TechniFlex™ LCL1000F/423M U9F

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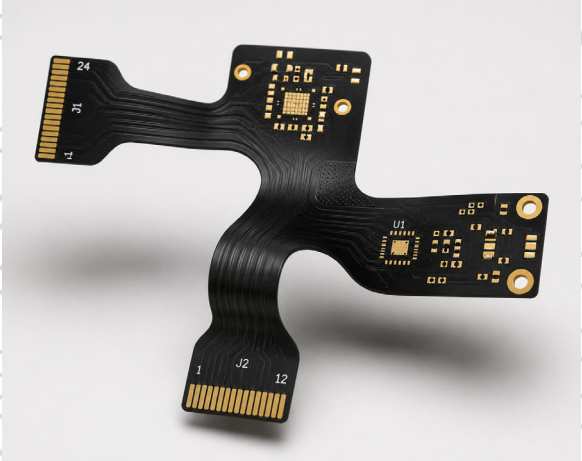
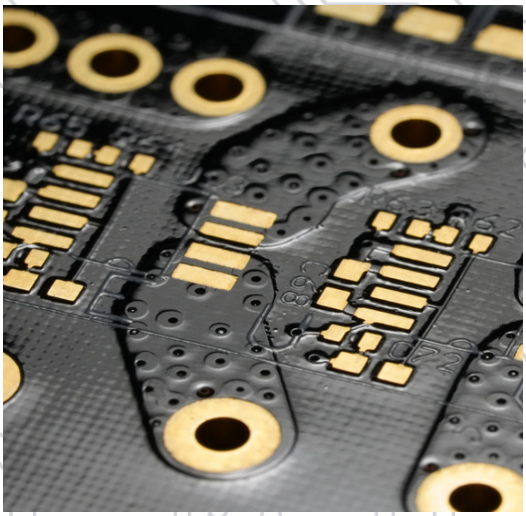
Black Matte Flexible Solder Mask — Halogen-Free, Liquid Photoimageable (Laser/UV/LED Direct)



TechniFlex™ LCL1000F/423M U9F is a liquid photoimageable, halogen- and active-silicone-free flexible black matte solder mask, designed for low exposure energy on today's high-output direct imaging systems. Its multiple-photoinitiator formulation can be used with UV, LED and multiple-laser direct imaging systems.

This DI product is highly resistant to selective plating metallization of circuitry and to repeated soldering operations, supporting lead-free soldering and hot bar processing across both thin and thick coating applications (12-40 μm).

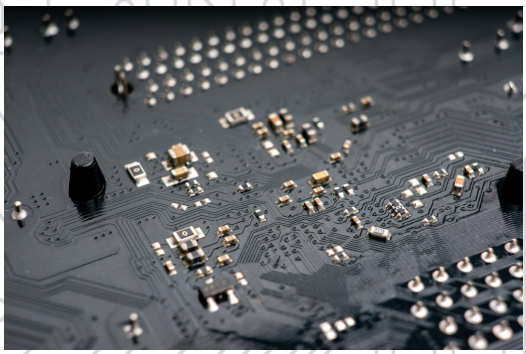


Benefits

- Improved light penetration resulting in reduced undercut thanks to new pigment system
- Higher heat resistance for multiple soldering or hot bar processing
- Enhanced adhesion to underfills and adhesives thanks to active silicone-free formulation
- Greater flux resistance for applications with high-temperature fluxes and reflow

Features

- Specially designed for high-temperature reflow paste flux
- Superior resistance to all plated surface finishing processes including ENIG, ENEPIG, tin-lead, nickel and tin
- Halogen-, Sb-, Be- and phthalate-free
- RoHS compliant
- Meets or exceeds IPC SM 840E, Bellcore TR-NWT-000078, and MIL P55110D specifications
- Complies with NASA outgassing specification (MICRO VCM TEST/ ASTM E-595-93)



