



CASTING POWDERS FOR STEELWORKS

PRODUCT CATALOGUE

 **LP-STEEL**

ABOUT OUR COMPANY

The **LP-STEEL a.s.** with its production turns out a wide assortment of pulverized materials used as additives for the production of high-quality steels.

The center is fitted with **special** technological equipment, providing for the required quality.



OUR PRODUCTS

The casting powders are made of **pure** complex minerals and re milled raw **material**. The formula for their production are based on exact analyses of all raw materials, following a complex and very demanding laboratory development, **with the use of special equipment**.

The technological equipment provides for the delivery of batches ranging to 40 tons **of highly homogeneous product**. Each batch is delivered to the buyer with a certificate of quality.

The development proper in the casting powder sector provides for an analysis, to comply exactly **with the parameters of the users** technological equipment. On delivering new types of casting powders the **supplier provides a complex service**, assisting the client in introducing their use in the steelworks.



ASSORTMENT

- casting powders for classical casting
- casting powders for continuous casting of blooms and billets
- casting powders for continuous casting of blank slabs
- refining and coating slags
- wollastonite

CASTING POWDER , FOR CLASSIC CASTING TO INGOT MOULDS

LP 31.K

Casting powder for classic casting of steel ingots up to 3mt. Casting of Carbon steel and middle alloyed steel. Casting lower speed 120 – 250 mm/min.

	Chemical analysis			Sieve analysis	
	[% weight]	min.	max.	[μm]	[% weight]
SiO ₂	40,0	36,5	41,0	> 500	< 0,1
CaO total.	5,6	4,0	7,0	> 250	< 1,0
MgO	1,9	1,5	3,0	> 125	< 5,0
Al ₂ O ₃	18,3	16,5	20,0	> 90	< 10,0
Na ₂ O	4,5	4,0	7,0	> 63	< 25,0
K ₂ O	1,9	1,5	2,5	< 63	min. 60,0
TiO ₂	0,9		max. 1,2		
Fe ₂ O ₃	3,9		max. 6,5		
F	1,1	0,5	1,5		
C total.	17,1	15,0	21,5		

Complex Basicity: 0,18 – 0,25 (CaO total + MgO)/SiO₂)

Bulk density: 0,600 – 0,750 [kg/dm³]

Moisture: max. 0,50 % H₂O in 105°C

Consumption: app 2,0 kg / mt steel

Temperature		Surface tension	Density	Dyn. viscosity [Pa.s]	
[°C]	[1/°K]	[mN/m]	[g/cm ³]	measurement	calculation
1400	5,9773	296	2,449	-	10,4
1300	6,3573	311	2,461	-	27,4
1200	6,7889	326	2,473	-	82,7

Melting parameters [°C]	
Softening point	1160 ± 20
Melting point	1300 ± 20
Flowing point	1340 ± 20



Packing:

hermetical closed PE bags
2,5 – 5,7 kg
packed in big – bag
total 1000 kg



CASTING POWDER, FOR CLASSIC CASTING TO INGOT MOULDS

LP 32.BA

Casting powder for classic casting of steel ingots over 3 mt. Casting of alloyed and non alloyed steel. Possible for casting of round ingots with diameter 300 - 1100 mm, high of ingots 4000 mm.

	Chemical analysis			Sieve analysis	
	[% weight]	min.	max.	[μm]	[% weight]
SiO ₂	34,0	34,0	38,0	> 500	< 0,1
CaO total.	3,8	2,5	4,5	> 250	< 1,0
MgO	1,5		max. 2,0	> 125	< 5,0
Al ₂ O ₃	15,5	12,5	15,5	> 90	< 10,0
Na ₂ O	5,6	5,5	7,8	> 63	< 25,0
K ₂ O	1,5	1,0	2,0	< 63	min. 60,0
TiO ₂	0,9		max. 1,0		
Fe ₂ O ₃	3,9	2,0	5,5		
F	0,3		max. 1,0		
C total.	25,7	23,0	30,0		

Complex Basicity: 0,10 – 0,15 (CaO total + MgO)/SiO₂)

Bulk density: 0,620 – 0,750 [kg/dm³]

Moisture: max. 0,50 % H₂O in 105°C

Consumption: app 1,5 kg / mt steel

Temperature		Surface tension [mN/m]	Density [g/cm ³]	Dyn. viscosity [Pa.s]	
[°C]	[1/°K]			measurement	calculation
1400	5,9773	279	2,453	–	11,0
1300	6,3573	294	2,466	–	31,6
1200	6,7889	309	2,480	–	104,0

Melting parameters [°C]	
Softening point	1040 ± 30
Melting point	1240 ± 20
Flowing point	1305 ± 20



Packing:

hermetical closed PE bags
1,5 – 5,0 kg
packed in big – bag
total 1000 kg



REFINING AND COATING SLAG

LP 33.2

Refining and coating slag for protection of liquid steel surface, with steel refining effect, used mainly in Tundish of Conti steel casting equipment. Use of this slag is suitable with combination of rice chaff additive.

