

Calcined Aluminium Oxide Powder



Introduction:

Logitech Calcined Aluminium Oxide Powders are produced using a unique process which grades the particles in size and shape more closely than is possible by normal means. The particles produced by the process are flat and tend to lie parallel with the surface being worked; the working pressure is thus more evenly spread. Breakdown of the abrasive is reduced and “abrasiveness” is retained for a longer period. The close grading of Logitech Calcined Aluminium Oxide Powders provides the optimum combination of cutting rate and surface finish.

The following advantages can be obtained using Logitech Calcined Aluminium Oxide Powders:

Faster Lapping & Polishing - Experience has shown that these powders can usually reduce lapping and polishing times by at least 20% and are particularly effective on hard materials, e.g. ceramics, silicon and hardened steel (other abrasives have a tendency to be crushed and break down too quickly). In some instances 50% reductions in time have been achieved over conventional powders because a larger particle size may be used without loss of surface finish.

Reduction in Concentration of Abrasive Slurry - Normally the concentration of abrasive in a slurry may be reduced by at least

Product Data

1 micron size:	0CON-007
3 micron size:	0CON-008
9 micron size:	0CON-009
12 micron size:	0CON-010
15 micron size:	0CON-011
20 micron size:	0CON-012
30 micron size:	0CON-013

Product properties:

Product type	Aluminium Oxide Powder
Colour	White
Hardness, Moh	9.0
Shape	Hexagonal Platelet
Specific Gravity	3.8 g/cc

25% when changing to Logitech Calcined Aluminium Oxide Abrasive Powder from regular alumina abrasives.

Lapping Pressure and Plate Speed can be increased - Pressure and plate speed used for lapping can, in most cases, be increased by up to 10% after changing to Logitech, Calcined Aluminium Oxide Abrasive Powder from regular alumina abrasives, thus reducing lapping times. °

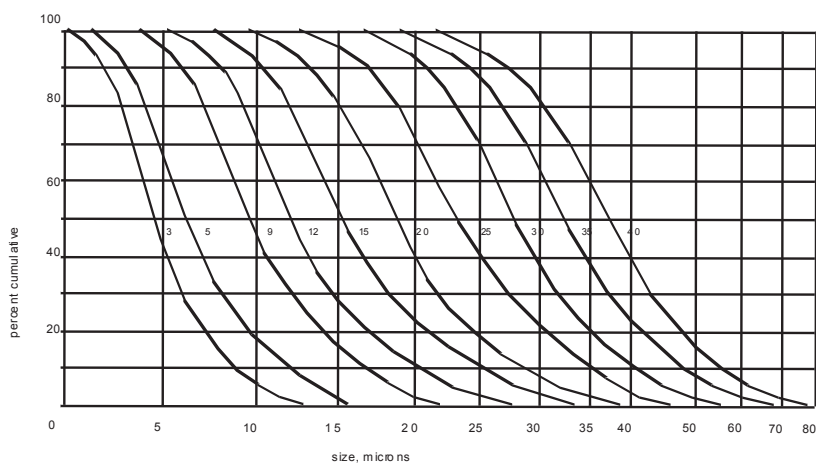
To take full advantage of Logitech Calcined Aluminium Oxide Powder, reference should be made to the particle distribution curves overleaf, thus enabling a powder which has a larger average particle size than the abrasive currently in use to be chosen. For example, if a 500 grit (12 micron mean) regular aluminium oxide powder is currently used, then it should be replaced with 20 micron Logitech Calcined Aluminium Oxide Powder. In each of the instances noted, surface finish will be relatively unchanged, due to the lower “apparent” particle size of the Calcined Aluminium Oxide, resulting from their flatter shape when compared to conventional regular aluminium oxide abrasive powders.

Calcined Aluminium Oxide Powder

Ordering Data:

Code	Micron size	Pack size	Application details
0CON-007	1 micron	5 kg	Suitable for high precision optical component polishing, & as the final polishing stage for certain types of thin rock section.
0CON-008	3 micron	5 kg	The most commonly used particle size. Suitable for a wide range of fine lapping applications with semiconductor and optical materials.
0CON-009	9 micron	5 kg	Used for rapid stock removal on delicate semiconductor materials, such as GaAs and optical components.
0CON-010	12 micron	5 kg	Applications include initial lapping of piezo-electric crystals prior to final lapping with 3 and 1 micron abrasives.
0CON-011	15 micron	5 kg	Suitable for initial lapping of precision optical components and for final polishing of "hard" material components.
0CON-012	20 micron	5 kg	Applications include "backlapping" of silicon wafers and fine lapping of quartz and sapphire components.
0CON-013	30 micron	5 kg	Used for coarser lapping of components such as mechanical seals, or with semiconductor and optical materials where high stock removal rates are required.

Particle Size Distribution Curves:



Typical Chemical Analysis (3 micron)

Al ₂ O ₃	98.14
SiO ₂	0.52
Fe ₂ O ₃	0.03
Na ₂ O	1.17
CaO	0.06
MgO	0.03
TiO ₂	<0.01
Cr ₂ O ₃	0.01
Loss on ignition:	0.02

Complementary products:

Ethane Diol



Logitech Limited
 Erskine Ferry Road, Old Kilpatrick, Glasgow G60 5EU, Scotland, U.K.
 Tel: +44 (0) 1389 875444
 Fax: +44 (0) 1389 890956
 e-mail: info@logitech.uk.com
www.logitech.uk.com

Distributed by: