

DESCRIPTION

EXCEL E is a high quality carbon-bonded silicon carbide crucible manufactured using the latest roller-forming techniques and incorporating a special multi-phase glaze protection system. It is designed for aluminum melting and holding applications in electric resistance and gas-fired furnaces.

APPLICATIONS

EXCEL E is used for aluminum holding and melt / holding in electric resistance furnaces and holding in gas-fired furnaces.

TYPICAL METAL CASTING TEMPERATURE

1148°F—1652°F • 620°C—900°C

PERFORMANCE CHARACTERISTICS

- Fast melting speed through high conductivity
- Excellent oxidation resistance
- Good thermal shock resistance

IDENTIFICATION

EXCEL E crucibles are colored green.

PATTERN RANGE

EXCEL E crucibles are available in a comprehensive range of shapes and sizes to suit most end-user requirements. Custom sizes are available by special request. Pyrometer hole in the wall and pyrometer pocket configurations are available to facilitate measurement of metal temperature.

QUALITY

EXCEL E is manufactured to ISO9001:2000 quality standards.



PREHEATING / FIRST USE

Crucibles should be preheated empty until they reach a bright-red color, 1472°F (800°C). This procedure drives off any moisture absorbed in shipping and sets the glaze to achieve maximum oxidation resistance. The time needed to preheat depends on the size of the crucible. Typical times from cold to red heat are 30 minutes for crucibles with 700 lbs aluminum capacity, up to 70 minutes for crucibles with between 700–2000 lbs aluminum capacity.

CHARGING

As soon as the crucible becomes hot all over, charge and melt immediately. Charge light returns first to form a cushion for heavier metal to follow. Use tongs to charge ingots. Place large pieces and ingots vertically.

FULL LINE OF CRUCIBLES TO MEET EVERY APPLICATION



EXCEL HIMELT
Roller-Formed SIC



INDUX
Clay Graphite



SALAMANDER SUPER
Clay Graphite



STARRBIDE
Roller-Formed SIC



SYNCARB
ISO-Pressed Clay Graphite



ULTRAMELT
ISO-Pressed SIC



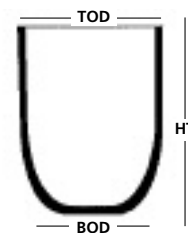
PART #	Dimensions: IN					Capacity: LBS	Metric-Dimensions: MM					Capacity: KG
	EXCEL BASINS	TOD	HT	BOD	Wall	Aluminum	TOD	HT	BOD	Wall	Aluminium	
BX173E	15 5/8	13 1/2	8 1/2	1	93	397	343	215	27	42		
BX174E	15 5/8	15 1/2	8 1/2	1	110	397	394	215	27	50		
BX176E	15 5/8	17	8 1/2	1	128	397	432	215	27	58		
BX164E	18 1/4	14 3/4	11	1 1/8	143	464	375	280	30	65		
BX163E	20 3/4	15	12 3/8	1 1/2	168	526	381	315	37	76		
BX166E	20 3/4	15 7/8	12 3/8	1 1/2	187	527	402	315	37	85		
BX167E	20 3/4	17 3/4	12 3/8	1 1/2	232	527	451	315	37	105		
BX168E	20 3/4	19 3/8	12 3/8	1 1/2	262	527	492	315	37	119		
BX169E	20 3/4	21 3/4	12 3/8	1 1/2	318	527	551	315	37	144		
BX171E	20 3/4	23 5/8	12 3/8	1 1/2	364	527	600	315	37	165		
BX177E	20 3/4	24 1/2	12 3/8	1 1/2	379	527	620	315	37	172		
BX178E	20 3/4	28	12 3/8	1 1/2	456	527	710	315	37	207		
BX179E	20 3/4	30	12 3/8	1 1/2	507	527	762	315	37	230		
BX274E	23 1/2	29 3/8	13 3/8	1 3/4	602	594	746	340	42	273		
BX202E	24 1/4	19 3/4	14	1 5/8	359	616	500	355	40	163		
BX302E	24 1/4	24 3/4	14	1 5/8	514	616	630	355	40	233		
BX303E	24 1/4	25 1/2	14	1 5/8	430	616	650	355	40	195		
BX401E	24 1/4	27 1/2	14	1 5/8	598	616	700	355	40	271		
BX411E	24 1/4	29 1/2	14	1 5/8	659	616	750	355	40	299		
BX402E	24 1/4	31 1/2	14	1 5/8	721	616	800	355	40	327		
BX403E	24 1/4	31 1/2	14	1 5/8	721	616	800	355	40	327		
BX503E	24 1/4	33 1/2	14	1 5/8	776	616	850	355	40	352		
BX502E	24 1/4	35 1/2	14	1 5/8	842	616	900	355	40	382		
BX504E	24 1/4	41 1/4	14	1 5/8		616	1050	355	40			
BX712E	28 3/8	23 5/8	15	1 3/4	697	720	600	380	44	316		
BX713E	28 3/8	26 3/8	15	1 3/4	816	720	670	380	44	370		
BX714E	28 3/8	27 1/3	15	1 3/4	858	720	695	380	44	389		
BX715E	28 3/8	28 3/4	15	1 3/4	917	720	730	380	44	416		
BX716E	28 3/8	30 1/8	15	1 3/4	975	720	765	380	44	442		
BX721E	28 3/8	31	15	1 3/4	1008	720	785	380	44	457		
BX717E	28 3/8	31 7/8	15	1 3/4	1052	720	810	380	44	477		
BX723E	28 3/8	32 7/8	15	1 3/4	1094	720	835	380	44	496		
BX718E	28 3/8	34 3/4	15	1 3/4	1177	720	885	380	44	534		
BX719E	28 3/8	37 3/8	15	1 3/4	1288	720	950	380	44	584		

