Innotal 100</b>	8.0-10.0%	42-50 %	0.8-1.2%	< 0,25		0,25	<1 %
<b>Size</b>	0,6-6 mm/ 2-10 mm / 5-25 mm / and as per customers requirements						
<b>Packing</b>	appr. 1,2 mt big-bag / paper bag of 25 kg						

Ferro Silicon Magnesium is one of the best nodularizers due to its low levels of magnesium oxide and high nodularization . This material is used to modify the graphite flakes in the iron making process.

## Mg CORED WIRE

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

Our wires guarantee you a very high reliability treatment. The quality of our wires is ensured by continually monitored data recording. We adapt the composition of our wire to your needs.

## INOCULANTS

Product	Active element	Features
<b>INOBAR® GRAFIDIN®</b>	Ba	Provides a high number of germs, is fade resistant. To be used as a pre-conditioner.
<b>INOSTRONG® INOSTRONG® 50</b>	Sr	High chill reduction. They do not increase the number of germs.
<b>LMC® INOCAST® 175</b>	Ba	Universal inoculants with a well-balanced composition.
<b>ZL 80® INOCAST®125 ZIRCOGRAF® ZIRCOBAR®</b>	Zr	Universal inoculants, fade resistant, appreciated for medium and heavy sections.
<b>INOCAST® 100</b>	Al	Increases the number of germs and avoids chilling.
<b>SPHERIX®</b>	Bi + TR	Extremely powerful inoculant reserved for ductile iron. It multiplies the number of nodules, avoids chill in thin sections and reduces the risk of chunky graphite.
<b>SPHERIX® Plus</b>	Sb + TR	This inoculant fights the chunky graphite in ductile iron castings.
<b>AMERINOC®</b>	Bi + TR	Same use as SPHERIX, recommended for green sand casting.
<b>CERINOC®</b>	Ce	This inoculant controls the undesirable elements, provides germs and minimizes the risk of shrinkage.
<b>FeSiLa®</b>	La	Fights against micro shrinkage, available in 2% and 10% Lanthanum.
<b>WIN4®</b>	Bi + La	This inoculant combines a chilling reduction effect and reduces micro shrinkage.
<b>Size</b>	All our inoculants are available in the standard sizes 2-6 mm; 0.5-2 mm; 0.2-0.7 mm. Custom sizes are available upon request.	
<b>Packing</b>	Super Sack, drum, paper bag.	

Today's castings must meet increasingly higher requirements. To achieve this, the research teams of FerroPem work closely with foundries of various countries to create more effective inoculants.

# RECARBURIZERS

# SILICON CARBIDE



## RECARBURIZERS

	Fix Carbon	Sulpfur	Nitrogen	Hydrogen	Size(mm)
<b>ELSICARB S</b>	99.85 % min	0.01 % max	0.001 % max	0.007 % max	0.5-4 max
<b>ELSICARB G</b>	99.50 % min	0.50 % max	0.05 % max	0.20 % max	0.5-4 max
<b>Packing</b>	Big-bags / Paper Bags wrapped on Pallets				

The electric furnace production of cast iron often requires a re-carburizing step because the process relies on inexpensive, relatively low carbon scrap as a starting material. High carbon scrap, high carbon ferroalloys or even pig iron are used as sources of carbon but when practice, specifications or economics dictate, specific re-carburizers are needed. So re-carburizer can be used 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.

## SILICON CARBIDE

	SiC	SiO <sub>2</sub> + Si	C	Fe <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>
<b>SiC</b>	88.0 - 92.0 % min	0.5 - 4.0 %	0.5 - 5.0 %	0.8 % max	0.5 % max
<b>Size</b>	0 - 10 mm				
<b>Packing</b>	Big-bags / Paper Bags wrapped on Pallets				

Silicon carbide is used for the de-oxidation and re-carburization of cast iron and steel in foundries. Metallurgical grade Silicon Carbide grain is a unique material for use in the production of iron and steel. It is used in the foundry industry for electric furnace production of gray, ductile, and malleable iron. It is an excellent source of carbon and silicon, promoting nucleation and rendering the iron more responsive to inoculation, deoxidizing the iron, which enhances furnace lining life.



