FIRE-PROOF PRODUCTS

JSC "Luga abrasive plant"

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INTRODUCTION

Matrix of graphite fireproof crucibles is natural graphite, clay and silicon carbide.

GRAPHITE is basis of heat conduction, electrical conduction, it gives necessary heat resistance to crucible and is highly resistant to chemical influences.
The only solvent for graphite is melted iron. That's why graphite crucibles are not intended for melting of cast iron and steel. One more “disadvantage” of graphite is its corrosion at oxygen's access, beginning from 600°C. Therefore crucibles are covered with glaze, which defends graphite from corrosion for the most part.

CLAY is high-refractory bond for graphite articles.

SILICON CARBIDE is additional heat conductor, which also significantly increases the mechanical strength and wear resistance of crucibles.

MARKING of crucibles includes:
1. Form of products.
2. Brand of material, from which the crucible is made.
3. Number or a product capacity.
4. Brand of glaze.
5. Additional information.

DEPENDING ON THE COMPOSITION AND ASSIGNMENT THE FOLLOWING TYPES OF MATERIAL ARE DISTINGUISHED:

- on clay bond:

A - intended for melting of non-ferrous metals with melting point up to 1500 C in induction and resistance furnaces.
K - for melting non-ferrous metals with melting point up to 1600 C in induction and gas or liquid furnaces, distribution of non-ferrous metals in resistance furnaces.
C - for casting of non-ferrous metals with working temperature up to 1600 C.
T - for melting precious metals with melting points up to 1600 ° C in induction and muffle furnaces.
D - for melting of precious metals with melting points up to 1250 C by heating due to the passage of current through a crucible.
E - for foundry accessories.
H - for testing of non-ferrous metals.

- on carbon bond:

X - for melting of non-ferrous metals with melting temperature up to 1500 C in resistant and gas or liquid furnaces.
They don't demand preliminary drying.
The crucibles are protected from oxidation and corrosion by special glazes:
L - for operations with metals with melting temperature lower than 1000 C.
T - for working in conditions of temperature over 1000 C.

As further details the following signs are adopted.

"1" - application of glazes on outer surface.
"2" - crucibles are intended for resistance furnaces.
Type of glaze and further details are indicated for crucibles on clay bond only.

EXAMPLE OF MARKING

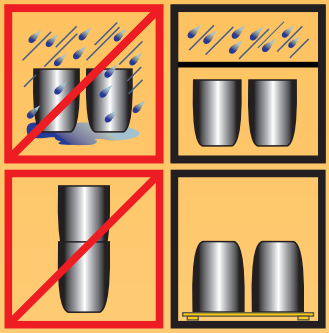
BA 750L2 ТУ..... that is crucible form B type A, with capacity 750 kg on copper, for melting of non-ferrous metals with melting temperature up to 1000 C (L) in resistance furnaces (2).

ZK 175T ТУ..... that is cylinder crucible form Z, type K, with capacity 175 kg on copper, for melting of non-ferrous metals with melting temperature up to 1000 C (T) in induction furnaces.

AX 500 ТУ..... that is crucible form A, type X, with capacity 500 kg on copper for melting of non-ferrous metals in resistance and flame furnaces.

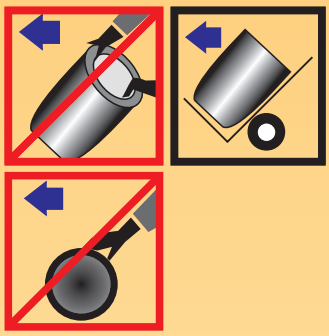
THE CRUCIBLES OPERATION RECOMMENDATIONS

STORAGE OF THE CRUCIBLES



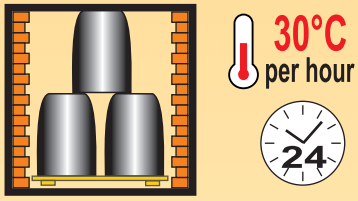
The crucibles should be stored in dry well-aired room, on wood shelving (supports). The storage of the crucibles on concrete or metal floor is not allowed. It is not allowed to put the crucibles one into another.

TRANSPORTATION



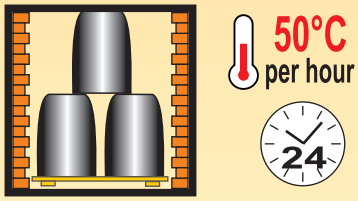
It is impossible to enable pushes and impacts on the crucibles. It is impossible to move the crucibles on floor edgewise or on the bottom edge.
It is recommended to use the trolleys with padding transportation.

PREPARATION OF CRUCIBLES



DRYING OF CRUCIBLES

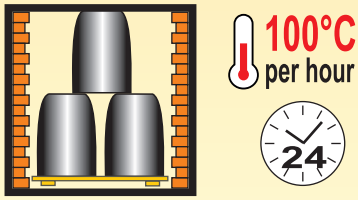
At temperature 200 C 24 hours at least.
The rise of temperature should not be sudden - at most 30°C per hour.
*No drying of crucibles **type X** required.*



GLOWING OF CRUCIBLES

Crucibles of **type C**
Temperature rise till 900°C at 50°C per hour.

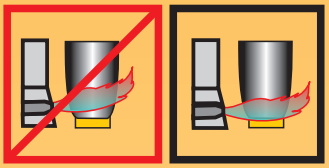
Crucibles of **type A and K**
Temperature rise till 1050°C at 100°C per hour.



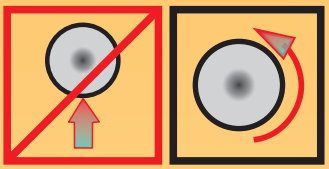
Crucibles of **type X**
Temperature rise till 400°C at 100°C per hour and further till 1050°C as soon as possible.

ISTALLATION OF CRUCIBLES

Around of an upper crucible edge it is necessary to create an equal gap. For this purpose it is possible to use cardboard or arboreal chips. It is not allowed to use wedges made of fire proof material.

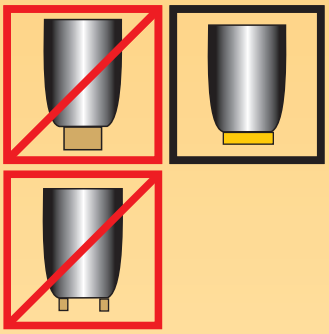


The burner axis should be in a bottom plane of a crucible.

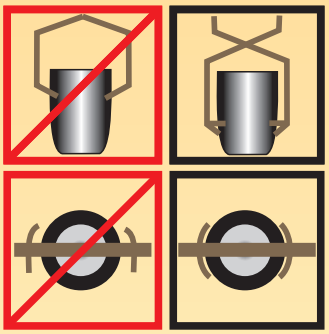


The burner should be installed so that the flame does not beat directly into the crucible, but bends around it tangentially.

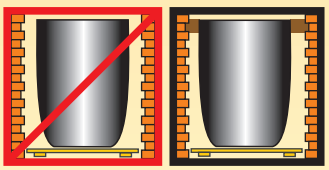
A gap between crucible and a furnace cover should be insulated by thermoinsulating material.



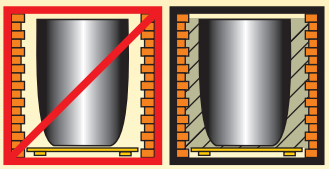
Use only standard supports.
Between crucible and support should be separating material: paper, coke, alumina.



To install and remove crucibles, use pincers (grips), corresponding to the shape of the crucible, wrapped with soft material.

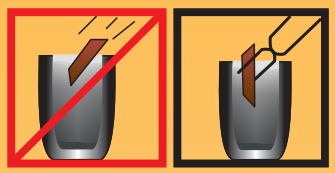


In resistance ovens and induction furnaces air gap between crucible's edge and oven's cover should be sealed up with a mixture of refractory clay.



The space between crucible and inductor is filled by insulating material in induction furnaces.

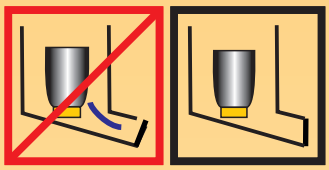
LOADING OF METAL



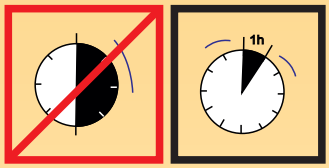
The metal is loaded in the previously warmed-over crucible.
The metal should be dry and heated a little.
The large pieces should be placed into crucible by grips, avoiding their impacts with a crucible.

The ingots should be laid into a crucible vertically excluding jamming of separate pieces.

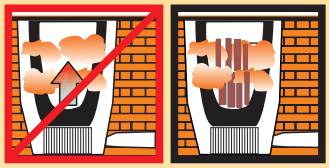
CONDUCTING A MELTING



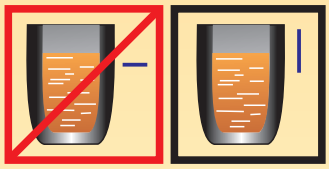
It is strictly forbidden to heat the crucible with metal frozen in it. The opening for emergency release of molten metal in the furnace must be closed.



