by MIPOX

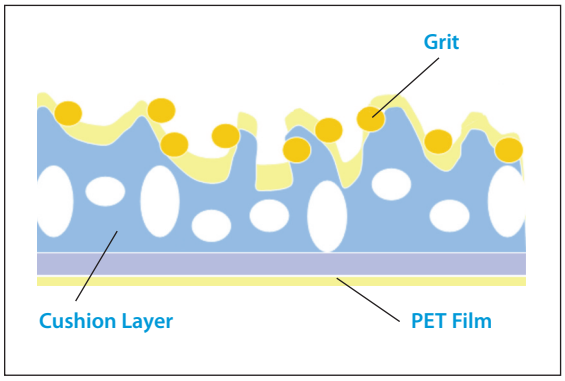
Micron Grit Sized Finishing & Polishing Films

For fine polishing of 3D printed objects and complex contour smoothing

About Micron Grit films

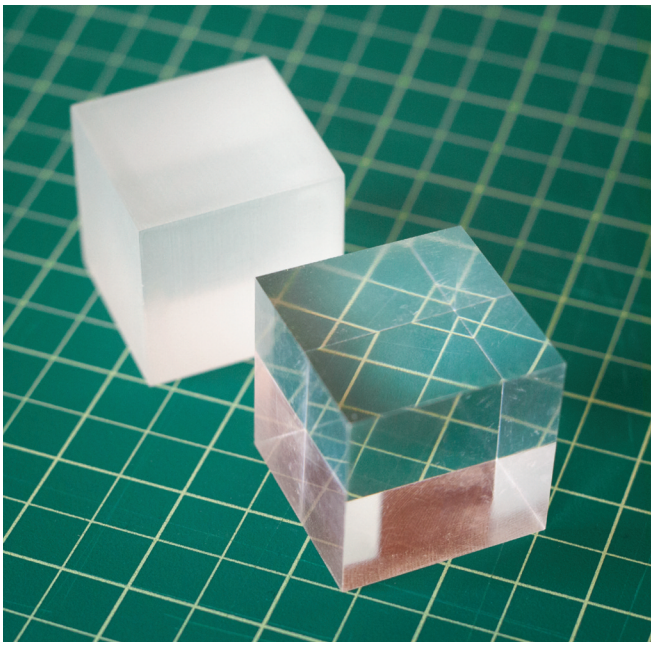
AngstromLap 3D (AL3D) polishing films are designed to produce very smooth surfaces on a wide range of materials such as ceramics, metals, exotic alloys and composites. Our micron grit sized films are an evolution of the films designed to meet the highest standards of the optical fiber industry and give you unmatched lot-to-lot consistency. This gives you the control you need for sanding, microfinishing, honing, buffing, polishing and cleaning a wide range of surfaces to smooth, high gloss and mirror finishes.

Cushioned Micron Grit films



Our 'cushioned' polishing films consist of a PET film with a cushion layer. The grit side of the cushion layer provides a very large micro-structured surface to support the grit, which during use allows the grit to have many cutting points. The most common grits used are aluminum oxide and silicon carbide. Grits are obtained from tightly graded spheres which have high hardness and durability. Grit sizes are easily identified by color coded sheets. Sheets are 93mm x 114mm.* Sheets can be purchased individually or in sample packs.

See cushion film specifics, page 2



Optically clear acrylic material, before and after polishing.

Features

Wide range of grit sizes
Eliminates tooling/machining marks
High durability
High cut rate
Super finishing
Non-slurry processing, no messy clean up
Adaptable to polishing machines

Applications

Elimination of layered structures from 3D printing

Removal of 'haze causing' surface scratches, for transparent materials

Creating high gloss, mirror finishes

Fiber Optic Center, 23 Centre St., New Bedford, MA 02740 USA
Ph: 508-992-6464 / Toll Free: 800-IS-FIBER / www.focenter.com

Standard (AL3D) Cushion Films

Grit Size	Mesh Size	Part Number	Color
20µ	800	WA20SWE114/93	Pink/White Dots
9µ	2000	WA9SWE114/93	Light Blue
5µ	3000	WA5SWE114/93	Yellow
1µ	8000	WA1SWE114/93	Pink