## FERRO SILICON

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

Ferro Silicon is a universal "heat-blocker" used in the production of carbon and stainless steels. This additive is used with other ferro alloys in the deoxidising process of steel, as well as in the production of silicon itself. It is also used in the production of cast iron, as it can accelerate graphitisation. Ferro Silicon replaces the need for ferro manganese, spiegeleisen and calcium silicides in the manufacturing process.



## FERRO SILICO MANGANESE

	Mn	Si	C	P	S
<b>FeSiMn 6014</b>	60 % min	14 % min	2 % max	0.30 % max	0.05 % max
<b>FeSiMn 6517</b>	65 % min	17 % min	2 % max	0.30 % max	0.03 % max
<b>FeSiMn 7018</b>	70 % min	17 % min	2 % max	0.30/0.50 % max	0.03 % max
<b>Size</b>	10-50 mm / 10-80 mm				
<b>Packing</b>	Bulk or 1 mt big-bag				

Ferro Silico Manganese is used as a deoxidizer and an alloying element in steel. It can be used as a substitute for Ferro Silicon and Ferro Manganese when added to make different types of steel.

## FERRO SULPHUR

	S	Si	Al	Moisture
<b>FeS</b>	50-52 %	2 % max	0.8 % max	0.5 % max
<b>Size</b>	3-10 mm / 10-50 mm			
<b>Packing</b>	25 kg bags in 1 MT Big Bag on pallet			

Ferro Sulphur is used in metallurgy give the steel or alloy the desired sulphur content. It is used for this purpose instead of elemental sulphur because the low melting point of the sulphur could accumulate on the molten metal surface, causing SO<sub>2</sub> emissions and also a deterioration of its mechanical properties by the formation of a low eutectic melting point in the grain boundaries.



## FERRO CHROME

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

Ferro-chrome is added to steel to impart properties of hardness, strength and to make it stainless. High Carbon Ferro Chrome is most commonly used in specialist applications such as engineering steels. Low-carbon Ferro-Chrome is used during steel production to correct chrome percentages. It is also a low cost alternative to metallic chrome for uses in super alloys and other special melting applications.



## FERRO MANGANESE

	Mn	C	Si	P	S
<b>FeMn HC</b>	75 % min	6-8 %	1.50 % max	0.25 % max	0.03 % max
<b>FeMn HC Low P</b>	76/78 % min	6-8 %	1.50 % max	0.10 % max	0.03 % max
<b>FeMn MC</b>	80 % min	1.50 % max	1.50 % max	0.20 % max	0.03 % max
<b>FeMn LC</b>	80 % min	0.50 % max	0.50 % max	0.025 % max	0.03 % max
<b>Size</b>	1-3 mm / 3-10 mm / 10-50 mm / 10-100 mm				

Ferro-manganese is used mainly in the steel industry for hardening and desulphurisation of steel and as a deoxidizer, making the slag more fluid.

## FERRO PHOSPHORUS

	P	Si	C	S	Cu	V
<b>FeP</b>	23-28 %	1-2 %	0.1 % max	0.01 % max	0.5 % max	0.5 % max
<b>Size</b>	10-50 mm / 10-100 mm					
<b>Packing</b>	1 mt big-bag					

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.

# NOBLE ALLOYS



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 TITANIUM

Ferro Titanium is used by stainless steel makers as a stabiliser to prevent chromium carbide forming at grain boundaries and in the production of low carbon steels for sheet production. Main applications for Ferro Titanium include:

- Cleansing Agent: used for deoxidizing, desulfurization and denitrification.
- Grain Refiner: improve malleability in carbon steels, thereby increasing its versatility.



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 NIOBIUM

Ferro Niobium has anti-corrosive properties (better than carbon steel). The adding of Ferro Niobium to an alloy can make it more weldable and much stronger. The largest practical application of Ferro Niobium is in the alloying process of HSLA steel.



