



**KUMAR CERAMICS PRIVATE LIMITED**



Decide with Confidence

**PRICE LIST NO. : KCPL / 11 / 2018**

<b>MATERIAL GRADE : K-60</b>												
<b>REFRACTORY SHEATHS ONE END CLOSED</b>												
<b>to withstand temperature upto 1600 C.</b>												
OUTER MM		6	8	10	12	15	18	20	22	24	29	32
DIAMETER												
INNER MM		4	5	7	8	11	13	15	17	19	22	25
LENGTH		PRICE IN INR										
OVER UPTO												
100 MM 300 MM		89	123	133	133	162	177	191	220	251	268	280
301 MM 450 MM		108	143	149	149	169	183	237	260	270	359	377
451 MM 610 MM		171	256	280	280	298	310	357	411	437	489	561
611 MM 750 MM		214	322	352	352	369	383	470	505	547	722	756
751 MM 1030 MM		287	430	479	479	519	547	650	709	761	962	1007
1031 MM 1200 MM		345	517	752	752	770	811	850	930	982	1058	1111
1201 MM 1300 MM		437	655	813	813	1114	1147	1175	1226	1295	1363	1384
1300 MM 1500 MM		550	721	895	895	1226	1261	1295	1348	1424	1752	1843
TOLERANCE : +/- 1 MM IN O/D & I/D & +/- 3 MM IN LENGTH.												



<b>MATERIAL GRADE : K-80</b>												
<b>REFRACTORY SHEATHS ONE END CLOSED</b>												
<b>to withstand temperature upto 1700 C.</b>												
OUTER MM		6	8	10	12	15	18	20	22	24	29	32
DIAMETER												
INNER MM		4	5	7	8	11	13	15	17	19	22	25
LENGTH		PRICE IN INR										
OVER UPTO												
100 MM 450 MM		350	390	456	456	519	557	618	691	716	860	895
451 MM 610 MM		587	651	761	761	806	872	968	1111	1182	1327	1523
611 MM 750 MM		702	782	949	949	1003	1072	1193	1372	1478	1666	1729
751 MM 1030 MM		1043	1160	1299	1299	1407	1499	1666	1919	2060	2330	2446
1031 MM 1200 MM		1781	1980	2042	2042	2088	2072	2302	2518	2662	2760	3353
1201 MM 1300 MM		1851	2056	2241	2241	3073	2920	3244	3378	3557		
1300 MM 1500 MM		2037	2263	2465	2465	3379	3212	3569	3717	3914		
TOLERANCE : +/- 1 MM IN O/D & I/D & +/- 3 MM IN LENGTH.												



<b>MATERIAL GRADE : K-99</b>												
<b>REFRACTORY SHEATHS ONE END CLOSED</b>												
<b>to withstand temperature upto 1800 C.</b>												
OUTER MM			6	8	10	12	15	18	20	24	32	
DIAMETER												
INNER MM			4	5	7	8	11	13	15	19	25	
LENGTH			PRICE IN INR									
OVER UPTO												
100 MM 450 MM			835	928	1031	1031	1157	1234	1412	1695	2804	
451 MM 610 MM			1035	1150	1277	1277	1362	1888	2190	2258	3801	
611 MM 750 MM			1590	1767	1962	1962	2120	2759	3210	3390	4673	
751 MM 1030 MM			2080	2311	2567	2567	2685	3340	3819	4098	6602	
1031 MM 1200 MM			2410	2677	2976	2976	3414	3896	4244	4451	7679	
1201 MM 1300 MM			3497	3885	4318	4318	4509	4787	4880	5092	8377	
TOLERANCE : +/- 1 MM IN O/D & I/D & +/- 3 MM IN LENGTH.												
PERMISSIBLE BEND UPTO 1300 MM SHOULD BE ALLOWED UPTO 4 MM.												





## KUMAR CERAMICS PRIVATE LIMITED

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### **KUMAR Alumina Lab-ware (60%) products:-**

KUMAR K-60 Alumina Lab-wares are made from Mullite Grains. These can withstand very high temperature and offer good chemical resistance at high temperature. These Lab-ware are made by slip casting process/extrusion process and the purity of sintered alumina is maintained to 60% (approx.).

### **The Chemical Composition of our K-60 Alumina Products is:**

Composition (%)	Al <sub>2</sub> O <sub>3</sub>	59.78
	SiO <sub>2</sub>	35.06
	Fe <sub>2</sub> O <sub>3</sub>	0.42
	Na <sub>2</sub> O	0.25
	MgO	1.88
	CaO	1.81
	TiO <sub>2</sub>	0.35
	K <sub>2</sub> O	0.18
	LOI	0.27

Fired density is 2.8 gm/cc.