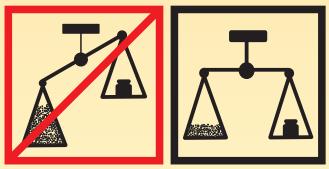
Melting should be done as soon as possible.



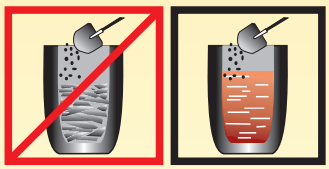
Between melting do not leave the crucible in the furnace empty. Period between meltings should be minimal.



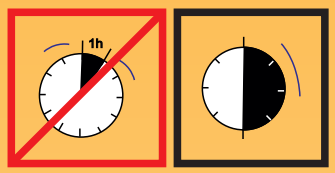
The level of the melt in the crucible must be changed in order to avoid corrosive walls of the crucible slag on the "mirror" of metal.



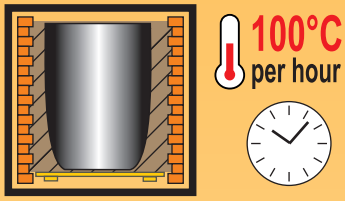
Keep strictly the required quantity of chemical components to modify the alloys.



Enter the components only into molten metal.



After breaks in work (for example: stopping at the weekend), the crucibles in the furnaces must be slowly warmed up empty, regardless of the crucible type.



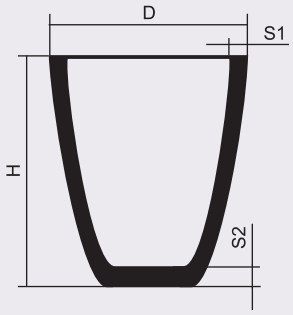
In induction furnaces where heating and metal fusion occur at the expense of currents proceeding in it, and the crucible is heated from metal, it is recommended to increase gradually the energy to provide uniform heating of the crucible. The optimum decision in this case is the continuous operating mode.

CLEANING OF THE CRUCIBLES

At disconnection of the furnace it is necessary to remove the fluid melt from the crucible. At the end of melting process the inner surface of the hot crucible should be carefully cleaned of slag using a metal scraper or blade.

FIREPROOF GRAPHITE CRUCIBLES FOR CASTING OF NON-FERROUS METALS AND THEIR ALLOYS

Type AC

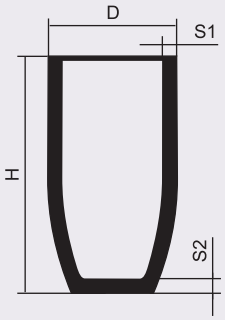


Non-glazed crucibles are used for casting of non-ferrous metals and their alloys with temperature not exceeding 1600^0 C.
They are remarkable for their increased thermal insulating properties.

CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
3	100	122	9	12	0.8	16
5	120	145	10	15	1.1	16
10	140	175	11	15	1.5	8
15	160	200	15	18	2.25	4
20	175	220	15	23	3.0	4
30	220	260	20	28	6.0	2
50	250	300	25	33	9.0	2
75	285	345	25	33	12.0	1
100▲	305	370	27	35	15.0	1
150	350	450	30	38	22.0	1
200	400	470	35	43	34.0	1
300	445	530	37	45	46.0	1
400	500	600	40	50	60.0	1
500	505	640	40	50	72.0	1
600	540	765	50	60	94.0	1

▲ - content of crucible on copper is 80 kg

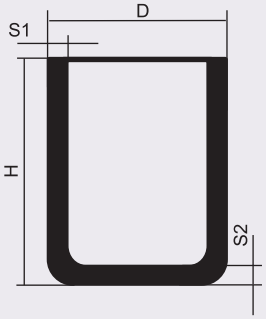
Type CC



Non-glazed crucibles are used for casting of non-ferrous metals and their alloys with temperature not exceeding 1600^0 C.
They are remarkable for their increased thermal insulating properties.

CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
75	250	500	30	40	18.2	1
90	250	500	25	33	16.0	1
225	360	615	30	43	52.0	1
400	410	810	40	50	66.0	1

Type ZC



Non-glazed crucibles are used for casting of non-ferrous metals and their alloys with temperature not exceeding 1600^0 C.
They are remarkable for their increased thermal insulating properties.

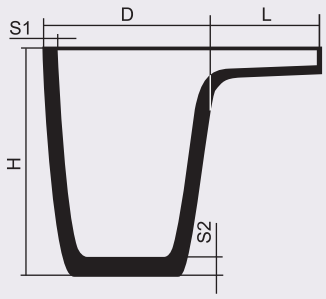
CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
30	170	320	20	20	5.52	1

*At the request of the customer, crucibles of types **AC, CC, ZC** can be made in a glazed version.*

The plant accepts orders for the manufacture of crucibles with dimensions not listed in these tables

Type TPC

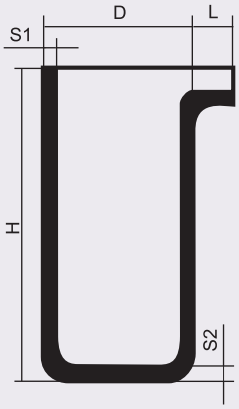
Non-glazed crucibles with discharge chute for casting of non-ferrous metals and their alloys with temperature not exceeding 1600^0 C. They are remarkable for their increased thermal insulating properties.



CRUICIBLES NUMBER	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	L mm	WEIGHT kg	
30	25	220	260	20	28	80	6.30	1
30	25	220	260	20	28	170	6.60	1
30	25	220	260	20	28	210	6.90	1
30	25	220	260	20	28	300	7.65	1
50	40	250	300	25	33	150	9.50	1
100	80	305	370	27	35	260	17.35	1
150	130	350	450	30	38	260	24.35	1
200	180	360	615	30	40	120	54.00	1
400	360	500	600	40	50	380	63.14	1
500	450	505	640	40	50	200	74.00	1

Type ZPC

Non-glazed cylindrical crucibles with discharge chute for casting of non-ferrous metals and their alloys with temperature not exceeding 1600^0 C. They are remarkable for their increased thermal insulating properties.



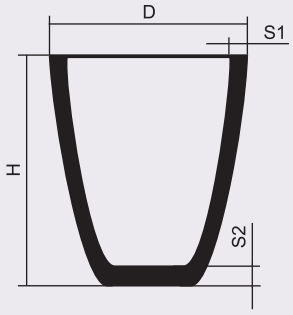
CRUICIBLES NUMBER	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	L mm	WEIGHT kg	
300	300	345	770	35	45	100	53.00	1

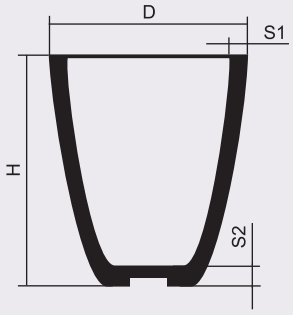
*At the request of the customer, crucibles of types **TPC, ZPC** can be made in a glazed version*

The plant accepts orders for the manufacture of crucibles with dimensions not listed in these tables

FIREPROOF GRAPHITE CRUCIBLES FOR MELTING AND DISTRIBUTION OF NON-FERROUS METALS

Type AK





♦ - cubic content on zinc

▲ - content of crucible on copper is 80 kg

Glazed crucibles for melting and dispensing non-ferrous metals and alloys with a melting point of up to 1600^0 C.

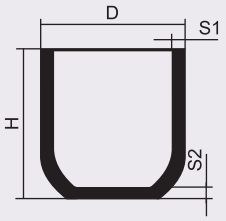
CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGH kg	
0.1*	30	40	3	5	0.024	50
0.3*	50	60	5	5	0.110	50
0.6*	60	70	6	7	0.200	20
0.9*	70	77	5	10	0.220	20
1*	72	88	9	11	0.380	20
2	100	122	9	12	0.800	16
3	110	130	10	18	1.270	16
5	120	150	10	11	1.750	8
10	145	168	13	18	2.700	8
20	175	220	15	23	4.600	1
30	220	270	20	30	9.000	1
40	225	290	20	30	9.600	1
50	255	310	20	30	14.000	1
75	290	350	25	30	16.000	1
100▲	300	370	25	30	20.000	1
140	350	380	30	45	28.000	1
145	350	400	30	45	29.400	1
150	360	455	30	45	40.000	1
200	410	490	35	45	50.000	1
300	440	555	33	55	65.000	1
350	483	510	41	60	58.200	1
400	500	610	40	60	75.000	1
490	523	600	45	60	83.000	1
500	525	635	45	60	85.000	1
600♦	540	765	50	60	116.000	1

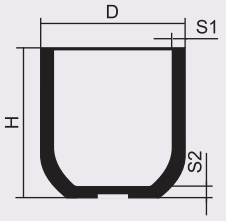
** - produced without glaze, can be made in the glazed version according to the customer's request*

The plant accepts orders for the manufacture of crucibles with dimensions not listed in these tables

Type BK

Glazed crucibles for melting and dispensing non-ferrous metals and alloys with a melting point of up to 1600^0 C.