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 MOLYBDENUM

Ferro Molybdenum has hardening properties that makes steel extremely strong and at the same time weldable. Additionally, the adding of Ferro Molybdenum to an alloy can increase corrosion resistance. Ferro Molybdenum is used in stainless, heat-resisting and tool steels.



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	

## 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.



W	75	% min
Si	0.5	% max
C	0.2	% max
Mn	0.25	% max
Cu	0.15	% max
S	0.08	% max
P	0.05	% max
As	0.05	% max
Sb	0.05	% max
Sn	0.08	% max
Pb	0.05	% max
Bi	0.06	% max
Size	10-50 mm / 10-100 mm	
Packing	1 mt big-bag / steel drums	

## FERRO TUNGSTEN

Ferro Tungsten improves the hot hardenability, abrasion resistance and impact strength of steel, used in production of high-speed tool steel, alloy tool steel, heat-resistant steel, spring steel and magnetic steel.



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 VANADIUM

When added to crude steel, ferrovanadium creates a product that is lightweight and extremely high in tensile strength and wear resistance. The largest practical application of Ferro Vanadium is in the alloying process of any hardened steel.



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

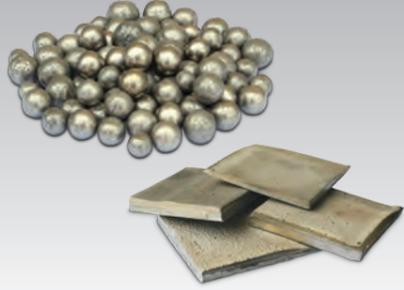
## MOLYBDENUM METAL-BRIQUETTES

Mo	99	% min
Size	Briquette (1'X1'X3')	
Packing	in 300 kgs boxes	

## MOLYBDENUM METAL-BAR

Molybdenum is primarily used as an alloying agent in steel. When added to steel in concentrations between 0.25% and 8%, molybdenum forms very high strength steels. Molybdenum also improves the strength of steel at high temperatures. When alloyed with nickel molybdenum forms heat and corrosion resistant materials used in the chemical industry.

# METALS



## NICKEL

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	

Two-thirds of all nickel produced goes into stainless steel, to promote a stable, ductile, austenitic structure as well as contribute to corrosion resistance.



## MAGNESIUM METAL

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	

The main applications of magnesium are, in order: component of aluminium alloys, in die-casting (alloyed with zinc), to remove sulfur in the production of iron and steel, the production of titanium in the Kroll process.



## MANGANESE METAL

Mn	99.7	% min
C	0.04	% max
S	0.05	% max
P	0.005	% max
Fe+Si+Se	0.205	% max
Size	Flake/lump/briquette	
Packing	in big-bags / steel drums	

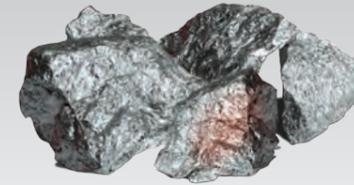
In fact, the single largest use of manganese today is in the creation of iron and steel alloys for building purposes. Manganese is essential to iron and steel production by virtue of its sulfur-fixing, deoxidizing, and alloying properties.



## CHROME METAL

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	

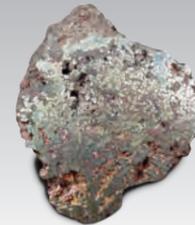
Chrome metal is mainly used in the production of specialty alloys, nickel and cobalt -based alloys (super alloys) where low iron is required. Due to their unique high temperature and corrosion resistance properties, these high performance alloys are used in the most critical environments, such as aeronautic, oil & gas production, land based turbines, petrochemical and chemical processing.



## SILICON METAL

Silicon is alloyed with aluminum for use in engines as the presence of silicon improves the metal's castability. Silicon can enhance iron's magnetic properties. It is also an important component of steel, which it toughens.

