Meller Optics, Inc.

Microlux Fine Alumina

Calcined from High Purity feed material, Microlux Alumina is produced to exacting specifications to assure you, our customer, of the finest Alumina available today!

Microlux is produced in two grades:

REGULAR GRADE... MICROLUX-R Alumina tends to have larger particles due to the agglomeration of smaller particles. For this reason, it has been the choice of Optical Technicians and Metallurgists for over 25 years. Microlux Regular Alumina starts off as a very aggressive grinding and lapping medium that cuts very quickly; however, because of its composition, it breaks down readily under pressure to provide excellent final lapped or polished surfaces.

Microlux Regular Grade Alumina has also found use in filler, filter, metal separation, and a wide range of other applications.

DEAGGLOMERATED GRADE... MICROLUX-RZ Alumina has a highly controlled particle distribution produced by a proprietary separation process that delivers particles that retain their fine dispersion over years of shelf life, while maintaining its high purity and the unique characteristics of each platelet.

Although originally created for high purity ceramic applications, Microlux-RZ has found its greatest usage as a fine grinding and polishing medium when used in conjunction with large micron grinding medium. Microlux-RZ has been especially successfully for ultrafine polishing of semisoft crystalline and composite materials.

Microlux-RZ also is used as a filler for magnetic medium, plastics, binders, strengthening composite materials, armour, and for ultrapure ceramic applications where packing density is critical.

Microlux Alumina is packaged in 5 lb. plastic bags placed in protective cardboard containers, or in convenient 1 lb. plastic jars.

MICROLUX-R (Regular)		MICROLUX-RZ (Deagglomerated)	
MCG100	0.05 micron	MCG100Z	0.05 micron
MCG85	0.06 micron	MCG85Z	0.06 micron
MCA30	0.1 micron	MCA30Z	0.1 micron
MCA15	0.3 micron	MCA15Z	0.3 micron
MCA5	1.0 micron	MCA5Z	1.0 micron
MCA4	1.5 micron	MCA4Z	1.5 micron
MCA2	3.0 micron	MCA2Z	3.0 micron

P.O. Box 6001, Providence, RI 02940 • Phone: 401-331-3717 • 800-821-0180 • FAX: 401-331-0519

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Technical Data

	MICROLUX-R (Regular)					
	GAMMA PHASE		GAMMA PHASE	TRANSITION PHASE GAMMA ALPHA		
	.05		.06	.1	.3	1.0
Purity	99.98%		99.98%	99.98%	99.98%	99.98%
Crystalline System	cubic		cubic	hex.	hex.	hex.
Hardness Mohs Scale	8		8	9	9	9
Crystal Density g/cm^3	3.67			3.98	3.98	3.98
Apparent Density g/cm^3	.17-.21		.17-.21	.26-.29	.27-.33	.29-.35
Melting Point°C	Transforms into Alpha			2040	2040	2040
Specific Heat (20°C) Cal/gm				.183	.183	.183
Particle Size	.01-.02		.01-.02	.02-.03	.02-.03	.3
Size of Aggregates (Statistical Values) Microns	100%	20	20	20	20	30
	50%	5	5	4	8	8
	25%	2.5	2.5	2.5	4	4
Specific Surface m^2/g	95-105		76-86	22-28	13-17	5-7

	MICROLUX-RZ (Deagglomerated)				
	GAMMA PHASE	GAMMA PHASE	TRANSITION PHASE GAMMA ALPHA		
	.05	.06	.1	.3	1.0
Purity	99.99%	99.99%	99.99%	99.99%	99.99%
Crystalline System	cubic	cubic	hex.	hex.	hex.
Hardness Mohs Scale	8	8	9	9	9
Crystal Density g/cm^3	3.67		3.98	3.98	3.98
Apparent Density g/cm^3	.13-.19	.12-.14	.29-.32	.39-.42	.42-.52
Melting Point°C	Transforms into Alpha		2040	2040	2040
Specific Heat (20°C) Cal/gm			.183	.183	.183
Particle Size	.01-.02	.01-.02	.02-0.3	.02-0.3	.3
Size of Aggregates (Statistical Values) Microns	4	4	4	4	5
	.5	.5	.6	.6	.7
	.3	.3	.3	.3	.4
Specific Surface m^2/g	95-105	76-86	22-28	13-17	5-7

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