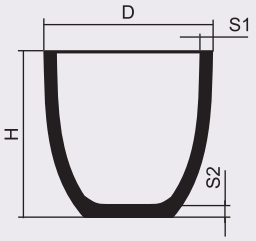


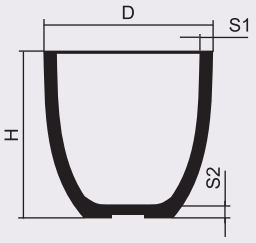


CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
700	700	610	50	65	174.4	1
750	600	635	50	65	125.0	1
750H	600	625	50	65	123.0	1
800	700	690	50	65	192.0	1
850	600	700	50	65	138.7	1
900	615	735	50	65	145.0	1
980	600	790	50	65	155.0	1
1000	700	790	50	65	210.0	1
2000	880	1000	60	80	410.0	1
2000H	880	900	60	80	375.0	1

Type BUK

Glazed crucibles for melting and dispensing non-ferrous metals and alloys with a melting point of up to 1600^0 C.

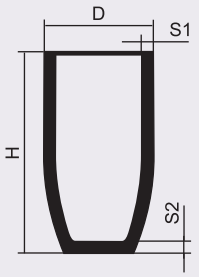


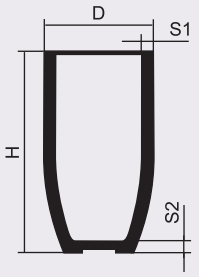


CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
350	530	490	50	60	71.6	1
450	530	590	50	60	100.0	1
460	700	320	50	65	90.0	1
500	530	680	50	60	106.0	1
500H	530	645	50	60	104.0	1
650	700	400	50	65	110.5	1
900	615	700	40	50	121.0	1
1000	800	775	55	65	220.0	1
1500	700	740	50	65	188.0	1
1600	775	750	50	60	195.0	1
1800	780	900	50	65	234.0	1
2200	780	1000	50	65	260.0	1

Type CK

Glazed crucibles for melting and dispensing non-ferrous metals and alloys with a melting point of up to 1600^0 C.





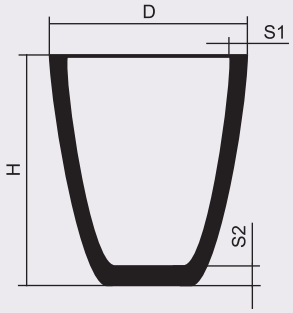
CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
20	158	320	21	30	6.6	2
25	160	370	20	30	7.5	2
55	217	350	22	30	11.2	1
70	220	450	20	30	15.2	1
90	285	590	30	35	23.5	1
175	340	910	30	60	63.2	1
280	365	630	30	45	52.0	1
325	465	500	49	55	68.0	1
350	440	610	35	55	70.0	1
370	485	700	45	60	110.0	1
400	465	730	46	55	96.0	1
450	465	840	45	55	113.0	1
500	490	840	45	60	128.0	1
600	485	940	45	60	137.0	1

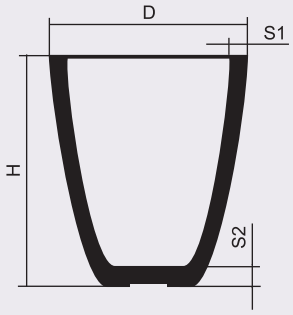
The plant accepts orders for the manufacture of crucibles with dimensions not listed in these tables

FIREPROOF GRAPHITE CRUCIBLES FOR MELTING OF NON-FERROUS METALS

Type AA

Glazed crucibles are intended for melting of non-ferrous metals and alloys with melting temperature up to 1500^{0}C.





♦ - cubic content on zinc

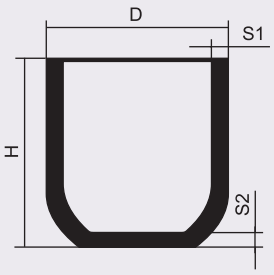
▲ - content of crucible on copper is 80 kg

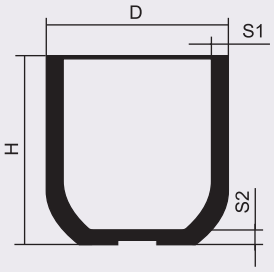
CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
0.1*	30	40	3	5	0.02	50
0.3*	50	60	5	5	0.10	50
0.6*	60	70	6	7	0.17	20
0.9*	70	77	5	10	0.19	20
1*	72	88	9	11	0.32	20
2	100	122	9	12	0.68	16
3	110	130	10	18	1.10	16
5	120	150	10	11	1.27	8
10	145	168	13	18	2.30	8
20	175	220	15	23	3.90	1
30	220	270	20	30	7.65	1
40	225	290	20	30	8.20	1
50	255	310	20	30	12.00	1
75	290	350	25	30	14.00	1
100▲	300	370	25	30	16.00	1
140	350	380	30	45	23.80	1
145	350	400	30	45	25.00	1
150	360	455	30	45	34.00	1
200	410	490	35	45	43.00	1
300	440	555	33	55	54.00	1
350	483	510	41	60	55.30	1
400	500	610	40	60	70.00	1
490	523	600	45	60	88.00	1
500	525	635	45	60	90.00	1
600♦	540	765	50	60	105.00	1

** - are produced without glaze, can be produced in glazed version at the request of the customer*

Type BA

Glazed crucibles are intended for melting of non-ferrous metals and alloys with melting temperature up to 1500^{0}C.



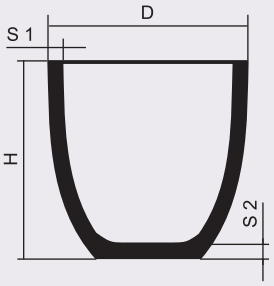


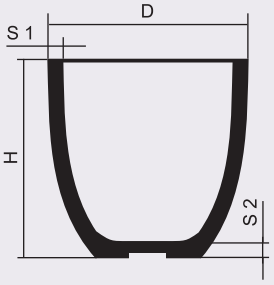
CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
700	700	610	50	65	157.0	1
750	600	635	50	65	112.0	1
750H	600	625	50	65	110.0	1
800	700	690	50	65	165.0	1
850	600	700	50	65	119.0	1
900	615	735	50	65	125.0	1
980	600	790	50	65	133.0	1
1000	700	790	50	65	180.0	1
2000	880	1000	60	80	350.0	1
2000H	880	900	60	80	320.0	1

The plant accepts the orders for crucibles manufacture with the dimensions not indicated in the given tables

Type BUA

Glazed crucibles are intended for melting of non-ferrous metals and alloys with melting temperature up to 1500^{0}C.

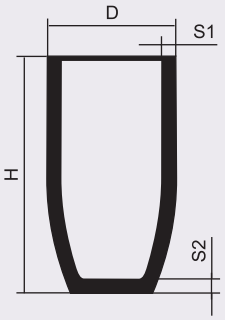


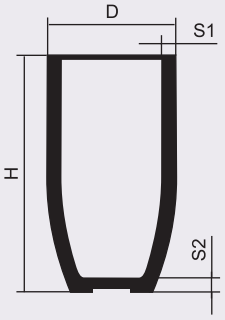


CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
350	530	490	50	60	68.0	1
450	530	590	50	60	95.0	1
460	700	320	50	65	78.0	1
500	530	680	50	60	100.0	1
500H	530	645	50	60	98.0	1
650	700	400	50	65	105.0	1
900	615	700	40	50	112.0	1
1000	800	775	55	65	190.0	1
1500	700	740	50	65	174.0	1
1600	775	750	50	60	181.0	1
1800	780	900	50	65	217.0	1
2200	780	1000	50	65	226.0	1

Type CA

Glazed crucibles are intended for melting of non-ferrous metals and alloys with melting temperature up to 1500^{0}C.

