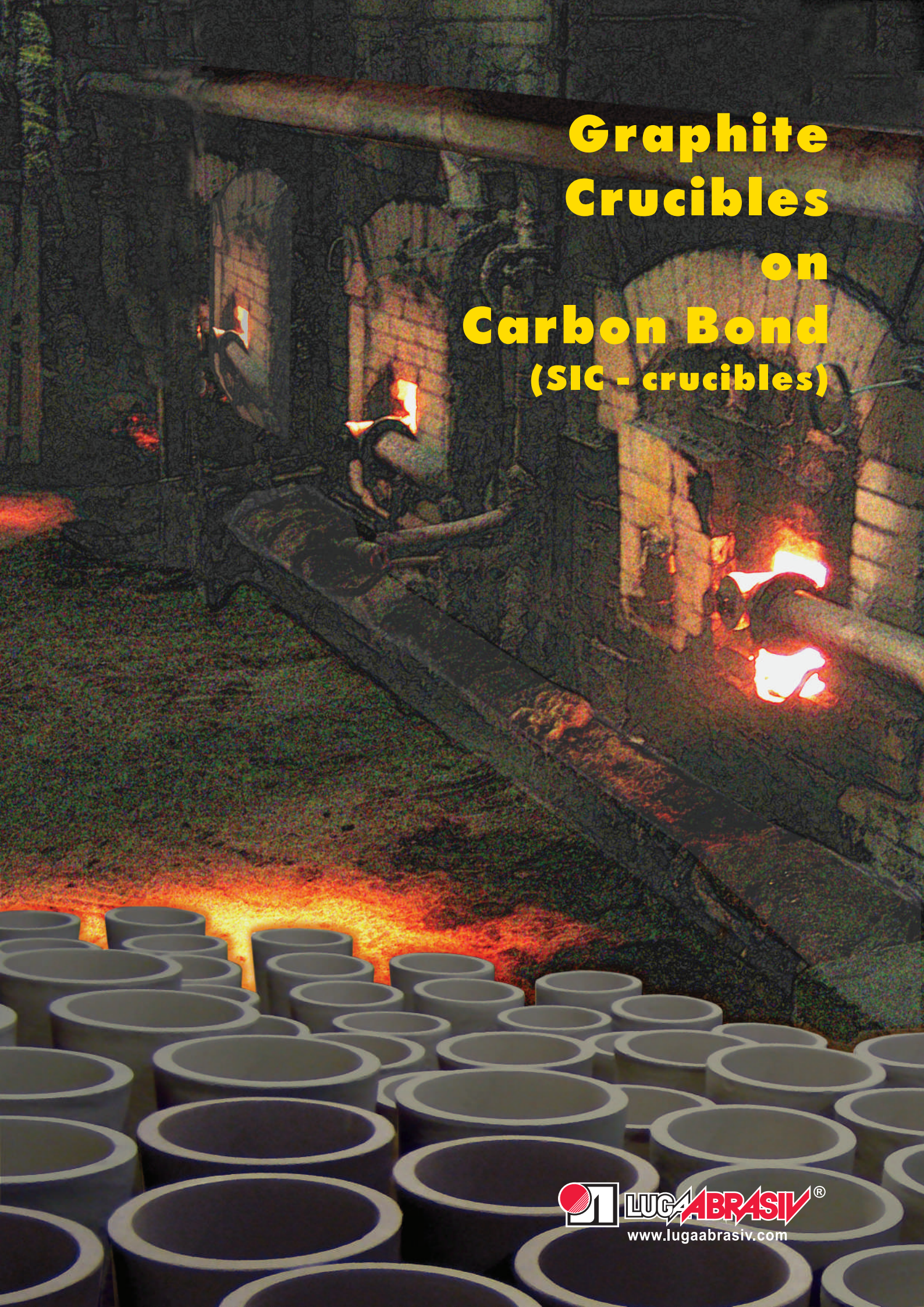


Graphite Crucibles on Carbon Bond

(SIC - crucibles)

LUGAABRASIV®

www.lugaabrasiv.com

Nowadays the using of the graphite crucibles is the most efficient and the most popular for melting of non-ferrous metals and alloys.

First of all it is concerned with their good heat conduction that helps to reduce costs for the energy resources and the chemistry of the material they are made from, excluding metal pollution during the melting.