	Si (% min)	Fe (% max)	Al (% max)	CA (% max)	P (PPM)
SiMet 1101	99.50	0.1	0.1	0.01	15-40
SiMet 1501	99.20	0.15	0.15	0.01	20-40
SiMet 2202	99.50	0.2	0.2	0.02	30-100
SiMet 3303	99.00	0.3	0.3	0.03	40-100
SiMet 3305	99.00	0.3	0.3	0.05	40-100
SiMet 331	99.00	0.3	0.3	0.01	40-100
SiMet 4405	99.00	0.4	0.4	0.05	40-100
SiMet 441	99.00	0.4	0.4	0.1	40-100
SiMet 553	98.50	0.5	0.5	0.3	40-100
SiMet 775	97.00	0.7	0.7	0.5	40-100
Size	2-25 mm / 10-100 mm				
Packing	1 mt big-bag				



## COBALT

Cobalt has a variety of applications which include superalloys, corrosion resistant alloys, high speed tool steels, magnets, cemented carbides, pigments, rechargeable batteries and chemical catalysts.

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



## TIN

Tin is used as a coating on the surface of other metals to prevent corrosion and provide low toxicity. Tin is also used in many alloys, most notably tin/lead soft solders, typically containing 60% or more of tin.

	Sn	% min	Cu	% max	
Ag	0.0001	% max	Fe	0.0023	% max
Al	0.0001	% max	Pb	0.0057	% max
As	0.0044	% max	Cd	0.0001	% max
Bi	0.0002	% max	Sb	0.0057	% max
Cd	0.0001	% max	Zn	0.0002	% max
Co	0.0002	% max			
Size	ingots / bars				
Packing	on pallets				



## LEAD

Lead is used to line tanks that store corrosive liquids and as a covering on some wires and cables to protect them from corrosion. Lead's high density makes it useful as a shield against X-ray and gamma-ray radiation. Most of the lead is used in the production on lead-acid storage batteries.

	Pb	% min	Ag	% max	
Sb	0.01	% max	Ni	0.001	% max
Sn	0.001	% max	Cd	0.0001	% max
As	0.065	% max	Zn	0.0005	% max
Cu	0.0018	% max	S	0.0005	% max
Bi	0.021	% max	Other Impurities	0.021	% max
Size	0.3-10 mm				
Packing	1 mt big-bag				

## ANTHRACITE



	Grade "ASH"	Grade "AS"	Grade "AM"	Grade "AK0"
<b>Total Moisture</b>	10 % max	9 % max	7 %max	5 % max
<b>Ash</b>	17 % max	8 % max	6 % max	5 % max
<b>Volatile Matter</b>	3 % max	3 % max	3 % max	3 % max
<b>Total Sulphur</b>	1 % max	1 % max	1 % max	1 % max
<b>Fixed Carbon</b>	80 % min	89 % min	91 % min	92 % min
<b>Calorific Value</b> (Kcal/Kg min)	6000	6400	6800	7000
<b>Size</b>	0-6 mm / +6-13 mm / +13-25 mm / +25-70/100 mm			

## PCI

	PCI
<b>Size</b>	0-50 mm Guaranteed.
<b>Total Moisture</b>	8 % max.
<b>Ash (dry).</b>	13 % max.
<b>Volatile (d.b.)</b>	12 % max.
<b>Fixed Carbon (dry)</b>	76 % min.
<b>Sulphur (dry)</b>	0.7 % max.
<b>K20 in Ash (dry)</b>	2.2 % max.
<b>Na20 in Ash (dry)</b>	0.6 % max.
<b>Phosphorus In Ash (dry).</b>	0.4 % max.
<b>HGI</b>	55 min. / 75 max.
<b>Calorific Value</b>	6.500 kcal / min.
<b>Screen Analysis</b>	0-6 mm 80 % max.
<b>6-50 mm</b>	20 % min

## STEAM COAL

	Steam Coal
<b>Total Moisture</b>	10% max
<b>Ash</b>	14-16%
<b>Volatile Matter</b>	16-32%
<b>Total Sulphur</b>	0.7 % max
<b>Calorific Value</b> (Kcal/Kg min)	6000
<b>Size</b>	0-50 mm

## CARBON PRODUCTS



Injection Carbon				
Size	0-1 mm	0,3-3 mm	1-4 mm,	2-6 mm
<b>M, % max</b>	1,5	2	2	2
<b>A, % max</b>	4	6	10	13
<b>V, % max</b>	2,5	3	3	3
<b>S, % max</b>	1	1	1	1
<b>FC, % min</b>	93,5	91	87	84