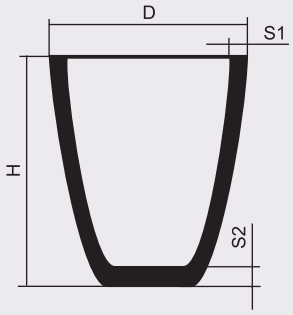


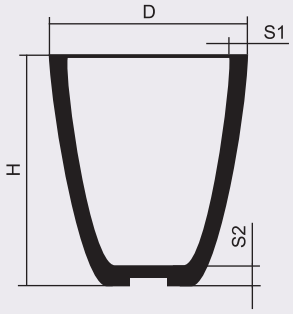


CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
20	158	320	21	30	5.9	2
25	160	370	20	30	6.6	2
55	217	350	22	30	10.2	1
70	220	450	20	30	12.6	1
90	285	590	30	35	19.5	1
175	340	910	30	60	60.0	1
280	365	630	30	45	45.0	1
325	465	500	49	55	63.0	1
350	440	610	35	55	62.0	1
370	485	700	45	60	73.5	1
400	465	730	46	55	90.0	1
450	465	840	45	55	106.0	1
500	490	840	45	60	113.0	1
600	485	940	45	60	121.0	1

The plant accepts the orders for crucibles manufacture with the dimensions not indicated in the given tables

Type AX





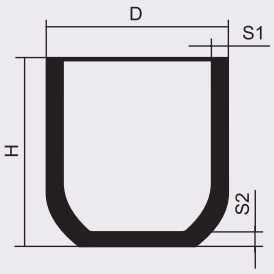
♦ - cubic content on zinc

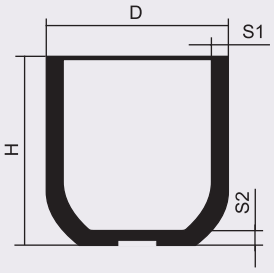
▲ - content of crucible on copper is 80 kg

Glazed crucibles on carbon bond are intended for melting of non-ferrous metals and alloys with melting temperature up to 1500^{0}C, they don`t demand preliminary drying while in operation.

CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
1	72	88	9	11	0.34	20
5	120	150	10	11	1.60	16
10	145	175	13	18	2.60	8
20	175	220	15	23	4.20	1
30	220	270	20	30	8.10	1
40	225	290	20	30	8.70	1
50	255	310	25	30	12.70	1
75	290	350	25	30	14.50	1
100 ▲	300	370	25	30	19.00	1
140	350	380	30	45	26.30	1
145	350	400	30	45	27.60	1
150	360	455	30	45	37.50	1
200	410	490	35	45	48.00	1
300	440	555	33	55	60.00	1
350	483	510	41	60	61.20	1
400	500	610	40	60	81.00	1
490	523	600	45	60	83.00	1
500	520	635	50	60	85.00	1
600 ♦	540	765	50	60	125.00	1

Type BX



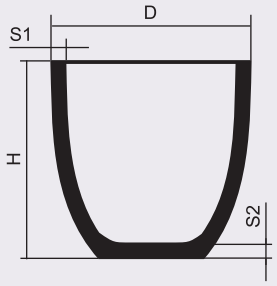


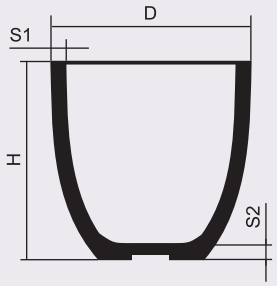
Glazed crucibles on carbon bond are intended for melting of non-ferrous metals and alloys with melting temperature up to 1500^{0}C, they don`t demand preliminary drying while in operation.

CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
700	700	610	50	65	183.2	1
750	600	635	50	65	130.0	1
750H	600	625	50	65	128.0	1
800	700	690	50	65	195.0	1
850	600	700	50	65	147.6	1
900	615	735	50	65	156.0	1
980	600	790	50	65	165.0	1
1000	700	790	50	65	213.0	1
2000	880	1000	60	80	392.0	1
2000H	880	900	60	80	358.0	1

The plant accepts the orders for crucibles manufacture with the dimensions not indicated in the given tables

Type BUX

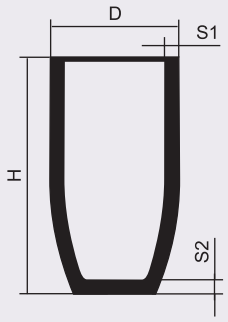


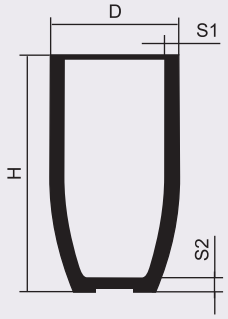


Glazed crucibles on carbon bond are intended for melting of non-ferrous metals and alloys with melting temperature up to 1500^{0}C, they don`t demand preliminary drying while in operation.

CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
350	530	490	50	60	68.0	1
450	530	590	50	60	89.0	1
460	700	320	50	65	88.0	1
500	530	680	50	60	111.0	1
500H	530	645	50	60	109.0	1
650	700	400	50	65	109.0	1
900	615	700	40	50	118.0	1
1000	800	775	55	65	215.0	1
1500	700	740	50	65	183.0	1
1600	775	750	50	60	190.0	1
1800	780	900	50	65	225.0	1
2200	780	1000	50	65	250.0	1

Type CX





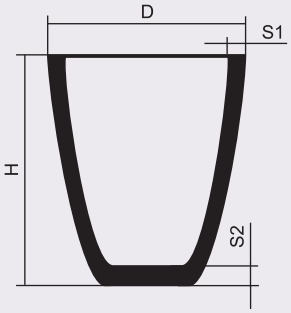
Glazed crucibles on carbon bond are intended for melting of non-ferrous metals and alloys with melting temperature up to 1500^{0}C, they don`t demand preliminary drying while in operation.

CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
20	158	320	21	30	6.2	2
25	160	370	20	30	7.1	2
55	217	350	22	30	10.7	1
70	220	450	20	30	14.0	1
90	285	590	30	35	21.5	1
175	340	910	30	60	57.7	1
280	365	630	30	45	52.0	1
325	465	500	49	55	66.0	1
350	440	610	35	55	62.0	1
370	485	700	45	60	108.0	1
400	465	730	46	55	93.5	1
450	465	840	45	55	110.0	1
500	490	840	45	60	117.0	1
600	485	940	45	60	126.0	1

FIREPROOF FIRECLAY CRUCIBLES FOR TESTING OF NON-FERROUS METALS

Type AH

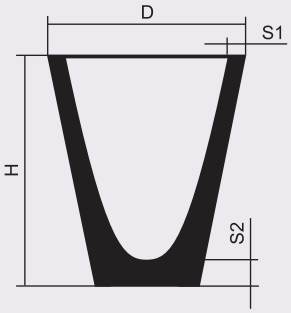
Fireclay crucibles are intended for testing of non-ferrous metals with melting temperature up to 1600^{0}C.



CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
0.1	30	40	3	5	0.03	50
0.3	50	60	5	5	0.16	50
0.6	60	70	6	7	0.27	20
0.9	70	77	6	10	0.30	20
1.0	72	88	9	11	0.43	20
3.0	110	130	10	18	1.10	16
5.0	120	150	10	11	1.47	8
10.0	145	175	13	18	2.60	8

Type T/AH

Fireclay crucibles of conical form are intended for testing of non-ferrous metals with melting temperature up to 1600^{0}C.



type T

CONVENTIONAL CUBIC CONTENT, litre	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
0.15	71	90	7.5	18	0.30	20
0.4	94	160	8	15	0.86	8
0.5	114	180	12	20	1.30	8
0.75	127	200	14	22	1.78	8

type AH

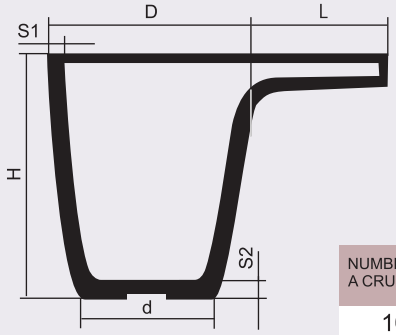
CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
1.6	90	125	8	20	0.68	20
2.8	120	130	8	15	1.00	20
5.5	130	160	8	25	1.54	8

The plant accepts the orders for crucibles manufacture with the dimensions not indicated in the given tables

FIREPROOF GRAPHITE CRUCIBLES WITH A SPOUT FOR OPERATIONS IN THE ROTATING FURNACES

Type TPA

Glazed crucibles with a spout for metal discharging are intended for operations in the rotating furnaces with melting temperature up to 1500^{0}C.