	Chemical analysis			Sieve analysis	
	[% weight]	min.	max.	[μm]	[% weight]
SiO ₂	34,5	33,5	37,0	> 500	< 0,1
CaO total.	30,2	29,0	34,0	> 250	< 1,0
MgO	6,5	5,0	7,0	> 125	< 5,0
Al ₂ O ₃	7,2	6,0	8,0	> 90	< 10,0
Na ₂ O	4,3	3,0	4,7	> 63	< 25,0
K ₂ O	0,9	0,7	1,2	< 63	min. 60,0
TiO ₂	0,6		max. 0,9		
Fe ₂ O ₃	1,0		max. 2,5		
F	0,6	0,1	1,0		
C total.	8,7	7,5	11,5		

Complex Basicity: 1,00 – 1,15 (CaO total + MgO)/SiO₂)

Bulk density: 0,65 – 0,80 [kg/dm³]

Moisture: max. 0,50 % H₂O in 105°C

Consumption: 0,14 - 0,18 kg / mt steel

Temperature		Surface tension [mN/m]	Density [g/cm ³]	Dyn. viscosity [Pa.s]	
[°C]	[1/°K]			measurement	calculation
1400	5,9773	418	2,662	–	0,51
1300	6,3573	433	2,686	–	1,10
1200	6,7889	448	2,711	–	2,63

Melting parameters [°C]	
Softening point	1240 ± 20
Melting point	1280 ± 20
Flowing point	1310 ± 20



Packing:

hermetical closed PE bags
5,7 kg
packed in big – bag
total 1000 kg



CASTING POWDER FOR CONTINUAL CASTING OF BILLETS

LP 37

Casting powder for continual casting of steel blooms and billets. It is recommended to continual casting of Carbon steel, mainly casting of round and square blooms. Casting speed 0,35 - 1,10 m/min.

	Chemical analysis			Sieve analysis	
	[% weight]	min.	max.	[μm]	[% weight]
SiO ₂	32,8	31,5	34,0	> 500	< 0,1
CaO total.	25,9	24,5	27,0	> 250	< 1,0
MgO	1,8	1,6	3,0	> 125	< 5,0
Al ₂ O ₃	6,5	5,5	7,2	> 90	< 10,0
Na ₂ O	4,6	3,7	4,9	> 63	< 25,0
K ₂ O	0,7	0,5	0,9	< 63	min. 60,0
TiO ₂	0,4		max. 0,6		
Fe ₂ O ₃	2,4		max. 3,4		
F	4,4	3,8	4,8		
C total.	17,6	16,0	19,0		

Complex Basicity: 0,80 – 0,90 (CaO total + MgO)/SiO₂)

Bulk density: 0,650 – 0,780 [kg/dm³]

Moisture: max. 0,50 % H₂O in 105°C

Consumption: 0,5 - 0,6 kg / mt steel

Temperature		Surface tension	Density	Dyn. viscosity [Pa.s]	
[°C]	[1/°K]	[mN/m]	[g/cm ³]	measurement	calculation
1400	5,9773	335	2,611	0,36	0,38
1300	6,3573	350	2,632	0,72	0,74
1200	6,7889	365	2,653	1,45	1,55

Melting parameters [°C]	
Softening point	1110 ± 15
Melting point	1140 ± 10
Flowing point	1160 ± 10



Packing:

hermetical closed PE bags
5,7 kg
packed in big – bag
total 1000 kg



CASTING POWDER FOR CONTINUAL CASTING OF SLABS

LP 54

Casting powder for continual casting of steel Slabs. It is recommended to continual casting of soft steel standards, mainly casting of peritectic steel, with higher casting speed up to 1,8 m/ min.