Standard (AL3D) Aluminum Oxide Films

Standard aluminum oxide films are rougher grits for initial smoothing of the surface peaks in preparation for the cushion films. These films have a 5mil backing, with a non-slip backing surface. Grit sizes are easily identified by the grit size written on the back of each sheet. Sheets are 93mm x 114mm.*

Grit Size	Mesh Size	Part Number
80µ	240	W80125EAR114/93
60µ	320	W60125EAR114/93
50µ	360	W50125EAR114/93
40µ	400	W40125EAR114/93
30µ	600	W30125EAR114/93
20µ	800	W20125EAR114/93
16µ	1000	W16125EAR114/93
12µ	1500	W12125EAR114/93
9µ	2000	WA9125EAR114/93
5µ	3000	WA5125EAR114/93

Standard (AL3D) Silicon Carbide Film

Silicon carbide film is the Final Film. It is the smallest grit size for mirror polishing of the surface. It consists of the 3mil backing with a non-slip backing surface. Sheets are 93mm x 114mm.*

Grit Size	Mesh Size	Part Number	Color
1µ	8000	SC1F114/933N	Grey

* For custom-sized sheets, contact Fiber Optic Center.

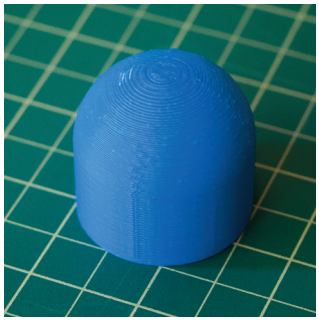
Sample Packs

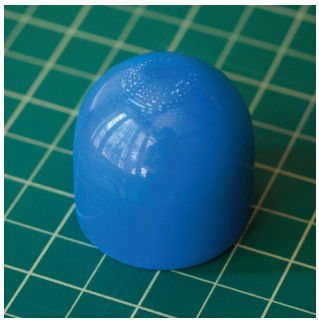
Unsure what grit size you need? We offer the following sample packs, each of which contain a range of grit sizes to help you determine which grits are most appropriate for your application.

BASIC For ABS/PLA resin objects
Contains 1 sheet each of:
W80125EAR114/93 (80µ)
W40125EAR114/93 (40µ)
WA9SWE114/93 (9µ)

STANDARD For acrylic resin objects
Contains 1 sheet each of:
W40125EAR114/93 (40µ)
WA20SWE114/93 (20µ)
WA9SWE114/93 (9µ)
WA5SWE114/93 (5µ)

PROFESSIONAL For ABS/PLA resin objects (mirror surface finish)
Contains 1 sheet each of:
WA1SWE114/93 (1µ)
SC1F114/933N (1µ)





FDM object before and after polishing.

Polishing Example - Basic Sample Pack

The Tune D3 Basic Sample Pack, recommended for polishing acrylic, contains two types of Al2O3 films (green) with 80µ and 40µ grit sizes, and one 9µ grit Cushion Film (blue). All of these films can be used wet* or dry. The backing of the green films is solid and the grit is rough; please handle with care. Wear a dust mask, protective glasses and gloves for polishing. If polishing residues get into your eyes, rinse with water and DO NOT RUB your eyes.

Step 1: Rough polish with 80µ film and/or 40µ film (green films)

Depending on the initial surface roughness start with the 80µ or 40µ grit. Use one or both of these films, choosing the smallest grit size that allows you to remove the largest surface imperfections easily. This step can be done as a wet or dry polish; wetting can sometimes help lubricate the polishing film/surface and/or help move the polishing residue away. For a wet polish simply wet* the film prior to using. Do not press too hard on the film; let the grit do the work. Polish the entire object, with any combination of rotary and straight line motions. If the film clogs or wears smooth, wash the film with water (please ensure any polishing residues do not contaminate water sources). The slight surface roughness left by the rough polishing will be removed in the next step.

Step 2: Final polish with 9µ cushion film (blue film)

Use the blue film to final polish the surface. This can also be done wet or dry, using the same procedures described above. Polish until you achieve the desired level of surface smoothness.

* Films can easily be evenly wet with water, without pools, using the AngstromSpray Spritzer Bottle, P/N AS8 (8oz) and AS16 (16oz).

For Special Quotes and Technical Consultations

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