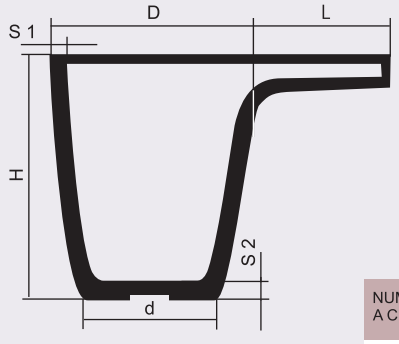


NUMBER OF A CRUCIBLE	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	d mm	S1 mm	S2 mm	L mm	WEIGHT kg	
10	8	145	175	90	13	18	326	4.60	1
30	25	220	270	140	20	30	210	8.55	1
30	25	220	270	140	20	30	80	7.95	1
30	25	220	270	140	20	30	300	9.30	1
50	40	255	310	150	20	30	150	12.50	1
50	40	255	310	150	20	30	210	12.90	1
50	40	255	310	150	20	30	350	14.00	1
50	40	255	310	150	20	30	500	14.80	1
100	60	300	370	170	25	30	260	18.35	1
100	80	300	370	170	25	30	50	18.10	1
100	80	300	370	170	25	30	365*	19.00	1
150	120	360	455	230	30	45	260	36.35	1
150	120	360	455	230	30	45	290	36.85	1
200	160	410	490	250	35	55	260	45.35	1
280	250	365	630	230	30	45	260	47.35	1
300	270	440	555	280	33	55	150	55.60	1
350	320	440	610	280	35	55	300	64.70	1
400	360	500	610	310	40	60	380	73.14	1
430	430	530	560	380	50	60	400	99.40	1
450	450	520	640	320	45	60	130	83.00	1
500	500	490	840	320	45	60	150	127.00	1
600	600	485	940	320	45	60	150	135.00	1
600H	530	540	740	380	50	60	135	106.20	1
750	700	600	635	360	50	65	200	119.20	1
750-2[1]	550	600	635	360	50	65	400	127.00	1
900	800	615	735	360	50	65	180	132.00	1
980	930	600	790	360	50	65	180	140.20	1
1000	950	700	790	490	50	65	200	187.20	1
1000	950	700	790	490	50	65	300	190.00	1
1600	1450	775	750	425	50	60	180	188.00	1
1700	1550	767	810	475	50	65	200	197.20	1
1800	1650	780	900	475	50	65	170	223.90	1
2000	1950	880	1000	520	60	80	200	357.20	1
2200	1800	780	1000	475	50	65	200	233.20	1

[1] - crucible with two spouts, situated at an angle 90^0 to each other.
* - spout is situated at an angle.

Type TPK

Glazed crucibles with a spout for metal discharging are intended for operations in the rotating furnaces with melting temperature up to 1600^0 C.



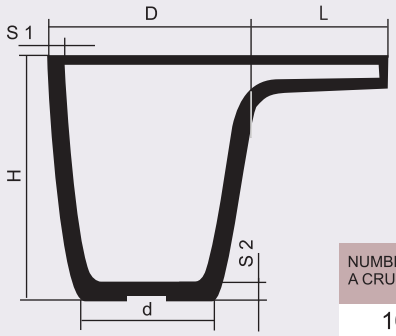
NUMBER OF A CRUCIBLE	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	d mm	S1 mm	S2 mm	L mm	WEIGHT kg	
10	8	145	175	90	13	18	326	5.00	1
30	25	220	270	140	20	30	210	9.91	1
30	25	220	270	140	20	30	80	9.30	1
30	25	220	270	140	20	30	300	10.65	1
50	40	255	310	150	20	30	150	14.50	1
50	40	255	310	150	20	30	210	14.90	1
50	40	255	310	150	20	30	350	16.00	1
50	40	255	310	150	20	30	500	16.80	1
100	60	300	370	170	25	30	260	22.35	1
100	80	300	370	170	25	30	50	22.60	1
100	80	300	370	170	25	30	365*	23.00	1
150	120	360	455	230	30	45	260	42.35	1
150	120	360	455	230	30	45	290	42.85	1
200	160	410	490	250	35	55	260	52.35	1
280	250	365	630	230	30	45	260	54.35	1
300	270	440	555	280	33	55	150	66.60	1
350	320	440	610	280	35	55	300	72.70	1
400	360	500	610	310	40	60	380	78.14	1
430	430	530	560	380	50	60	400	104.40	1
450	450	520	640	320	45	60	130	91.00	1
500	500	490	840	320	45	60	150	135.00	1
600	600	485	940	320	45	60	150	143.00	1
600H	530	540	740	380	50	60	135	116.80	1
750	700	600	635	360	50	65	200	132.20	1
750-2[1]	550	600	635	360	50	65	400	140.00	1
900	800	615	735	360	50	65	180	152.00	1
980	930	600	790	360	50	65	180	162.20	1
1000	950	700	790	490	50	65	200	217.20	1
1000	950	700	790	490	50	65	300	220.00	1
1600	1450	775	750	425	50	60	180	202.00	1
1700	1550	767	810	475	50	65	200	211.90	1
1800	1650	780	900	475	50	65	170	240.90	1
2000	1950	880	1000	520	60	80	200	417.20	1
2200	1800	780	1000	475	50	65	200	267.20	1

[1] - crucible with two spouts, situated at an angle 90^0 to each other.
* - spout is situated at an angle.

The plant accepts the orders for crucibles manufacture with the dimensions not indicated in the given tables

Type TPX

Glazed crucibles on carbon bond with a spout for metal discharging are intended for operations in the rotating furnaces with melting temperature up to 1500^{0}C. They don`t demand preliminary drying while in operation.

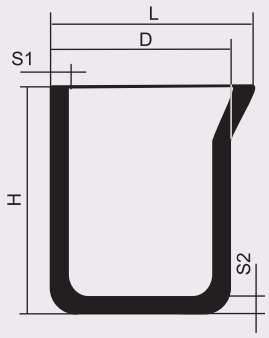


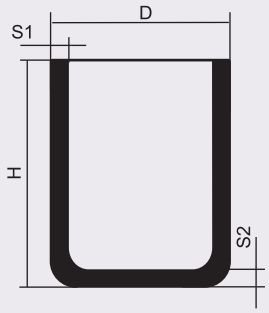
NUMBER OF A CRUCIBLE	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	d mm	S1 mm	S2 mm	L mm	WEIGHT kg	
10	8	145	175	90	13	18	326	4.90	1
30	25	220	270	140	20	30	210	9.00	1
30	25	220	270	140	20	30	80	8.40	1
30	25	220	270	140	20	30	300	9.75	1
50	40	255	310	150	20	30	150	13.20	1
50	40	255	310	150	20	30	210	13.60	1
50	40	255	310	150	20	30	350	14.70	1
50	40	255	310	150	20	30	500	15.50	1
100	60	300	370	170	25	30	260	21.35	1
100	80	300	370	170	25	30	50	21.50	1
100	80	300	370	170	25	30	365*	22.00	1
150	120	360	455	230	30	45	260	39.85	1
150	120	360	455	230	30	45	290	40.35	1
200	160	410	490	250	35	55	260	50.35	1
280	250	365	630	230	30	45	260	54.35	1
300	270	440	555	280	33	55	150	61.60	1
350	320	440	610	280	35	55	300	64.70	1
400	360	500	610	310	40	60	380	84.14	1
430	430	530	560	380	50	60	400	93.40	1
450	450	520	640	320	45	60	130	88.00	1
500	500	490	840	320	45	60	150	132.00	1
600	600	485	940	320	45	60	150	140.00	1
600H	530	540	740	380	50	60	135	125.70	1
750	700	600	635	360	50	65	200	145.00	1
750-2[1]	550	600	635	360	50	65	400	137.20	1
900	800	615	735	360	50	65	180	163.00	1
980	930	600	790	360	50	65	180	172.20	1
1000	950	700	790	490	50	65	200	220.20	1
1000	950	700	790	490	50	65	300	223.00	1
1600	1450	775	750	425	50	60	180	197.00	1
1700	1550	767	810	475	50	65	200	204.20	1
1800	1650	780	900	475	50	65	170	231.90	1
2000	1950	880	1000	520	60	80	200	399.20	1
2200	1800	780	1000	475	50	65	200	257.20	1

[1] - crucible with two spouts, situated at an angle 90^0 to each other.
* - spout is situated at an angle.

FIREPROOF GRAPHITE CYLINDER CRUCIBLES FOR OPERATIONS IN THE INDUCTION FURNACES

Type ZA





Glazed cylinder crucibles are intended for melting of non-ferrous metals and alloys in the induction furnaces with working temperature up to 1500^{0}C.