	Chemical analysis			Sieve analysis	
	[% weight]	min.	max.	[μm]	[% weight]
SiO ₂	30,9	30,0	33,0	> 500	< 0,1
CaO total.	31,6	31,0	32,5	> 250	< 1,0
MgO	2,7	2,5	3,5	> 125	< 5,0
Al ₂ O ₃	6,1	5,5	7,0	> 90	< 10,0
Na ₂ O	6,2	5,5	6,5	> 63	< 25,0
K ₂ O	0,6	0,5	1,0	< 63	min. 60,0
TiO ₂	0,2	0,2	0,4		
Fe ₂ O ₃	1,5	1,5	3,0		
F	5,0	4,5	6,0		
B ₂ O ₃	2,1	1,5	2,5		
C total.	8,7	7,5	9,5		

Complex Basicity: 1,05 – 1,15 (CaO total + MgO)/SiO₂)

Bulk density 0,680 – 0,780 [kg/dm³]

Moisture max. 0,50 % H₂O in 105°C

Consumption: 0,5 - 0,6 kg / mt steel

Temperature		Surface tension	Density	Dyn. viscosity [Pa.s]	
[°C]	[1/°K]	[mN/m]	[g/cm ³]	measurement	calculation
1400	5,9773	342	2,603	0,26	0,22
1300	6,3573	357	2,626	0,38	0,42
1200	6,7889	372	2,649	0,84	0,88

Melting parameters [°C]	
Softening point	1070 ± 10
Melting point	1110 ± 10
Flowing point	1140 ± 10



Packing:

hermetical closed PE bags
5,7 kg
packed in big – bag
total 1000 kg



CASTING POWDER FOR CONTINUAL CASTING OF SLABS

LP 57

Casting powder for continual casting of steel Slabs. Casting of dead melted steel standards, mainly casting of construction and deep drawn steel. Casting speed up to 1,0 m/ min. Slabs with intersections 200 – 250 x 850 – 1800 mm.

	Chemical analysis			Sieve analysis	
	[% weight]	min.	max.	[μm]	[% weight]
SiO ₂	33,6	32,5	35,0	> 500	< 0,1
CaO total.	30,5	29,0	31,0	> 250	< 1,0
MgO	2,8	2,5	4,5	> 125	< 3,0
Al ₂ O ₃	6,5	6,0	7,5	> 90	< 8,0
Na ₂ O	4,8	4,5	5,5	> 63	< 20,0
K ₂ O	0,7	0,5	1,0	< 63	min. 60,0
TiO ₂	0,3	0,2	0,4		
Fe ₂ O ₃	2,2	2,0	3,5		
F	4,7	4,0	5,5		
C total.	8,7	7,0	9,5		

Complex Basicity 0,95 – 1,05 (CaO total + MgO)/SiO₂)

Bulk density 0,700 – 0,800 [kg/dm³]

Moisture max. 0,50 % H₂O in 105°C

Consumption: 0,5 - 0,7 kg / mt steel

Temperature		Surface tension	Density	Dyn. viscosity [Pa.s]	
[°C]	[1/°K]	[mN/m]	[g/cm ³]	measurement	calculation
1400	5,9773	350	2,641	0,29	0,28
1300	6,3573	365	2,663	0,42	0,53
1200	6,7889	382	2,686	0,76	1,09

Melting parameters [°C]	
Softening point	1150 ± 10
Melting point	1175 ± 10
Flowing point	1185 ± 10



Packing:

hermetical closed PE bags
5,0 - 6,5 kg
packed in big – bag
total 1000 kg



CASTING POWDER FOR CONTINUAL CASTING OF SLABS

LP 58

Casting powder for continual casting of steel Slabs. Casting of dead melted steel standards, mainly casting of peritectic and deep drawn steel. Casting speed up to 1,0 m/ min. Slabs with intersections 200 – 250 x 850 – 1800 mm.

	Chemical analysis			Sieve analysis	
	[% weight]	min.	max.	[μm]	[% weight]
SiO ₂	30,5	29,0	32,0	> 500	< 0,1
CaO total.	28,9	27,5	30,0	> 250	< 1,0
MgO	2,7	2,5	4,5	> 125	< 3,0
Al ₂ O ₃	6,8	6,0	7,5	> 90	< 8,0
Na ₂ O	7,2	7,0	9,0	> 63	< 20,0
K ₂ O	0,8	0,5	1,0	< 63	min. 60,0
TiO ₂	0,3	0,2	0,4		
Fe ₂ O ₃	2,5	1,5	3,0		
F	5,8	5,5	7,0		
C total.	8,9	8,0	9,5		

Complex Basicity 1,05 – 1,15 (CaO total + MgO)/SiO₂)

Bulk density 0,700 – 0,800 [kg/dm³]

Moisture max. 0,50 % H₂O in 105°C

Consumption: 0,5 - 0,7 kg / mt steel

Temperature		Surface tension	Density	Dyn. viscosity [Pa.s]	
[°C]	[1/°K]	[mN/m]	[g/cm ³]	measurement	calculation
1400	5,9773	325	2,625	0,16	0,17
1300	6,3573	340	2,648	0,23	0,32
1200	6,7889	355	2,671	0,40	0,65

Melting parameters [°C]	
Softening point	1040 ± 10
Melting point	1100 ± 10
Flowing point	1125 ± 10



Packing:


hermetical closed PE bags
5,0 - 6,5 kg
packed in big – bag
total 1000 kg



CASTING POWDER FOR CONTINUAL CASTING OF BILLETS

LP 65

Casting powder for continual casting of steel blooms and billets. Casting of middle carbon steel, mainly casting of round and square blooms, casting in regulation less mode. Casting speed max 1,5 - 2,0 m/min. Developed according to client extra requirement.