Charge Carbon			
Size	5-20 mm	10-30 mm	20-70 mm
<b>M, % max</b>	8	7	6
<b>A, % max</b>	10	8	5
<b>V, % max</b>	3,5	3,5	3
<b>S, % max</b>	1	1	0,8
<b>FC, % min</b>	86,5	88,5	92

Recarburizer			
Size	5-20 mm	10-30 mm	20-70 mm
<b>M, % max</b>	8	7	6
<b>A, % max</b>	10	8	5
<b>V, % max</b>	3,5	3,5	3
<b>S, % max</b>	1	1	0,8
<b>FC, % min</b>	86,5	88,5	92

## COKING COAL

<b>Total Moisture ( as-received )</b>	% max 7,00
<b>Ash ( dry basis )</b>	% max 8,00
<b>Volatile Matter ( dry basis )</b>	% 24 - 28
<b>Sulphur ( dry basis )</b>	% max 0,60
<b>Phosphorus ( dry basis )</b>	% max 0,050
<b>Total Alkali K20+Na20(in ash)</b>	% max 2,80
<b>Free Swelling Index ( FSI )</b>	min 7,00
<b>Max. Fluidity ( ddpm )</b>	min 150
<b>Relative Degree of Oxidation</b>	95%
<b>Random Vitrinite Reflectance</b>	0,9 - 1,5

<b>Size</b>	0 - 50 + 50 mm % max 0 - 0,50 mm % max 25
<b>Dilatation (A.A., + d )</b>	% min 25
<b>Ash Fusion Temperature °C</b>	min. 1350
<b>Net Calorific Value (dry basis)</b>	min. 6.500
<b>Stability</b>	min. 55
<b>Coke Reactivity Index (CRI)</b>	max. 32
<b>Coke Strength after Reaction (CSR)</b>	min. 50
<b>Coking Wall Pressure (kpa)</b>	max. 7



# ABRASIVES

## ABRASIVES/ STEEL SHOT/STEEL GRIT/STAINLESS STEEL SHOT



Product Size (mm)	STEEL SHOT															
	% : min & max cumulative percentages allowed on corresponding sieves															
S780 2.0-2.8	0%		85 % min	97 % min												
S660 1.7-2.4		0%		85 % min	97 % min											
S550 1.4-2.0			0%		85 % min	97 % min										
S460 1.2-1.7				0%	5 % max	85 % min	96 % min									
S390 1.0-1.4					0%	5 % max	85 % min	96 % min								
S330 0.85-1.2						0%	5 % max	85 % min	96 % min							
S280 0.71-1.0							0%	5 % max	85 % min	96 % min						
S230 0.6-0.85								0%	10 % max	85 % min	97 % min					
S170 0.42-0.71									0%	10 % max	85 % min	97 % min				
S110 0.3-0.5										0%	10 % max	80 % min	90 % min			
S70 0.18-0.35											0%	10 % max	80 % min	90 % min		
SAE Sieve No.	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120
Aperture	2.80	2.36	2.00	1.70	1.40	1.18	1.00	0.85	0.71	0.60	0.50	1.425	1.355	0.30	0.18	1.125

### STEEL SHOT

Steel abrasives are steel particles that are used as abrasive or peening media. They are usually available in two different shapes (shot and grit) that address different industrial applications. Steel shot refers to spherical grains made of molten steel through an atomization ("granulation") process, available in different sizes and hardnesses.

## CALCIUM CARBIDE

Size	CALCIUM CARBIDE			
	Low Size (mm) % Max.	Over Size (mm) % Max.	Yield (Lt/Kg) Min.	C <sub>2</sub> Ca % Min.
50 - 80 mm	5	5	291	77
25 - 50 mm	5	5	291	77
7 - 15 mm	5	5	252	67
Specifications	CaC <sub>2</sub> : 77% min.			
pH3	110 ppm max. (DIN 53922)			
Origin	South Africa / Argentina			
Packing	In net 55/100/120 kgs, airtight and pneumatically sealed steel drums on pallets or 100 kg steel drums on pallets.			