At the same time the using of these crucibles has some disadvantages, including:

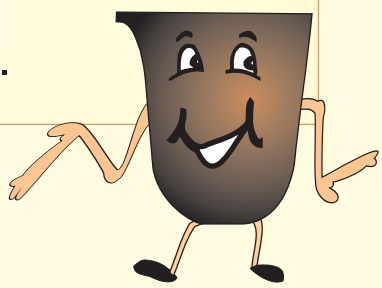
- some extra expenses of time and energy for a long process of preliminary drying and glowing before using them;
- limited speed of temperature rising;
- large reduction of operating life with high temperature gradient (in the open-flame furnaces) and oxidation atmosphere (in the resistance heating furnaces).

Nowadays among the casters there is a great demand for silicon carbide crucibles on carbon bond (crucibles type “X”) that have the highest heat conduction, oxidation stability, very high slags action stability and the chemical agents stability. Due to the carbon bond the crucibles have high heat shock stability and that's why they are the most suitable for a quick melting process.

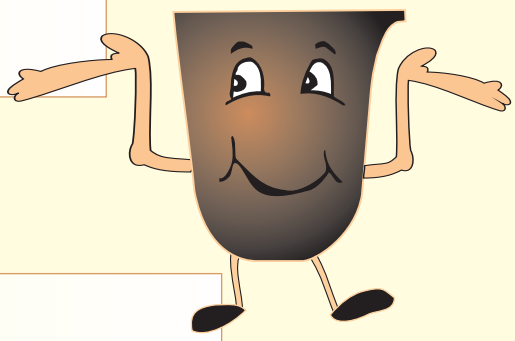
These goods don't need a preliminary drying and can bear a sudden drop of temperature, both during the heating up of the furnace with a maximum possible speed and during the melting process.

Field of Use

- melting of aluminum and its alloys in the open flame furnaces and in the resistance furnaces;
- refining of aluminum and its alloys;
- melting of copper, brass, bronze in the open-flame furnaces and in the resistance furnaces;
- refining of copper and its alloys;
- melting of non-ferrous metals and their alloys in the high-speed inductive machines with the frequency 10000 - 60000 Hz.

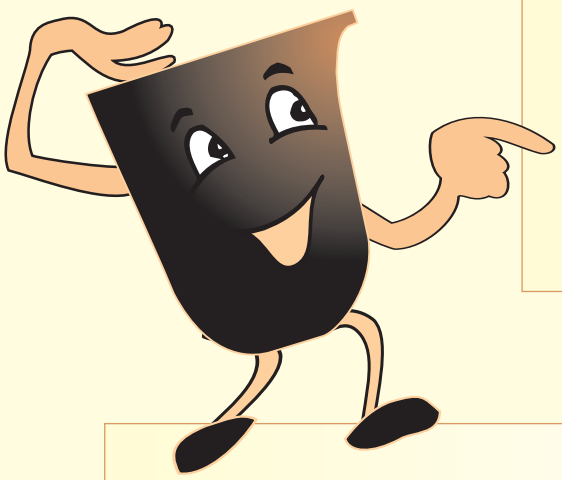


ADVANTAGES



Perfect Quality of the Metal

Large containing of the silicon carbide and carbon in crucibles type “X” provides higher slags and chemical stability. It can guarantee the high quality of the metal.



Long Working Time

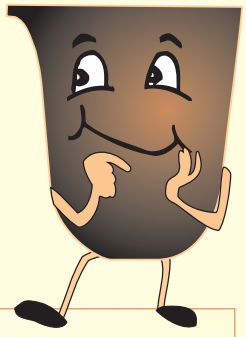
Due to their extraordinary characteristics crucibles type “X” have stability 2.5-3 times higher than the ordinary crucibles.

Reducing of the Power Consumption

While the ordinary crucible is oxidized and the speed of the process of the melting declines, the quantity of the energy that is necessary for the melting of the metal is constantly increasing.

Increased stability of the crucibles type “X” to oxidation provides constant speed of the melting up to the end of their long working time.

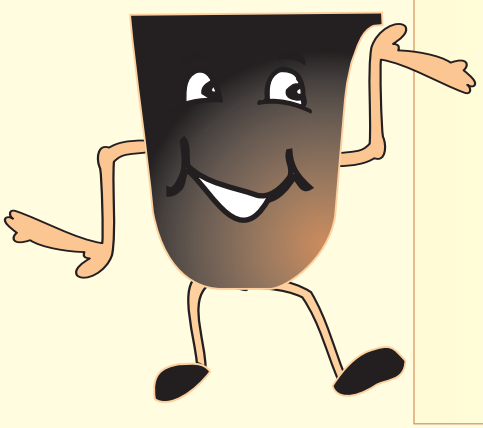
ADVANTAGES



High Stability to Atmosphere Oxidation

In the ordinary crucibles the graphite gradually oxidates in the air when the temperature is rising so for the protecting of the crucibles there is a vitrifiable glaze on their surface. However during the operational process the vitrifiable glaze gradually loses its protective properties that causes higher oxidation of the material of the crucible and its heat conduction reduces.