	Chemical analysis			Sieve analysis	
	[% weight]	min.	max.	[μm]	[% weight]
 SiO ₂	29,6	29,5	32,5	> 500	< 0,1
CaO total.	28,5	28,5	30,5	> 250	< 1,0
MgO	2,5	2,5	3,5	> 125	< 3,0
Al ₂ O ₃	5,8	5,0	6,5	> 90	< 8,0
Na ₂ O	8,8	8,5	9,5	> 63	< 20,0
K ₂ O	0,6	0,5	1,0	< 63	min. 60,0
TiO ₂	0,2	0,2	0,4		
Fe ₂ O ₃	1,2	0,8	2,5		
F	4,1	4,0	4,5		
B ₂ O ₃	2,8	2,5	3,0		
C total.	5,9	5,0	6,5		

Complex Basicity 1,00 – 1,05 (CaO total. + MgO)/SiO₂)

Bulk density 0,650 – 0,700 [kg/dm³]

Moisture max. 0,50 % H₂O in 105°C

Temperature		Surface tension [mN/m]	Density [g/cm ³]	Dyn. viscosity [Pa.s]	
[°C]	[1/°K]			measurement	calculation
1400	5,9773	329	2,555	0,18	0,23
1300	6,3573	344	2,578	0,35	0,45
1200	6,7889	359	2,602	0,66	0,97

Melting parameters [°C]	
Softening point	970 ± 10
Melting point	1065 ± 10
Flowing point	1080 ± 10



Packing:

hermetical closed PE bags
1,0 - 7,0 kg
packed in big – bag
total 1000 kg



CASTING POWDER FOR CONTINUAL CASTING OF SLABS

LP 70

Casting powder for continual casting of steel Slabs. Casting of low carbon steel by Al dead - melted steel standards. Casting on vertical equipment, bending less crystalizator of slabs conti casting. Low casting speed up to 0,7 m/ min. Developed according to client extra requirement.

	Chemical analysis			Sieve analysis	
	[% weight]	min.	max.	[μm]	[% weight]
SiO ₂	35,4	34,0	37,0	> 500	< 0,1
CaO total.	32,0	31,5	34,0	> 250	< 1,0
MgO	2,9	2,5	4,0	> 125	< 3,0
Al ₂ O ₃	6,8	6,5	8,5	> 90	< 8,0
Na ₂ O	3,8	3,5	5,0	> 63	< 20,0
K ₂ O	0,6	0,5	1,2	< 63	min. 60,0
TiO ₂	0,4	0,3	0,5		
Fe ₂ O ₃	2,9	2,5	3,5		
F	3,8	3,5	4,8		
C total.	7,9	7,5	10,0		

Complex Basicity: 0,96 – 1,02 (CaO total + MgO)/SiO₂)

Bulk density 0,68 – 0,78 [kg/dm³]

Moisture: max. 0,50 % H₂O in 105°C

Temperature		Surface tension	Density	Dyn. viscosity [Pa.s]	
[°C]	[1/°K]	[mN/m]	[g/cm ³]	measurement	calculation
1400	5,9773	361	2,657	0,36	0,37
1300	6,3573	376	2,680	0,68	0,71
1200	6,7889	391	2,702	1,44	1,52

Melting parameters [°C]	
Softening point	1130 ± 10
Melting point	1180 ± 10
Flowing point	1205 ± 10



Packing:

hermetical closed PE bags
5,0 - 6,5 kg
packed in big – bag
total 1000 kg




WOLLASTONITE - CaSiO_3 - CALCIUM SILICATE

W 22 - sized

Wollastonite sized used in ladle metallurgy, modification of steel for steel cords and steelwire.