The main application of calcium carbide is when reacting with water to generate acetylene gas. Carbide is used as a desulphurising agent in the metallurgical industry to remove sulphur from the iron before it is converted in the BOF (Basic Oxygen Furnace). Carbide is also used for FeO and MnO deoxidation in the steel industry.



Product Size (mm)	STEEL GRIT															
	% : min & max cumulative percentages allowed on corresponding sieves															
G12 1.7-2.4	0%			80 % min	90 % min											
G14 1.4-2.0		0%			80 % min	90 % min										
G16 1.2-1.7			0%		75 % min	85 % min										
G18 1.0-1.4				0%	75 % min	85 % min										
G25 0.71-1.2					0%	70 % min				80 % min						
G40 0.42-1.0						0%				70 % min		80 % min				
G50 0.3-0.71							0%					65 % min	75 % min			
G80 0.18-0.42											0%		65 % min	75 % min		
SAE Sieve No.	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120
Aperture	2.80	2.36	2.00	1.70	1.40	1.18	1.00	0.85	0.71	0.60	0.50	1.425	1.355	0.30	0.18	1.125

### STEEL GRIT

Steel grit characterizes grains with a predominantly angular shape. These grains are obtained by crushing steel shot, therefore they exhibit sharp edges and broken sections. Harder than steel shot, it is also available in different sizes and hardnesses.



mm	STAINLESS STEEL SHOT					
	EN 20	EN 30	EN 40	EN 50	EN 60	EN 100
1.400						5 % max
1.180					5 % max	
1.000				5 % max		90 % max
0.850			5 % max			
0.710					5 % max	
0.600				90 % max		
0.500		5 % max				
0.425			90 % max			
0.355						
0.300	5 % max					
0.212						
0.106		90 % max				
0.075	90 % max					

### STAINLESS STEEL SHOT



## CHROMITE SAND

Chromite Sand	Cr <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>
		46 % min
Size	AFS 40-45 / AFS 45-50 / AFS 50-55	
Packing	1 mt big-bag	

The high specific gravity and high thermal conductivity of chromite provide a pronounced chilling effect. Chromite sand has a glossy black appearance. Chromite is generally used for steel casting to provide chilling. It is difficult to reclaim chromite sand since, if it becomes contaminated with silica, its refractoriness is seriously reduced.

## BASIC

- Magnesia Bricks
- Magnesia Chrome Bricks
- Direct Bonded Magnesia Chrome Bricks
- Magnesia Carbon Bricks
- Basic Mortars
- Basic Ramming Masses
- Basic Gunning Masses
- Basic Spraying Masses
- Basic Fetting Masses



Magna Ramming Masses



Magna Gunning Masses

## INDUCTION FURNACE MAIN LININGS

- Neutral Linings
- Basic Linings
- Silica Linings

## FLUXES

- Calcium Aluminate
- Flourspar

## REFRACTORY RAW MATERIALS

- MAGNESITE:
  - Dead Burned Magnesite
  - Fused Magnesite
- GRAPHITE:
  - Natural Flake Graphite
  - Amorphous Graphite
- SPINELS:
  - Sintered Alumina-Magnesia Spinel
  - Fused Alumina- Magnesia Spinel
- ALUMINA:
  - Rotary Kiln Bauxite
  - Shaft Kiln Bauxite
  - White Fused Alumina
  - Brown Fused Alumina
  - Sintered Mullite
- ALUMINIUM SILICATE SAND
- CHROMITE SAND (Refractory Grade)
- KAOLIN
- SILICON CARBIDE (Refractory Grade)
- EBT Sand