Crucibles type “X” don’t have only ordinary vitrifiable glaze but some resisting agents that penetrate with the material of the crucible. These agents provide keeping of the heat conduction during the whole working time of the crucibles.

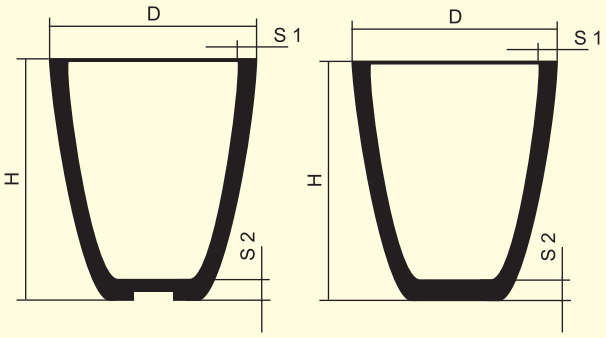


Stability to Heat Shock

During the exploitation crucibles are often exposed to heat shock (i.e. the tension that occurs at a rapid change of temperature or at an unequal heating). In limited cases it can cause premature failure.

The basic materials of crucibles type “X” are natural graphite, silicon carbide and carbon. Such crucibles have exclusively high heat conduction, that ensures speedy heat distribution by weight and as a result high stability to heat shock.

Crucibles type AX are glazed crucibles intended for melting of non-ferrous metals and alloys with the melting temperature up to 1500°C

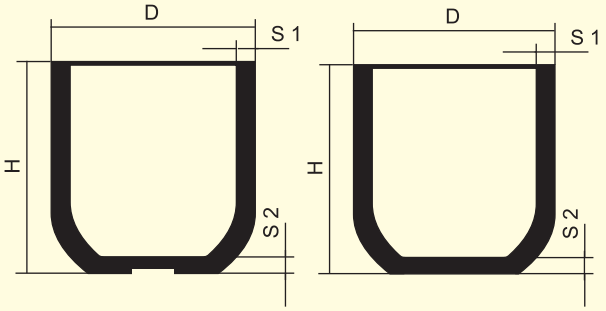


Conventional cubic content on copper, kg	D, mm	H, mm	S1, mm	S2, mm
1	72	88	9	11
5	120	50	10	11
10	145	175	13	18
20	175	220	15	23
30	220	270	20	30
40	225	290	20	30
50	255	310	20	30
75	290	350	25	30
100[2]	300	370	25	30
140	350	380	30	45
145	350	400	30	45
150	360	455	30	45
200	410	490	35	55
300	440	555	33	55
350	483	510	41	60
400	500	610	40	60
490	523	600	45	60
500	520	635	45	60
600[1]	540	765	50	60

1 - capacity on zinc
2 - capacity on copper 80 kg

The plant receives the orders for manufacture of crucibles with the dimensions not indicated in the given table.

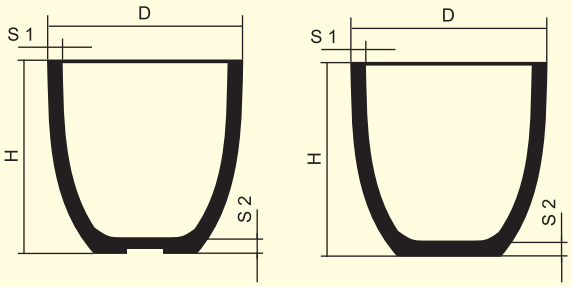
Crucibles type BX are glazed crucibles intended for melting of non-ferrous metals and alloys with the melting temperature up to 1500°C



Conventional cubic content on copper, kg	D, mm	H, mm	S1, mm	S2, mm
700	700	610	50	65
750H	600	625	50	65
750	600	635	50	65
800	700	690	50	65
850	600	700	50	65
900	600	735	50	65
980	600	790	50	65
1000	700	790	50	65
2000	880	1000	60	80
2000H	880	900	60	80

The plant receives the orders for manufacture of crucibles with the dimensions not indicated in the given table.

