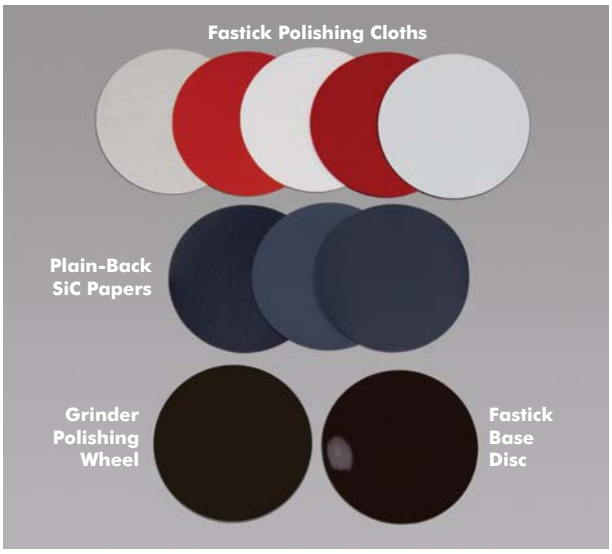
Fastick™ System with SiC Grinding

LECO Corporation; Saint Joseph, Michigan USA

The new Fastick system provides a cost-effective alternative to magnetic disc systems for grinding and polishing your most challenging samples. The system's core is a PSA Base disc with pressure-sensitive adhesive on its underside and a glossy top surface designed to cling to a variety of surfaces.

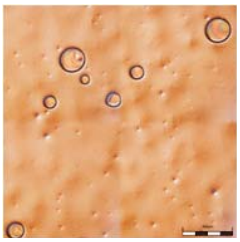
Fastick polishing cloths feature a special backing that adheres readily and securely to the Base disc. While it can be difficult to remove magnetic discs, Fastick polishing cloths hold on tight yet are easily removed from the Base disc. With no magnet to attract metal debris to the polishing cloth, Fastick reduces the chances for contamination and simplifies cloth disposal. You may also use plain-back silicon-carbide grinding discs to eliminate the need for a retaining ring and the occasional disc slippage and wrinkling.

When used with plain-backed silicon carbide papers, the Fastick system would look something like this:



Grinding with SiC Discs and the Fastick System

To use plain-back silicon carbide discs, the first step is to affix a PSA-backed Fastick Base disc to the grinder/polisher wheel. The SiC disc is laid on the glossy/clingy upper surface of the Base disc and light pressure is applied to assure adhesion. After the grinding step is complete, the SiC disc can be easily removed and any excess water wiped away to prepare for the next grinding step.



Polishing with Fastick Cloths

To use Fastick polishing cloths, the first step is to affix a PSA-backed Fastick Base disc to the grinder/polisher wheel. The Fastick polishing cloth is laid on the glossy/clingy upper surface of the Base disc and light pressure is applied to assure adhesion. After the polishing step is complete, the cloth can be easily removed and any excess water and/or debris wiped away to prepare for the next polishing step.

A typical SiC/Fastick grinding/polishing procedure for aluminum specimens is shown on page 2.

Application of Fastick Polishing Cloths

- Base – PSA base for Fastick system.
- MIX (Pan W type) – 3 micron intermediate polishing step applications.
- RED (Red Felt type) – 1 micron final polishing step or multi-purpose applications.
- OPTO (Imperial type) – 0.05 micron final polishing step applications.
- Flat (Yellow CAMEO type) 9 micron coarse polishing step applications.
- STEP (Struers Mol type) - 6 micron intermediate polishing step applications.

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Metallographic Application Note

Delivering the Right Results

Fastick™ Aluminum Method

[•] Fixed Holder [ ] Single Sample

Grinding GPX200	**Time (Minutes: Seconds)**	**Head Direction**	**Head Pressure (Pounds)**	**Head Speed (RPM)**	**Wheel Direction**	**Wheel Speed (FPM)**
240 grit SiC Plain Back/Water	1:00	CW	30	100	CCW	300
400 grit SiC Plain Back/Water	1:00	CW	30	100	CCW	300
600 grit SiC Plain Back/Water	1:00	CW	30	100	CCW	300
800 grit SiC Plain Back/Water	1:00	CW	30	100	CCW	300

Polishing	**Time (Minutes: Seconds)**	**Head Direction**	**Head Pressure (Pounds)**	**Head Speed (RPM)**	**Wheel Direction**	**Wheel Speed (FPM)**
Base Disc 8″ 812-555-101 10″ 812-555-107 12″ 812-555-113						
3 µm Diamond Polish Mix Cloth 8″ 812-555-103 10″ 812-555-109 12″ 812-555-115	4:00	CW	30	100	CCW	200
1 µm Diamond Polish Red Cloth 8″ 812-555-105 10″ 812-555-111 12″ 812-555-117	1:00	CW	30	100	CCW	200
0.05 µm Colloidal Silica Polish Opto Cloth 8″ 812-555-106 10″ 812-555-112 12″ 812-555-118	1:30	CW	25	75	CCW	150

Specifications and part numbers may change.
Consult LECO for latest information.
Patent pending; Fastick™ is a trademark of G&G Surface Technology.
CAMEO is a registered trademark of LAM-PLAN.

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