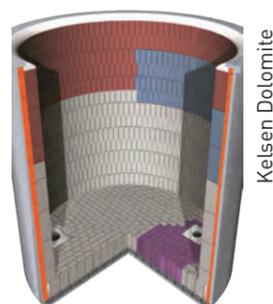


## DOLOMITE

- Dolomite Bricks
- Dolomite Monolithics

## FIRECLAY & HIGH ALUMINA

- Fireclay & High Alumina Bricks
- Fireclay & High Alumina Ceramic Setting Mortars
- Fireclay & High Alumina Plastic Masses
- Fireclay & High Alumina Castables
- Insulating Castables
- Low Cement High Alumina Castables
- Coke Oven Gunning Mixes
- Coke Oven Spraying Mixes
- Ultra Low Cement Castables
- Conventional Dense Castables
- Insulating Castables



## SILICA

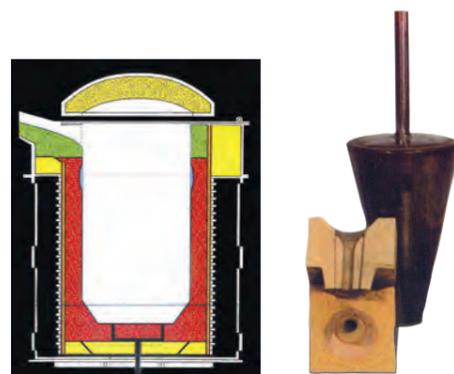
- Silica Bricks
- Silica Mortars
- Silica Ramming Masses

## FLOW CONTROL

- Slide Gate Refractories
- Gus Purgin Refractories
- Tundish Refractories
- Flow Control Monolithics

## SPECIAL REFRACTORIES

- Silicon Carbide Bricks
- Zircon Bricks



Induction Linings

## STEEL PRODUCTS

We offer as per form/shape/size

### Semi Finished Steel Products (Semis)

Intermediate solid steel products obtained by Hot Rolling/ Forging of ingots (in conventional process) or by Continuous Casting of liquid steel are known as Semis. These are called so since they are intended for further rolling/forging to produce finished steel products.

Various types of semis are Blooms, Billets, Slabs, Thin Slabs

- **Blooms**

A Semi Finished product usually in square (at times in rectangular) section of cross sectional size exceeding 125mm x 125mm. Recently upon modern Technologies, the term bloom is covering sizes exceeding 160mm x 160mm.

- **Billets: Steel Billets (Prime & Overrolling, Casted/Rolled)**

Billets are used as input material for production of Steel Long product viz vars & rods, light sections etc.

- **Slabs**

A semi-finished Rectengular, wide, semi-finished steel product intended for production of finished hot rolled flat products viz Plates, Sheets, Strips etc.

- **Thin Slabs**

In modern thin slab casting machine liquid steel is continously cast into much tinner slabs of 35-50mm, directly which are used for production of Finished Hot Rolled Flat products upon heating on-line

### Flat Products (Flat Rolled Products)

Finished steel thin flat products produced from slabs/thin slabs in roling mills using flat rolls.

Different types of flat products are:

- Plate
- Sheet
- Strips
- Hot Rolled (HR) Flat Products
- Cold Rolled Coils/Sheets
- Coated Products : Galvanized and Prepainted Coils/Sheets

### Long Products

Finished steel products produced normally by hot Rolling/forging of Blooms/billets/pencil ingots into useable shape/sizes. These are normally supplied in straigth length /cut length except wire rods which are normally supplied in ir-regularly wound coils.

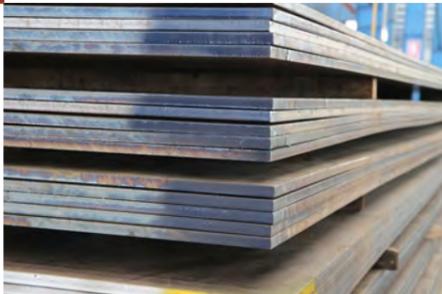
Different types of long products are

- Reinforcing Steel Bars
- Merchant Bars and Profiles
- Wire Rod in Coils
- Tubes and Pipes

### Other Products

Wires, (Hot Dip Galvanized Wire, Cold drawn Wire)  
Steel Mesh & Bar  
Other Commercial Products (Nail, Bale Wire, Binding Wire etc) or any other product you require.

**We ensure we will source it as per your need from reliable sources.**



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