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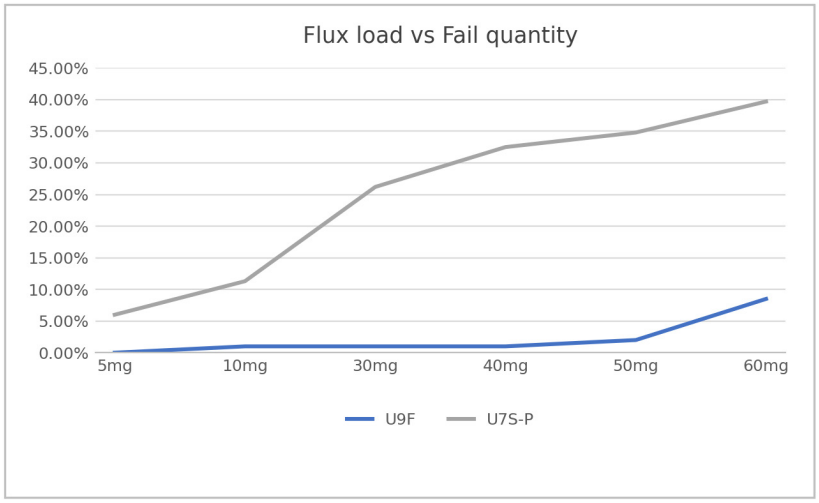
Flux test result (CVP-520 at 245°C)

Method: Panels were baked under 125°C for 2 h and stored in a desiccant box after ENIG. Graded flux amounts were applied, each batch completed within 2 h.
U9F kept the fail rate at or below 1% up to 40 mg/in² of flux and just 8.5% at 60 mg/in², whereas the previous-generation U7S-P climbed to nearly 40%.

Flux load vs Fail percentage

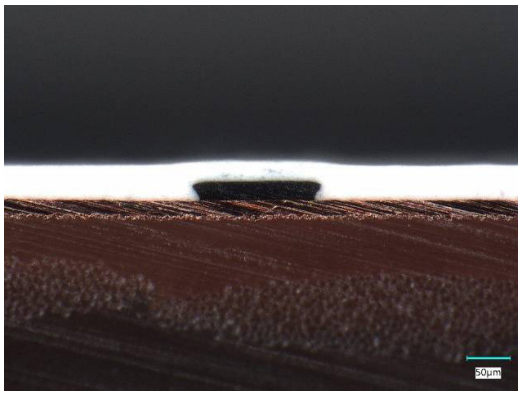
Flux Load	U9F	U7S-P
5 mg/in²	0.0%	6.0%
10 mg/in²	1.0%	11.3%
30 mg/in²	1.0%	26.2%
40 mg/in²	1.0%	32.5%
50 mg/in²	2.0%	34.8%
60 mg/in²	8.5%	39.7%



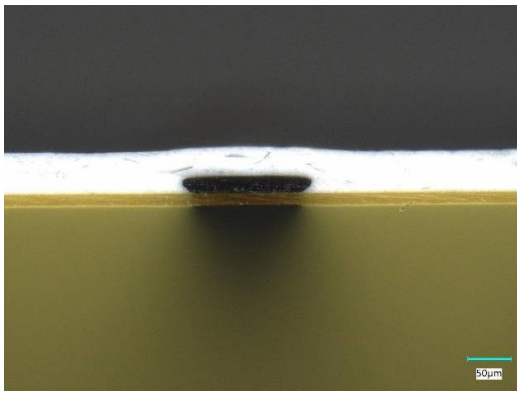
Undercut for U9F

Exposure: 150mJ/cm² (365/385/405 nm=100/100/100%) by Ledia 6S on SCREEN PE.
At 100 μm line width, U9F reproduces the top-of-line width almost identically on copper and polyimide, holding a clean, well-defined feature on both substrates.

	Substrate	Top(μm)	Bottom(μm)	Thickness(μm)	Undercut(%)
Line width 100 μm	On Cu	146.44	132.91	22.97	29.5
	On PI	146.45	130.04	21.29	38.5



On Cu



On PI

For more information, contact us: info@technic.com

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