PART #	Dimensions: IN					Capacity: LBS	Metric-Dimensions: MM					Capacity: KG
	TOD	HT	BOD	Wall	Aluminum		TOD	HT	BOD	Wall	Aluminium	
BX720E	28 3/8	38 3/8	15	1 3/4	1330		720	975	380	44	603	
BX1264E	30	19 1/4	18 1/8	1 3/4	476		762	490	460	46	216	
BX847E	30 1/4	23 5/8	18 1/8	1 3/4	684		769	600	460	44	310	
BX247E	30 1/2	29 1/2	13 1/4	1 3/4	972		775	750	338	44	441	
BX263E	30 1/2	29 1/2	18 1/8	1 3/4	979		775	750	460	44	444	
BX2632E	30 1/2	35	18 1/8	1 3/4	1268		775	890	460	44	575	
BX262E	30 1/2	35	18 1/8	1 3/4	1268		775	890	460	44	575	
BX264E	30 1/2	37 1/2	18 1/8	1 3/4			775	950	460	44		
BX2050E	30 1/2	39 3/8	18 1/8	1 3/4	1544		775	1000	460	44	700	
BX2095E	32 3/4	21 3/4	11 3/4	2	743		831	550	300	49	337	
BX856E	33 1/8	35 1/4	11 3/4	1 3/4	1537		842	895	300	47	697	
BX850E	33 1/2	21 3/4	17 3/4	2	730		850	550	450	49	331	
BX815E	33 1/2	29 1/2	17 3/4	1 7/8	1312		850	750	450	47	595	
BX855E	33 1/2	32	17 3/4	1 7/8	1475		850	815	450	47	669	
BX851E	33 1/2	35	17 3/4	1 7/8	1652		850	890	450	47	749	
BX862E	33 1/2	37 1/2	17 3/4	1 3/4	1797		850	950	450	46	815	
BX854E	33 1/2	38	17 3/4	1 3/4			850	965	450	46		
BX857E	33 1/2	38 1/2	17 3/4	1 3/4	1870		850	980	450	46	848	
BX8531E	33 1/2	39 3/8	17 3/4	1 3/4	1918		850	1000	450	46	870	
BX2100E	33 1/2	43 1/4	17 3/4	1 3/4	2163		850	1100	450	44	981	
BX852E	33 1/2	44 7/8	11 3/4	1 3/4	2126		850	1140	300	45	964	
BX8522E	33 1/2	44 7/8	17 3/4	1 3/4	2258		850	1140	450	45	1,024	
BX853E	33 1/2	44 7/8	17 3/4	1 3/4			850	1140	450	46		
BX8532E	33 1/2	48 7/8	17 3/4	1 3/4	2503		850	1240	450	44	1,135	
BX2500E	33 1/2	48 7/8	17 3/4	1 3/4			850	1240	450	44		