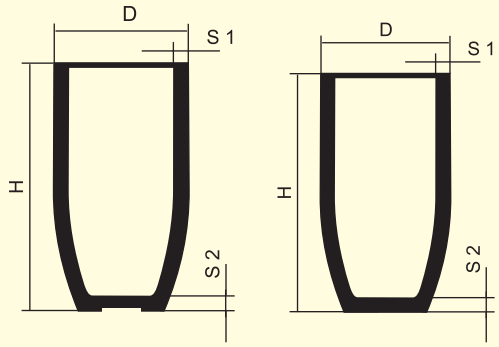
Crucibles type BUX are glazed crucibles intended for melting of non-ferrous metals and alloys with the melting temperature up to 1500°C



Conventional cubic content on copper, kg	D, mm	H, mm	S1, mm	S2, mm
350	530	490	50	60
450	530	590	50	60
460	700	320	50	65
500H	530	645	50	60
500	530	680	50	60
650	700	400	50	65
900	615	700	40	50
1000	800	775	55	65
1500	700	740	50	65
1600	775	750	50	60
1800	780	900	50	65
2200	780	1000	50	65

The plant receives the orders for manufacture of crucibles with the dimensions not indicated in the given table.

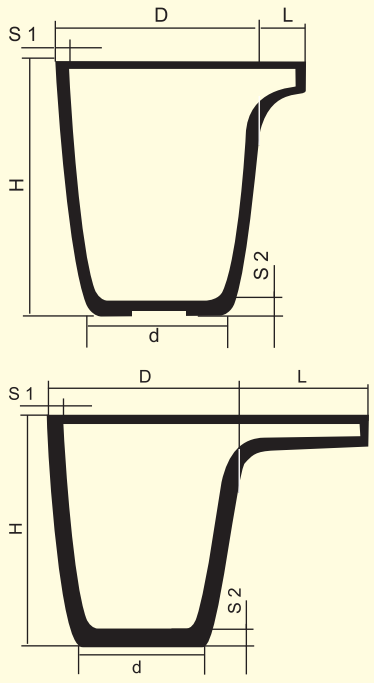
Crucibles type CX are glazed crucibles intended for melting of non-ferrous metals and alloys with the melting temperature up to 1500°C



Conventional cubic content on copper, kg	D, mm	H, mm	S1, mm	S2, mm
20	158	320	21	30
25	160	370	20	30
55	217	350	22	30
70	220	450	20	30
90	285	590	30	35
175	340	910	30	60
280	365	630	30	45
325	465	500	49	55
350	440	610	35	55
370	485	700	45	50
400	465	730	46	55
450	465	840	45	55
500	490	840	45	60
600	485	940	45	60

The plant receives the orders for manufacture of crucibles with the dimensions not indicated in the given table.

Crucibles type TPX are glazed crucibles with a nose for metal tapping intended for operations in the rotating furnaces with the melting temperature up to 1500°C

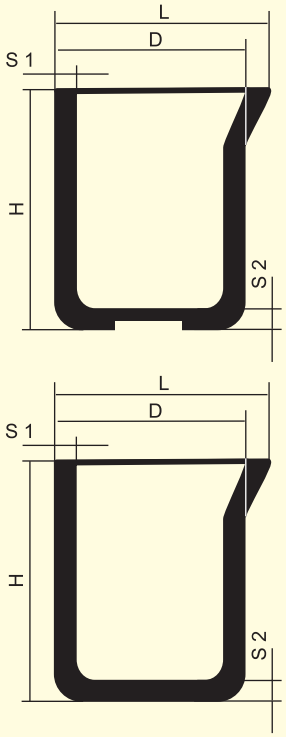


The number of crucible	Conventional cubic content on copper, kg	D, mm	H, mm	d, mm	S1, mm	S2, mm	L, mm
10	8	145	175	90	13	18	326
30	25	220	270	140	20	30	210
30	25	220	270	140	20	30	80
30	25	220	270	140	20	30	300
50	40	255	310	150	20	30	150
50	40	255	310	150	20	30	210
50	40	255	310	150	20	30	350
50	40	255	310	150	20	30	500
100	80	300	370	170	25	30	50
100	60	300	370	170	25	30	260
100	80	300	370	170	25	30	365 *
150	120	360	455	230	30	45	260
150	120	360	455	230	30	45	290
200	160	410	490	240	35	55	260
280	250	365	630	230	30	45	260
300	270	440	555	280	33	55	150
350	320	440	610	280	35	55	300
400	360	500	610	310	40	60	380
430	430	530	560	380	50	60	400
450	450	520	640	320	45	60	130
500	500	490	840	320	45	60	150
600H	530	540	740	380	50	60	135
600	600	485	940	320	45	60	150
750	700	600	635	360	50	65	200
750-2 **	550	600	635	360	50	65	400
900	800	615	735	360	50	65	180
980	930	600	790	360	50	65	180
1000	950	700	790	490	50	65	200
1000	950	700	790	490	50	65	300
1600	1450	775	750	425	50	60	180
1700	1550	767	810	475	50	65	200
1800	1650	780	900	475	50	65	170
2000	2000	880	1000	520	60	80	200
2200	1800	780	1000	475	50	65	200