Colour and Lustre: White colour with vitreous luster, translucent.

### **Guidelines for use of K-60 High Alumina Products:**

- Alumina products should be completely dry before usage. If they get wet, let the crucibles or tubes dry naturally. If these have to be dried in a dryer or an oven, care should be taken that the drying takes place slowly.
- To prevent thermal stress cracks on the lab-ware products, temperature change rate should not exceed 150<sup>0</sup> C/Hr.
- Avoid contact of heated alumina products with a cold surface.
- Alumina crucibles/tubes should not be heated by torch or furnaces that cannot control temperature-control rate. The uneven heating can cause cracks
- Particular shapes of the Lab-ware products are suitable for specific uses. Hence, it is the responsibility of the user to determine the suitability of the product as per his use.
- Improper loading of materials in the alumina lab-ware should be avoided as this may cause uneven heating of the lab-ware resulting in cracks

### **Recommended Usage:**

60% alumina wares are useful to chemists, metallurgists and other high temperature works demanding results free of any contamination. These also find application in process equipments and scientific equipment. These are meant for use in reducing and oxidizing atmospheres, and these offer high resistance to alkalis and other fluxes. These are suitable for glass melting process including borosilicate glass.

### **The Characteristic Features of High Alumina Products:**

The high alumina-ware have excellent Thermal Conductivity, high mechanical strength, excellent electrical insulation, zero open porosity, and a high degree of chemical inertness. These chemical-ware, having high temperature tolerance, are suitable under conditions of irradiation and are compatible in reactor design. The products have been tested to be ultra-high vacuum compatible.

### **Some of the KUMAR brand High Alumina Lab-ware are:**

High Alumina Boats, High Alumina Crucibles, High Alumina Trays and Dishes, High Alumina Sleeves/Beads and High Alumina Tubes.



## KUMAR CERAMICS PRIVATE LIMITED

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### **KUMAR Alumina Lab-ware (99.8%) products:-**

KUMAR Alumina Lab-wares are made from ALCOA Alumina imported from North America. These can withstand very high temperature and offer good chemical resistance at high temperature. These Lab-ware are made by slip casting process/extrusion process and the purity of sintered alumina is maintained to more than 99.7%.

### **The Chemical Composition of our Alumina Products is:**

Composition (%)	Al <sub>2</sub> O <sub>3</sub>	>99.8
	SiO <sub>2</sub>	<0.03
	Fe <sub>2</sub> O <sub>3</sub>	<0.02
	Na <sub>2</sub> O	<0.07
	MgO	<0.05
	CaO	<0.02

Fired density is 3.90 gm/cc.

Colour and Lustre: Ivory colour with vitreous luster, translucent.

### **Guidelines for use of High Alumina Products:**

- Alumina products should be completely dry before usage. If they get wet, let the crucibles or tubes dry naturally. If these have to be dried in a dryer or an oven, care should be taken that the drying takes place slowly.
- To prevent thermal stress cracks on the lab-ware products, temperature change rate should not exceed 150<sup>0</sup> C/Hr.
- Avoid contact of heated alumina products with a cold surface.
- Alumina crucibles should not be heated by torch or furnaces that cannot control temperature-control rate. The uneven heating can cause cracks
- Particular shapes of the Lab-ware products are suitable for specific uses. Hence, it is the responsibility of the user to determine the suitability of the product as per his use.
- Improper loading of materials in the alumina lab-ware should be avoided as this may cause uneven heating of the lab-ware resulting in cracks

### **Recommended Usage:**

99.8% alumina wares are useful to chemists, metallurgists and other high temperature works demanding results free of any contamination. These also find application in process equipments and scientific equipment. These are meant for use in reducing and oxidizing atmospheres, and these offer high resistance to alkalis and other fluxes. These are suitable for glass melting process including borosilicate glass.

### **The Characteristic Features of High Alumina Products:**

The high alumina-ware have excellent Thermal Conductivity, high mechanical strength, excellent electrical insulation, zero open porosity, and a high degree of chemical inertness. These chemical-ware, having high temperature tolerance, are suitable under conditions of irradiation and are compatible in reactor design. The products have been tested to be ultra-high vacuum compatible.

### **Some of the KUMAR brand High Alumina Lab-ware are:**

High Alumina Boats, High Alumina Crucibles, High Alumina Trays and Dishes, High Alumina Sleeves/Beads and High Alumina Tubes.