Chemical specification: CaSiO_3 – calcium silicate

Sieve analysis: 3 - 50 mm

	Chemical analysis		
	[% weight]	min.	max.
 SiO_2		38,00	46,50
CaO		28,40	38,20
MgO		2,70	6,00
Al_2O_3		6,00	11,00
K_2O			0,80
Na_2O			1,36
TiO_2			0,60
Fe_2O_3			5,30
F			0,60
C		0,60	2,20

Grain size:	3 - 50 mm / unsized (0 - 50 mm) possible too
Colour:	grey
Stink:	no
Oxidation activity:	0
Moisture:	0,5%
Heating loose:	2,91%
Bulk density:	app 1,9 kg/dm ³
Water solubility:	not soluble
Flame resistance:	not flammable
Big bag marking:	W22
Storage:	dry stocking area



Packing: big bag 90x90x90cm
weight 1500 kg – pallette




WOLLASTONITE - CaSiO_3 - CALCIUM SILICATE

W 22 - ground powder

Wollastonite ground powder, used as raw material in casting and technical powders production, ceramics, refractory materials, concrete.

Chemical specification: CaSiO_3 – calcium silicate

Sieve analysis: 0 - 65 microns

	Chemical analysis		
	[% weight]	min.	max.
 SiO_2	42,00		
CaO	33,00		
MgO	3,30		
Al_2O_3	8,40		
K_2O	0,40		
Na_2O	0,85		
TiO_2	0,50		
Fe_2O_3	3,10		
F	0,20		
C	1,90		

Grain size: 0 - 65 microns (MASH 300)

Colour: grey

Stink: no

Oxidation activity: 0

Moisture: 0,5%

Heating loose: 7,13%

Bulk density: app 1,74 kg/dm^3

Water solubility: not soluble

Flame resistance: not flammable

Big bag marking: W22 o

Storage: dry stocking area



Packing: big bag 90x90x90cm
weight 1500 kg – pallet



WOLLASTONITE - CaSiO₃ - CALCIUM SILICATE

W 22 - briquetting

Wollastonite briquetting used in ladle metallurgy, modification of steel for steel cords and steelwire.

Chemical specification: CaSiO₃ – calcium silicate
Sieve analysis: 55 x 50 x 40 mm - briquetes

	Chemical analysis		
	[% weight]	min.	max.
SiO ₂		38,00	46,10
CaO		29,20	38,20
MgO		2,30	3,50
Al ₂ O ₃		6,00	12,00
K ₂ O			1,00
Na ₂ O			2,00
TiO ₂			0,60
Fe ₂ O ₃			5,30
F			0,60
C		0,60	3,0

Grain size: 55 x 50 x 40 mm
Colour: grey
Stink: no
Oxidation activity: 0
Moisture: 0,5%
Heating loose: 8,34%
Bulk density: cca 2,06 kg/dm³
Water solubility: not soluble
Flame resistance: not flammable
Big bag marking: W22 - red tuft on big bag
Storage: dry stocking area

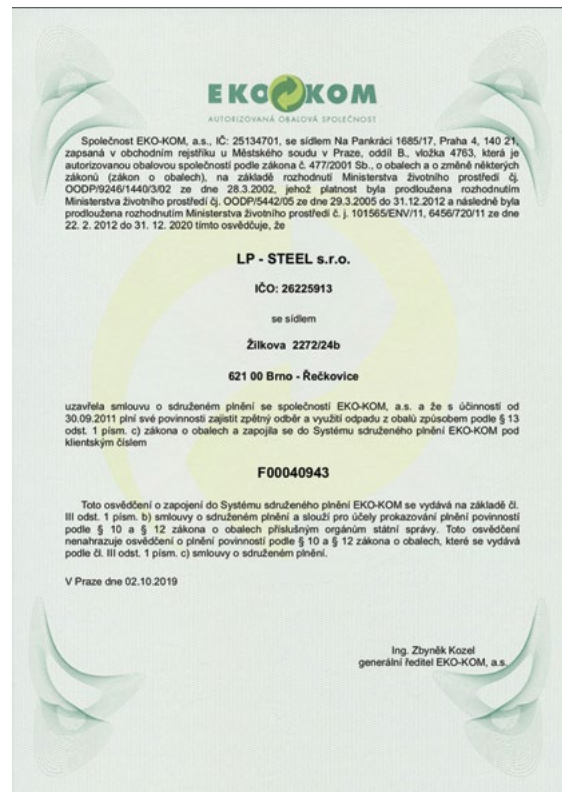


Packing:

big bag 105x105x105cm
weight 1500 kg – pallet



Our company is certified with:



CONTACT

In case of any questions or informations, feel free to contact us:



LP - STEEL a.s.
Žilkova 2272/24B
621 00 Brno
Czech republic

ID: 26225913
VAT: CZ26225913



www.lp-steel.cz
info@lp-steel.cz



+ 420 739 576 899
+ 420 731 166 801



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