* - crucibles with the tilted noses
** - crucible with 2 noses arranged one to another on an angle 90°

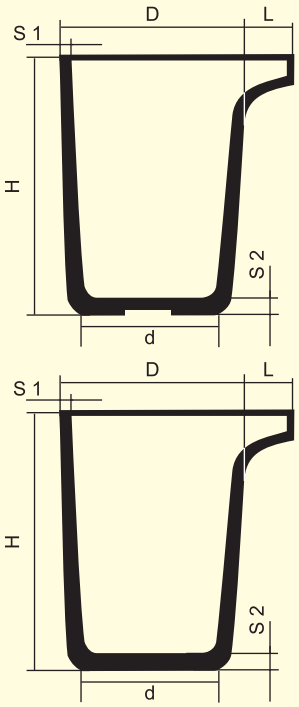
The plant receives the orders for manufacture of crucibles with the dimensions not indicated in the given table.

Crucibles type ZX are glazed cylinder crucibles intended for melting of non-ferrous metals and alloys with the melting temperature up to 1500°C in the high-frequency furnaces (10 000-60 000 Hz)



The number of crucible	Conventional cubic content on copper, kg	D, mm	H, mm	S1, mm	S2, mm	L, mm
5	5	108	132	13,5	15	-
5,1	5,1	108	140	13,5	15	-
5,7	5,7	108	160	13	15	-
6	6	108	170	13	15	-
7	7	136	165	20	25	-
9	9	138	200	20	25	-
10	10	140	250	20	25	-
11	9	110	250	12,5	15	-
12	10	110	265	12,5	15	-
32	32	328	135	42	135	-
35	35	225	250	28	35	-
40	40	240	260	30	35	250
60	60	225	380	28	35	-
70	70	270	310	32	32	-
80	80	225	470	28	35	-
90	115	270	510	30	40	-
95	65	255	320	27	30	260
105	105	328	300	32	45	-
120	85	270	370	30	32	280
135	135	300	420	30	40	-
150	100	270	440	30	32	280
175	160	300	520	30	40	-
180H	160	328	420	28	45	-
180	200	328	530	28	45	336
250	250	385	514	35	45	-
400	345	385	630	30	45	-
450	450	385	830	30	45	-
450H	440	384	700	33	45	-
800	800	540	730	40	55	-
900H	820	540	760	40	55	-
900	900	540	815	40	55	-
1000	1000	640	700	45	70	-
1100	1100	540	900	40	55	-
1150	1150	536	970	40	55	-
1200	1200	540	1000	40	55	-
1300	1300	540	1100	40	55	-
1400	1400	610	930	45	70	-
1500	1500	640	930	45	70	-
1700	1700	610	1170	45	70	-
2000	1800	690	1100	60	75	-
2500	2000	690	1200	60	75	-

The plant receives the orders for manufacture of crucibles with the dimensions not indicated in the given table.



Crucibles type ZPX are glazed cylinder crucibles with a nose for metal tapping intended for operations in the rotating furnaces with the melting temperature up to 1500°C

The number of crucible	Conventional cubic content on copper, kg	D, mm	H, mm	d, mm	S1, mm	S2, mm	L, mm
60	50	225	380	165	28	35	210
80	80	225	470	165	28	35	375*
250	250	385	514	300	35	45	278*
400	345	385	630	300	30	45	155*
800	700	540	730	350	40	55	180
1000	950	640	700	500	50	70	200
1150	1100	536	970	350	40	55	160
1500	1450	640	930	500	45	70	200
1700	1650	610	1170	480	45	70	200
2500	1950	690	1200	520	55	65	200

* - crucibles with the tilted noses

The plant receives the orders for manufacture of crucibles with the dimensions not indicated in the given table.

LUGAABRASIV®

www.lugaabrasiv.com

JSC "Luga Abrasive Plant"
32, Krasnoarmeiskaya str., 188230, Luga, Leningrad reg., Russia
Tel.: +7 (81372) 22593, +7 (81372) 22002, Fax: +7 (81372) 27800, +7 (81372) 41800
e-mail:lap@abrasives.ru