EXCEL BOWLS	Dimensions: IN					Capacity: LBS	Metric-Dimensions: MM					Capacity: KG
	TOD	HT	BOD	Wall	Aluminum		TOD	HT	BOD	Wall	Aluminium	
BX1100E	33 1/2	29 1/2	13 3/4	1 5/8	1103		850	750	350	42	500	
BX1300E	33 1/2	32	10 1/2	1 5/8	1235		850	813	268	42	560	
BX1500E	33 1/2	33 1/2	13 3/4	1 5/8	1347		850	850	350	42	611	
BX1600E	33 1/2	35	13 3/4	1 5/8	1446		850	890	350	42	656	
BX1800E	33 1/2	38 1/2	13 3/4	1 5/8	1669		850	980	350	42	757	
BX2600E	33 1/2	49	13 3/4	1 5/8	2260		850	1244	350	42	1025	
BX2652E	33 1/2	56 1/4	13 3/4	1 5/8	2789		850	1430	350	42	1265	
BX2657E	33 1/2	59	13 3/4	1 5/8	2981		850	1500	350	42	1352	

E=Glaze finish. All EXCEL E crucibles are available with a lip. Please inquire when ordering.

MEASUREMENTS:



INSTALLING THE CRUCIBLE

The use of a base block made of the same material will ensure uniform heating of the crucible base and help reduce thermal strains.

The base block should have the same or slightly larger diameter as the base of the crucible to provide adequate support.

For optimum heat transfer and melting efficiency, the height of the base block should be such that the base of the crucibles is level with the center line of the burner. The base block and crucible should be installed centrally in the furnace.

BALE OUT FURNACES

The crucible should have a 1/8" gap between the top edge of the crucible and the cover, to allow for expansion of the crucible. Too small of a space can lead to cracking at the top of the crucible.

Place a layer of insulating material, such as ceramic fiber between the cover and the top edge of the crucible to seal the gap. Ensure this insulation touches only the top edge of the crucible and not the side. The top steel ring must have a 1/2" space between it and the inside of the crucible to allow for expansion. Too small of a space can lead to cracking at the top of the crucible.

SAFETY

Proper safety clothing must be worn at all times, refer to AFS standards. Ensure that no moisture is introduced into the melt.

TILTING FURNACES

Cement the base block on the floor of the furnace; make sure it is centrally located and level.

Place the crucible centrally onto the base block. Use Morcem 900 to bond base block and crucible together.

Place the grip bricks 3" below the top edge of the crucible, leaving a 1/4" space between the crucible wall and grip bricks. Insert cardboard or carbonaceous material in the space.

Leave a space of 1-1/2" below the spout for expansion.



CRUCIBLE CARE



Store crucibles in a dry, warm area.



Do not stack inside another.



Do not roll crucibles.



Check for cracks or transport damage before use.



Base block must be flat, larger than crucible bottom and centered.



Use a ceramic fiber blanket to seal. Allow space between top and sides of furnace.



Use locating bricks in tilting furnaces, to allow for expansion.



Tangential fire around crucible.



Do not drop charge—slowly lower in with tongs.



First charge with returns, then ingots on top.



Only add flux after metal is molten.



Avoid premature crucible failure by ensuring drain hole is sealed.



For lift-out, tongs must be placed on lower third of crucible. Fit tongs evenly on both sides.



Empty crucible before removing from furnace. Do not let metal solidify in crucible.



Clean carefully every day while still hot.