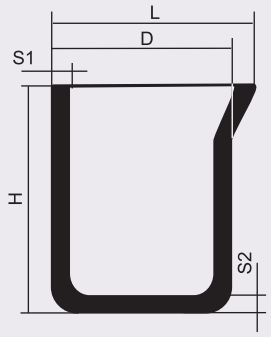
NUMBER OF A CRUCIBLE	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	L mm	WEIGHT kg	
5	5	108	132	13.5	15	-	1.00	8
5.1	5.1	108	140	13.5	15	-	1.10	8
5.7	5.7	108	160	13	15	-	1.37	8
6	6	108	170	13	15	-	1.40	8
7	7	136	165	20	25	-	2.20	2
9	9	138	200	20	25	-	3.10	2
10	10	140	250	20	25	-	3.40	2
11	9	110	250	12.5	15	-	1.90	4
12	10	110	265	12.5	15	-	2.00	4
32	32	328	135	42	45	-	13.30	1
35	35	225	250	28	35	-	9.50	1
40	40	240	260	30	35	250	11.30	1
60	60	225	380	28	35	-	14.50	1
70	70	270	310	32	32	-	14.70	1
80	80	225	470	28	35	-	17.60	1
90	115	270	510	30	40	-	24.50	1
95	65	255	320	27	30	260	13.80	1
105	105	328	300	32	45	-	22.50	1
120	85	270	370	30	32	280	16.50	1
135	135	300	420	30	40	-	24.70	1
150	100	270	440	30	32	280	21.00	1
175	160	300	520	30	40	-	29.50	1
180H	160	328	420	28	45	-	26.20	1
180	200	328	530	28	45	336	31.80	1
250	250	385	514	35	45	-	44.40	1
400	345	385	630	30	45	-	45.20	1
450	450	385	830	30	45	-	75.50	1
450H	440	384	700	33	45	-	62.80	1
800	800	540	730	40	55	-	106.50	1
900	900	540	815	40	55	-	110.00	1
900H	820	540	760	40	55	-	101.00	1
1000	1000	640	700	45	70	-	163.00	1
1100	1100	534	900	40	55	-	117.70	1
1150	1150	536	970	40	55	-	121.60	1
1200	1200	540	1000	40	55	-	128.60	1
1300	1300	540	1100	40	55	-	142.00	1
1400	1400	610	930	45	70	-	188.00	1
1500	1500	640	930	45	70	-	200.00	1
1700	1700	610	1170	45	70	-	225.00	1
2000	1800	690	1100	60	75	-	278.00	1
2500	2000	690	1200	60	75	-	296.00	1

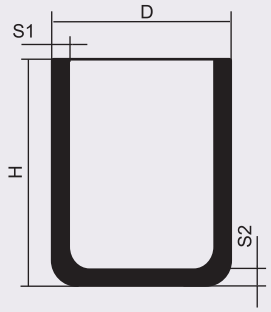
FIREPROOF GRAPHITE CYLINDER CRUCIBLES FOR OPERATIONS IN THE INDUCTION FURNACES

The plant accepts the orders for crucibles manufacture with the dimensions not indicated in the given tables

Type ZK

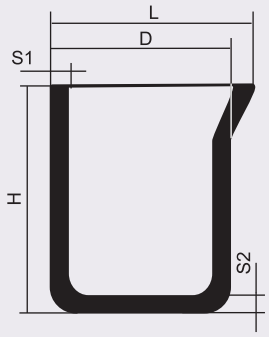
Glazed cylinder crucibles are intended for melting of non-ferrous metals and alloys in the induction furnaces with working temperature up to 1600^{0}C.

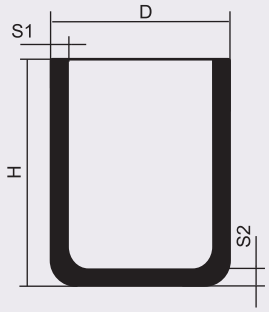




NUMBER OF A CRUCIBLE	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	L mm	WEIGHT kg	
5	5	108	132	13.5	15	-	1.18	8
5.1	5.1	108	140	13.5	15	-	1.30	8
5.7	5.7	108	160	13	15	-	1.62	8
6	6	108	170	13	15	-	1.65	8
7	7	136	165	20	25	-	2.60	2
9	9	138	200	20	25	-	3.60	2
10	10	140	250	20	25	-	4.00	2
11	9	110	250	12.5	15	-	2.20	4
12	10	110	265	12.5	15	-	2.30	4
32	32	328	135	42	45	-	14.30	1
35	35	225	250	28	35	-	10.50	1
40	40	240	260	30	35	250	11.90	1
60	60	225	380	28	35	-	15.20	1
70	70	270	310	32	32	-	16.90	1
80	80	225	470	28	35	-	18.50	1
90	115	270	510	30	40	-	25.80	1
95	65	255	320	27	30	260	14.50	1
105	105	328	300	32	45	-	23.70	1
120	85	270	370	30	32	280	19.00	1
135	135	300	420	30	40	-	26.00	1
150	100	270	440	30	32	280	22.00	1
175	160	300	520	30	40	-	31.00	1
180H	160	328	420	28	45	-	27.60	1
180	200	328	530	28	45	336	33.50	1
250	250	385	514	35	45	-	47.60	1
400	345	385	630	30	45	-	48.50	1
450	450	385	830	30	45	-	79.50	1
450H	440	384	700	33	45	-	66.10	1
800	800	540	730	40	55	-	110.80	1
900	900	540	815	40	55	-	114.00	1
900H	820	540	760	40	55	-	108.50	1
1000	1000	640	700	45	70	-	170.00	1
1100	1100	534	900	40	55	-	125.00	1
1150	1150	536	970	40	55	-	128.00	1
1200	1200	540	1000	40	55	-	138.00	1
1300	1300	540	1100	40	55	-	152.00	1
1400	1400	610	930	45	70	-	203.00	1
1500	1500	640	930	45	70	-	208.00	1
1700	1700	610	1170	45	70	-	243.00	1
2000	1800	690	1100	60	75	-	300.00	1
2500	2000	690	1200	60	75	-	320.00	1

Type ZX





Glazed cylinder crucibles on carbon bond are intended for melting of non-ferrous metals and alloys in the high frequency induction furnaces (more than 2400 Hz) with working temperature up to 1500^{0}C. They don`t demand preliminary drying while in operation.

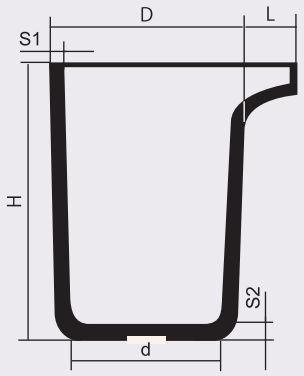
NUMBER OF A CRUCIBLE	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	L mm	WEIGHT kg	
5	5	108	132	13.5	15	-	1.07	8
5.1	5.1	108	140	13.5	15	-	1.20	8
5.7	5.7	108	160	13	15	-	1.47	8
6	6	108	170	13	15	-	1.50	8
7	7	136	165	20	25	-	2.40	2
9	9	138	200	20	25	-	3.30	2
10	10	140	250	20	25	-	3.70	2
11	9	110	250	12.5	15	-	2.00	4
12	10	110	265	12.5	15	-	2.20	4
32	32	328	135	42	45	-	14.70	1
35	35	225	250	28	35	-	10.00	1
40	40	240	260	30	35	250	12.50	1
60	60	225	380	28	35	-	15.90	1
70	70	270	310	32	32	-	17.90	1
80	80	225	470	28	35	-	19.40	1
90	115	270	510	30	40	-	27.10	1
95	65	255	320	27	30	260	13.40	1
105	105	328	300	32	45	-	25.00	1
120	85	270	370	30	32	280	20.00	1
135	135	300	420	30	40	-	27.30	1
150	100	270	440	30	32	280	23.20	1
175	160	300	520	30	40	-	32.60	1
180H	160	328	420	28	45	-	29.00	1
180	200	328	530	28	45	336	35.20	1
250	250	385	514	35	45	-	49.00	1
400	345	385	630	30	45	-	50.00	1
450	450	385	830	30	45	-	83.40	1
450H	440	384	700	33	45	-	69.40	1
800	800	540	730	40	55	-	119.00	1
900	900	540	815	40	55	-	122.00	1
900H	820	540	760	40	55	-	112.20	1
1000	1000	640	700	45	70	-	182.00	1
1100	1100	534	900	40	55	-	129.00	1
1150	1150	536	970	40	55	-	134.40	1
1200	1200	540	1000	40	55	-	143.00	1
1300	1300	540	1100	40	55	-	157.00	1
1400	1400	610	930	45	70	-	210.00	1
1500	1500	640	930	45	70	-	222.70	1
1700	1700	610	1170	45	70	-	251.00	1
2000	1800	690	1100	60	75	-	317.00	1
2500	2000	690	1200	60	75	-	340.00	1

The plant accepts the orders for crucibles manufacture with the dimensions not indicated in the given tables

FIREPROOF GRAPHITE CRUCIBLES WITH A SPOUT FOR OPERATIONS IN THE ROTATING INDUCTION FURNACES

Type ZPA

Glazed cylinder crucibles with a spout for metal discharging are intended for operations in the rotating induction furnaces with working temperature up to 1500^0 C.

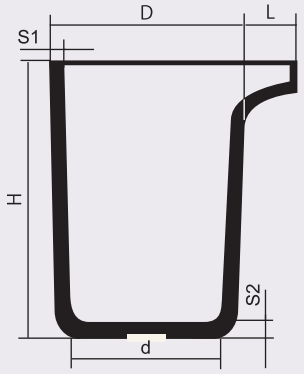


* - spout is situated at an angle

NUMBER OF A CRUCIBLE	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	d mm	S1 mm	S2 mm	L mm	WEIGHT kg	
60	50	225	380	165	28	35	210	15.40	1
80	80	225	470	165	28	35	375*	21.90	1
250	250	385	514	300	35	45	278*	49.20	1
400	345	385	630	300	30	45	155*	49.20	1
800	700	540	730	350	40	55	180	113.50	1
1000	900	640	700	500	50	70	200	170.70	1
1150	1000	536	970	350	40	55	160	128.30	1
1500	1350	640	930	500	45	70	200	207.20	1
1700	1500	610	1170	480	45	70	200	232.20	1
2500	1800	690	1200	520	55	65	200	303.20	1

Type ZPK

Glazed cylinder crucibles with a spout for metal discharging are intended for operations in the rotating induction furnaces with working temperature up to 1600^0 C.

