IONOTEC LIMI 14 BERKELEY MANOR PARK,	COURT,				M 200						
RUNCORN, CH		1TQ		PAGE 1 OF 4							
	<u>LITHIUM STAI</u>	BILISED SOE	DIUM BETA" A	LUMINA CER	AMIC						
A. DRAWING REP	ERENCE	Drawing	Drawing to be agreed with customer								
B. DESCRIPTION	:	A thin-wa	lled ceramic cr	ucible, tube, o	r disc.						
C. SPECIAL REQ	<u>UIREMENTS</u>										
MAJOR CONST	TITUENTS :	<u>Compon</u>	<u>ent</u>	<u>Nominal</u> ("/o)	<u>Range</u> (‴/o)						
		Na ₂ O Li ₂ O ZrO ₂ Al ₂ O ₃		8.85 0.75 0.75 89.65	8.60 - 9.00 0.65 - 0.80 0.50 - 1.00 88.4 - 91.0						
		Na₂O, Zr Test Met	Na_2O , ZrO_2 , and Al_2O_3 determined by X-ray fluorescence (lonotec Test Method 301-09005).								
		Li ₂ O dete	rmined by XRI	D (Ionotec Test	t Method 301-09003)						
TRACE IMPURI	TIES :	<u>Compon</u>	<u>ent</u>	Maximum Lir ("/o)	<u>nit</u>						
		SiO ₂ Fe ₂ O ₃ Cr ₂ O ₃ NiO K ₂ O CaO		0.06 0.04 0.04 0.04 0.02 0.02 0.02							
		Determin 301-0900	ed by X-ray flu 5).	orescence (lor	notec Test Method						
CRYSTAL STRU	JCTURE :	<u>Compon</u>	<u>ent</u>	<u>Range</u> (^w /o)							
		Beta"-Alu NaAlO ₂ Beta-Alui	mina nina	90 - 95 0 - 1 Balance							
		Beta"-alu Test Met	Beta"-alumina content determined by X-ray diffraction (lonotec Test Method 301-09003).								
		NaAlO ₂ o Method 3	NaAlO ₂ content determined by water extraction (lonotec Test Method $301-09007$).								
		Maximun Typical M	n Grain Size (n latrix Grain Siz	ominal): 150μn e : 2-3μ	n.						
OTHER PHYSIC PROPERTIES	CAL :		≥ 3.188 g/cm ³								
					Test Method 301-09006).						
			y at 350°C:	3.0 - 5.0 ohm.							
APPEARANCE	- VISIBLE:	The com identified	The components to be free from defects of the form identified in Appendix A.								
		Determin relevant (Determined by white light or in ambient light in accord with the relevant Operating Instructions.								
THE INFORMATION CO	NTAINED WITHIN THIS F	PRINT IS THE PRO	PERTY OF IONOTE	C LIMITED AND IS 1	TO BE TREATED CONFIDENTIALLY						
WRITTEN	ISSUE & DATE	1 7/11/96	2 22/4/98	3 3/12/98							
APPROVED	ECN No.										

r											
IONOTEC LIMITED 14 BERKELEY COURT, MANOR PARK,			M 200								
RUNCORN, CHESHIRE W	/A7 11	rQ.	PAGE 2 OF 4								
APPEARANCE - DYE TEST	:	The components to be free from defect Appendix B.	The components to be free from defects of the form identified in Appendix B.								
		Determined by dye test/UV inspection in Operating Instructions.	n accord with the relevant								
D. <u>PROCESSING</u>	:	Processing to be carried out in accord with relevant Operating Instructions.									
E. <u>SUPPLIER</u>	:	Not applicable ; manufactured in-house	ł.								
F. <u>PACKAGING</u>											
FOR USE OFF SITE	:	Components to be sealed hermetically customer requirements	and in accord with								
G. <u>LABELLING</u>											
FOR USE OFF SITE : Each container to be labelled to identify component, dra number, quantity and batch number. Other customer la requirements must also be included.											
H. <u>TRACEABILITY</u>											
FOR USE OFF SITE	:	Different batches to be packaged in sep otherwise segregated so that they are batch number and quantity.	parate containers or clearly identifiable by								
I. CERTIFICATION	:	In accord with customer requirements.									

THE INFORMATION CONTAINED WITHIN THIS PRINT IS THE PROPERTY OF IONOTEC LIMITED AND IS TO BE TREATED CONFIDENTIALLY											
WRITTEN		ISSUE & DATE	1	7/11/96	2	22/4/98	3	3/12/98			
APPROVED		ECN No.									

IONOTEC LIMITED 14 BERKELEY COURT, MANOR PARK, RUNCORN, CHESHIRE WA7 1TQ

M 200

PAGE 3 OF 4

<u>APPENDIX A</u>

VISIBLE LIGHT INSPECTION

Determined by white light and in ambient light - all visual inspection to be conducted with the naked eye or, if necessary, wearing spectacles prescribed by an optician for close work.

A1. DETERMINED USING AMBIENT LIGHT

Determined using ambient light, is defined as inspection under room lighting.

REJECT CLASSIFICATIONS

Discolouration*	Large areas of <u>surface</u> discolouration with clearly visible colour or contrast.
White Marks [*]	White marks on the external base of the electrolyte.
Inclusions [*]	Large inclusions in the <u>body</u> of the electrolyte which give an area of clearly visible colour.

Electrolyte with an overall bluish hue is acceptable provided that the chemical analysis of the batch, as determined by XRF, conforms to the specification included in M200.

A2. DETERMINED USING WHITE LIGHT

Determined using white light, is defined as inspection in a darkened booth using a 275W radiographic white light box.

REJECT CLASSIFICATIONS

Holes [*]	Holes visible from both sides of the electrolyte.
Cracks [*]	Any cracked shape.
Chips [*]	(a) Large chips in the open end of the electrolyte, extending >1mm down from the open end.
	(b) Chips which extend <1mm down from the open end which retain dye during dye testing (Appendix B) i.e. there is cracking associated with the chipped edge.
Shadows [*]	Dark shadows in the base of the electrolyte.
Flaking [*]	Large areas of flaking on internal and external surfaces

THE INFORMATION CONTAINED WITHIN THIS PRINT IS THE PROPERTY OFIONOTEC LIMITED AND IS TO BE TREATED CONFIDENTIALLY											
WRITTEN		ISSUE & DATE	1	7/11/96	2	22/4/98	3	3/12/98			
APPROVED		ECN No.									

IONOTEC LIMITED 14 BERKELEY COURT, MANOR PARK, RUNCORN, CHESHIRE WA7 1TQ

M 200

PAGE 4 OF 4

APPENDIX B

DYE TEST/UV INSPECTION

DEFECTS RESULTING IN REJECTION⁽¹⁾

Any pinholes on the surface of the shape retaining yellow colour in contrast to the background.

Any cracks retaining yellow colour in contrast to the background

Any yellowish background sufficient to mask surface defects.

⁽¹⁾ Shapes to be examined against a non-fluorescent background.

THE INFORMATION CONTAINED WITHIN THIS PRINT IS THE PROPERTY OFIONOTEC LIMITED AND IS TO BE TREATED CONFIDENTIALLY											
WRITTEN		ISSUE & DATE	1	7/11/96	2	22/4/98	3	3/12/98			
APPROVED		ECN No.									