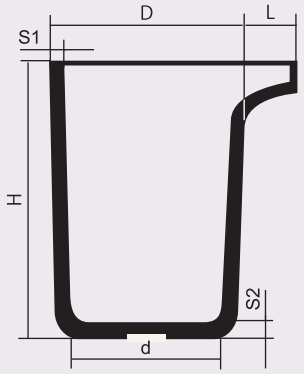


* - spout is situated at an angle

NUMBER OF A CRUCIBLE	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	d mm	S1 mm	S2 mm	L mm	WEIGHT kg	
60	50	225	380	165	28	35	210	16.10	1
80	80	225	470	165	28	35	375*	22.80	1
250	250	385	514	300	35	45	278*	52.40	1
400	345	385	630	300	30	45	155*	52.50	1
800	700	540	730	350	40	55	180	117.80	1
1000	900	640	700	500	50	70	200	177.20	1
1150	1000	536	970	350	40	55	160	134.70	1
1500	1350	640	930	500	45	70	200	215.20	1
1700	1500	610	1170	480	45	70	200	250.20	1
2500	1800	690	1200	520	55	65	200	327.20	1

Type ZPK

Cylinder crucibles with a spout for metal discharging are intended for operations in the high frequency induction rotating furnaces (more than 2400 Hz) with working temperature up to 1500^0 C.



* - spout is situated at an angle

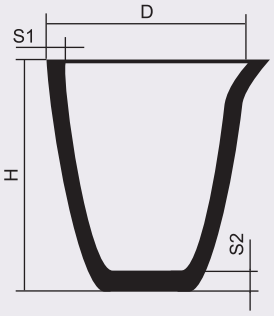
NUMBER OF A CRUCIBLE	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	d mm	S1 mm	S2 mm	L mm	WEIGHT kg	
60	50	225	380	165	28	35	210	16.80	1
80	80	225	470	165	28	35	375*	23.70	1
250	250	385	514	300	35	45	278*	53.80	1
400	345	385	630	300	30	45	155*	54.00	1
800	700	540	730	350	40	55	180	125.00	1
1000	900	640	700	500	50	70	200	141.10	1
1150	1000	536	970	350	40	55	160	229.90	1
1500	1350	640	930	500	45	70	200	229.90	1
1700	1500	610	1170	480	45	70	200	258.20	1
2500	1800	690	1200	520	55	65	200	347.20	1

The plant accepts the orders for crucibles manufacture with the dimensions not indicated in the given tables

FIREPROOF GRAPHITE CRUCIBLES FOR MELTING OF PRECIOUS METALS

Type AT

Non-glazed crucibles for melting of precious metals with melting temperature up to 1600^{0}C in the induction and muffle furnaces.

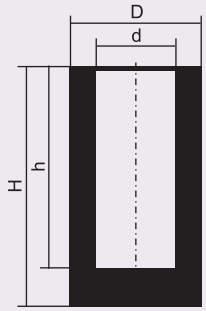


The crucibles can be produced in glazed version at the request of the customer.

NUMBER OF A CRUCIBLE	CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	H mm	S1 mm	S2 mm	WEIGHT kg	
4/0	0.1	41	51	6.0	7	0.05	50
2/0	0.3	54	65	7.0	10	0.09	50
0	0.6	60	70	7.5	12	0.16	50
1	1.0	90	90	9.0	12	0.27	50
2	2.0	100	110	10.0	12	0.54	20
3	3.0	110	130	10.0	12	0.85	8
4	4.0	115	140	10.0	15	0.90	8
5	5.0	125	150	10.0	15	1.20	4
7	10.0	140	175	12.0	15	1.50	4
10	15.0	160	200	15.0	18	2.70	4
14	20.0	175	220	16.0	22	3.00	4
15	25.0	180	230	17.5	22	3.30	4

Type ZD

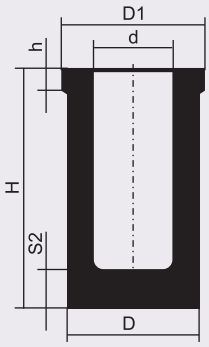
Non-glazed crucibles for melting of precious metals with melting temperature up to 1250^{0}C by heating at the expense of an electrical current being passed through a crucible.



CONVENTIONAL CUBIC CONTENT on aurum, kg	D mm	d mm	H mm	h mm	WEIGHT кг	
0.3	33	20	60	50	0.060	25
0.5	40	28	60	50	0.090	25
0.6	40	27	70	44	0.115	25
0.7	39	24	90	83	0.125	25
2.0	54	37	94	83	0.270	20
2.5	65	40	124	114	0.560	20
2.6	62	48	94	83	0.286	20
6.0	85	55	155	140	1.060	20
23.0	128	100	180	160	2.000	10

Type ZD
with a crimp

Non-glazed crucibles for melting of precious metals with melting temperature up to 1250^{0}C in the induction furnaces and by heating at the expense of an electrical current being passed through a crucible.



NUMBER OF A CRUCIBLE OR CUBIC CONTENT ON AURUM, kg	D mm	D1 mm	d mm	H mm	h mm	S2 mm	WEIGHT kg	
2Б	50	64	38	94	14	11	0.255	20
2.3Б	50	64	38	130	14	11	0.280	20
2.5Б	60	70	50	86	8	8	0.230	20
3Б	60	70	44	120	20	20	0.395	20
3.5Б	69	80	46	130	12	15	0.600	20
4Б	60	70	44	158	20	20	0.520	20
6.5Б	76	80	60	135	12	8	0.490	10
60Б	210	240	170	165	20	25	5.700	1

The plant accepts the orders for crucibles manufacture with the dimensions not indicated in the given tables

FIREPROOF GRAPHITE REFRACTORY PRODUCTS FOR SUBLIMATION OF ZINC

Type M

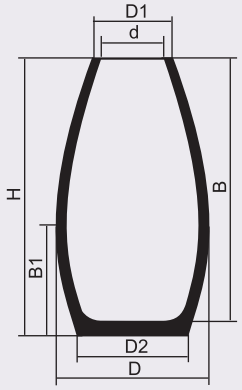
FIREPROOF GRAPHITE MUFFLES

Glazed muffles are intended for sublimation of zinc at operation temperature 1100^0-1450^0 C.

NUMBER OF A MUFFLE	D mm	d mm	L mm	WEIGHT kg	
1200	250	200	1200	42	1
1900	250	200	1900	66	1

The plant accepts the orders for muffles manufacture with the dimensions not indicated in the given table.

Type RC



FIREPROOF GRAPHITE RETORTS

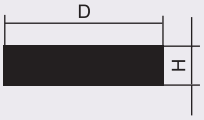
Non-glazed retorts are intended for sublimation of zinc at operation temperature 1100^0-1350^0 C.

CONVENTIONAL CUBIC CONTENT ON COPPER, kg	D mm	D1 mm	D2 mm	d2 mm	H mm	B mm	B1 mm	WEIGHT kg	
650	500	250	365	180	920	860	370	87	1

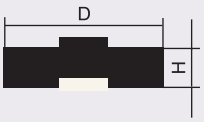
Can be produced in glazed version at the request of the customer.

The plant accepts the orders for retorts manufacture with the dimensions not indicated in the given table.

Type PE/PX



Type PVE/PVX



FIREPROOF GRAPHITE PEDESTALS

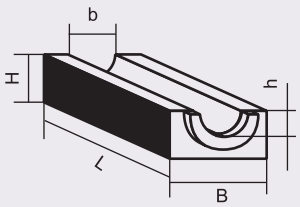
ARE INTENDED for installation of the crucibles on them in all types of furnaces.

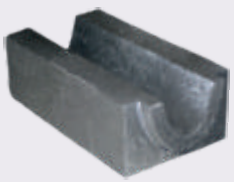
D mm	H mm	TYPES OF CRUCIBLES	WEIGHT kg	
165	50	A20-A50,TP50,TP100,C25,Z10	2.00/2.10	1
230	50	A75-A150,TP150, C70-C280,TP280	3.80/4.00	1
250	100	A200,TP200, Z90, Z95	9.32/9.70	1
300	100	A300,C350,TP300, Z120-Z175, Z400	13.42/13.50	1
320	100	A400,C370-C600,TP400-TP600,Z180	14.50/15.00	1
350	100	A500	19.25/20.00	1
425	100	A600,B750-B980, BU350-BU900, Z900,TP750-TP980	26.00/27.00	1
460	100	BU1000-BU2200, Z1500, ZP1500	30.00/36.50	1
525	100	B1000, Bu460, Bu650, Tp1000, Z1200, Z1300	41.20/44.00	1
550	100	B2000,TP2000, Z1400-Z2500	43.00/52.40	1

The height more than 100 (50) mm is performed by a set of 2-3 pedestals.

The plant accepts the orders for pedestals manufacture with the dimensions not indicated in the given table.

Type GE/GX/GC*





FIREPROOF GRAPHITE GUTTERS

are intended for metal tapping from crucibles working in the rotating furnaces.

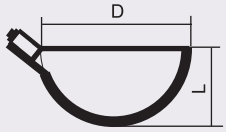
NUMBER OF A GUTTER	B mm	L mm	H mm	b mm	h mm	WEIGHT kg e/x	
1	160	200	100	80	60	5.6/5.8	1
2	160	300	100	80	60	8.4/8.6	1
3	160	360	100	80	60	10.0/10.5	1
4	160	150	100	100	45	4.5/4.6	2
5*	130	360	70	65	40	6.1	1
6*	190	400	190	140	165	10.0	1
7*	200	260	80	60	30	2.4	1
8	160	240	100	80	60	6.7/7.0	1
12*	400	316	190	100	60	7.2	1
16	220	360	110	80	30	10.6/11.2	1

The plant accepts the orders for gutters manufacture with the dimensions not indicated in the given table.

Type SK

FIREPROOF GRAPHITE CASTING LADLES

are intended for bailing of non-ferrous metals
and their alloys out of the crucibles.



NUMBER OF A CASTING LADLE	CONTENT IN LITRES	D mm	H mm	THREADING	WEIGHT kg	
1	0.13	100	56.0	M8	0.50	4
1.5	0.26	120	66.5	M8	0.60	4
2	0.33	128	75.0	M10	0.70	4
3	0.55	150	81.5	M10	0.85	4
5	0.73	172	92.0	M16	1.40	1
6	1.50	170	130.0	M16	1.60	1
8	2.20	220	125.0	M16	3.20	1
9	3.20	265	140.0	M16	3.65	1

The plant accepts the orders for ladles manufacture with the dimensions not indicated in the given table.

Type S

FIREPROOF GRAPHITE RODS

are intended for mixing of non-ferrous metals
and their alloys in crucibles.

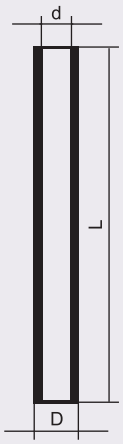
NUMBER OF A ROD	D mm	L mm	WEIGHT kg	
1	20	600	0.320	20
2	30	265	0.350	20
3	30	1000	1.300	5
4	32	600	0.870	6
5	40	600	1.320	5
6	50	460	1.650	4
7	50	500	1.770	4
8	50	1000	3.540	2
9	30	795	1.050	5
10	95	230	2.930	3
11	120	230	4.680	2
12	10	300	0.050	40
13	30	600	0.780	5
14	50	850	3.000	5
15	20	400	0.210	20
16	10	250	0.038	40
17	60	1000	5.100	2
18	60	1500	7.650	2

The plant accepts the orders for rods manufacture with the dimensions not indicated in the given table.

FIREPROOF GRAPHITE TUBES

Type U

The tubes are intended for passing of non-ferrous metals and their alloys.



NUMBER OF A TUBE	D mm	d mm	L mm	WEIGHT kg	
1	35	8	100	0.170	40
2	80	40	800	5.300	2
3	80	40	1000	6.800	2
4	100	60	600	5.430	2
5	100	60	700	6.300	2
9	50	10	120	0.410	20
10	100	60	856	8.410	2
14*	63	22	250	1.300	10
15	100	60	1000	9.000	2
16*	100	60	886	8.100	2
17	100	60	1200	10.800	2
19**	70	40	750	2.400	5
21***	36	18	300	0.410	20
24	40	12	500	1.030	5
26	76	16	800	6.240	2
27	80	35	600	4.400	2
28	60	26	1600	6.640	5
31	36	24	180	0.183	20
32	90	60	550	3.500	2
33	100	60	850	7.650	2
34	100	60	730	6.570	2
35	60	20	240	1.090	5
36	30	14	1000	0.995	10
37	30	10	600	0.678	10
UK/UH-7	200	160	360	9.30/8.80	1
UK/UH-8	370	330	250	10.20/9.70	1
UK/UH-22	330	290	250	10.40/10.00	1
UK/UH-23	300	240	310	17.20/16.50	1
UK/UH-25	200	160	1000	25.80/25.40	1

* - tube-plug
** - tube of rectangular section
*** - tube with thread M36 on outside surface

Type UV

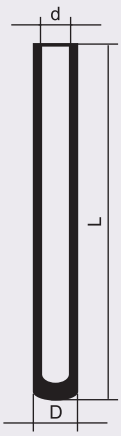
Gas tubes are intended for passing of different gases through molten metal and used at chlorination, nitriding of metals and others.

NUMBER OF A CASTING LADLE	D mm	d mm	L mm	THREADING	WEIGHT kg	
1	56	20	645	M24	2.3	5
2	56	20	1000	M24	3.9	5
3	56	20	1600	M24	6.2	5
4	56	20	1500	M24	5.8	5
5	56	20	600	M24	2.2	5
6	56	20	1400	M24	5.4	5

The plant accepts the orders for tubes manufacture with the dimensions not indicated in the given tables

Type UP

For protection of thermocouples when measuring of temperature of molten non-ferrous metals or alloys.



NUMBER OF A TUBE	D mm	d mm	L mm	WEIGHT kg	
1	30	10	300	0.34	20
2	30	10	600	0.68	10
3	50	25	460	1.38	5
4	50	25	480	1.43	5
5	50	25	645	1.95	5
6	50	25	670	2.02	5
7	50	25	800	2.40	5
8	60	26	1000	4.15	5
10	60	22	400	1.80	10
11	30	16	300	0.275	20
12	50	22	1000	2.85	5
13	26	16	400	0.238	20
14	50	26	2000	5.15	5
15	50	26	1600	4.12	5
16	90	60	800	5.10	2
17	100	70	600	4.30	2
18	30	16	620	0.57	10
19	32	22	160	0.12	10
20	45	20	500	1.15	10
21	48	26	2000	4.60	5
22	50	25	600	1.80	5
23	100	70	220	1.60	5
24	50	26	1300	3.35	5
25*	50	20	300	0.89	5
26	50	22	600	1.70	5
26**	50	22	600	1.70	5
27	70	35	1500	7.80	3
28	50	26	1250	3.22	5
29	40	20	1600	2.70	5
31	50	26	1100	2.83	5
32	50	26	250	0.64	10
33	50	26	750	1.93	5
34	50	26	900	2.32	5
35	56	25	1000	3.70	5
36	60	22	500	2.30	5
37	50	25	500	1.50	5
38	60	30	460	1.76	5
39	60	20	460	2.00	5
40	50	22	700	2.00	5
41	40	20	600	1.60	5
42	40	20	740	2.00	5
43	100	60	800	7.20	2
44	50	25	715	2.16	5
45	50	20	800	2.50	5
46	60	26	1600	7.20	5
47**	56	23	470	1.76	5
48**	56	23	1000	3.75	5
49**	56	23	1200	4.50	5
50**	56	23	1600	6.00	5
51**	56	23	1800	6.75	5
52**	60	23	2000	9.20	5

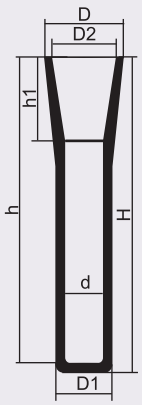
* - with thread M24 on inside surface

** - with thread M27 on inside surface

Type F/FX

FIREPROOF GRAPHITE CHILLS

are intended for production of metallic and bimetallic bars.



NUMBER OF A CHILL	D mm	D1 mm	D2 mm	d mm	H mm	h mm	h1 mm	WEIGHT kg,F/Fx	
122	310	255	250	122	1180	1120	320	86/98	1
124	265	220	160	124	1100	980	80	75/86	1
147	310	255	250	147	1180	1120	320	77/88	1

The plant accepts the orders for chills manufacture with the dimensions not indicated in the given table.

FIREPROOF SiC-mixture is intended for sound connection of fireproof graphite products into a single structure. The plant sells fireproof SiC-mixture in quantity from 1 kg including packed into standard plastic buckets of 5,0 kg and 12,0 kg.

FOR NOTES

JSC "LUGA ABRASIVE PLANT"
32, Krasnoarmeiskaya str., Luga,
Leningrad reg., Russia, 188230
Tel: +7 81372 22593, +7 81372 22002
Fax: +7 81372 27800, +7 81372 41800
E-mail: lap@abrasives.ru
www.abrasives.ru www.lugaabrasiv.com