AZ® MiR™ 701 Photoresist

Product Description

AZ® MiR™ Series photoresists are fast, cost effective resists designed for replacement of older mid-range production resists. The AZ MiR series resists work well in both surfactated and non-surfactated TMAH developers using standard process conditions.

AZ MiR 701 photoresist is designed for production use at 0.30µm to 0.40µm CDs.

Features	Benefits
• High Throughput	i-line DTP ~ 190mJ/cm^2
• Cross over Exposure Capable	Mix/match with i-line, g-line, or broadband
• Wide process latitude	Production processing 0.30µm - 0.40µm features 1.4µm DOF @ 0.35µm 1.4µm DOF @ 0.30µm
• Thermal Stability	>125°C dependent on process conditions

Standard Process Conditions

Coat : 0.974µm Emax thickness

SB : 90°C for 60sec (proximity)

Expo : ASML/250 @ NA=0.60

PEB : 110°C for 60sec (proximity)

Develop : AZ® 300MIF for 60sec
single puddle @ 23°C

Modelling Parameters

Refractive Index

	365nm	436nm
n	1.7039	1.6917
k	0.0214	0.0189

Dills :

A = 0.7090 B = 0.0342 C = 0.0220

Cauchies :

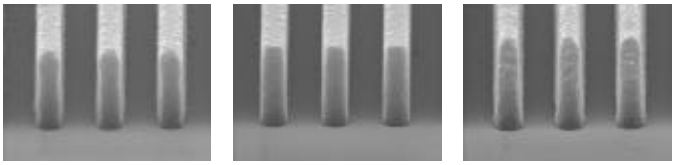
unbleached

A = 1.6104 B = 0.00505µm^2 C = 0.00171µm^4

bleached

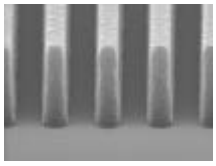
A = 1.6057 B = 0.00673µm^2 C = 0.00094µm^4

DOF @ 0.35µm Feature

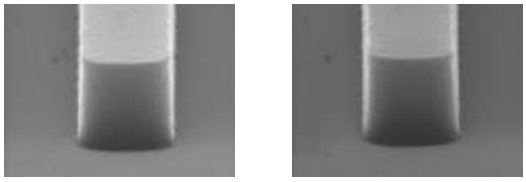


-0.8µm 0.0µm +0.6µm

0.30µm Features @ 180mJ



Thermal Stability 1µm Features



115°C 130°C

Clariant

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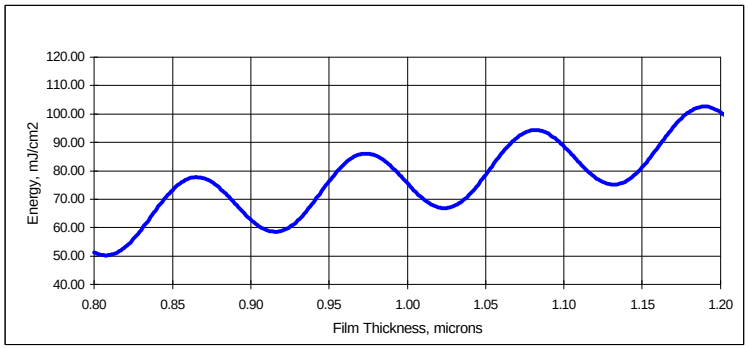
Storage
Keep in sealed original containers away from oxidants, sparks, and open flame. Protect from light and heat. Keep refrigerated. Recommended storage temperature of 45°F. Empty container may contain harmful residue and/or vapors. Dispose of appropriately.

Equipment Compatibility
AZ MiR 701 photoresist is compatible with all commercially available wafer and photomask processing equipment. Recommended materials of construction include stainless steel, glass, ceramic, PTFE, polypropylene, and HDPE.

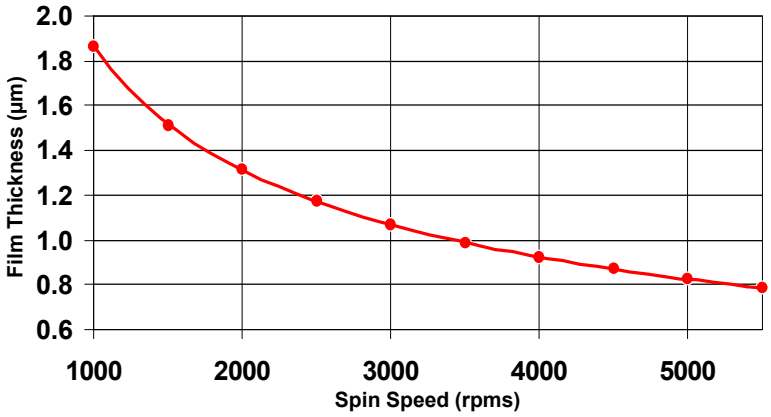
Solvent Safety
AZ MiR 701 photoresist is formulated with a mixture of PGMEA and EL safer solvents. We recommend AZ EBR 70/30 as a compatible solvent for EBR processing, resist cleaning, basic resist stripping and re-work.

Handling Precautions / First Aid
Refer to current Material Safety Data Sheet (MSDS) for detailed information prior to handling.

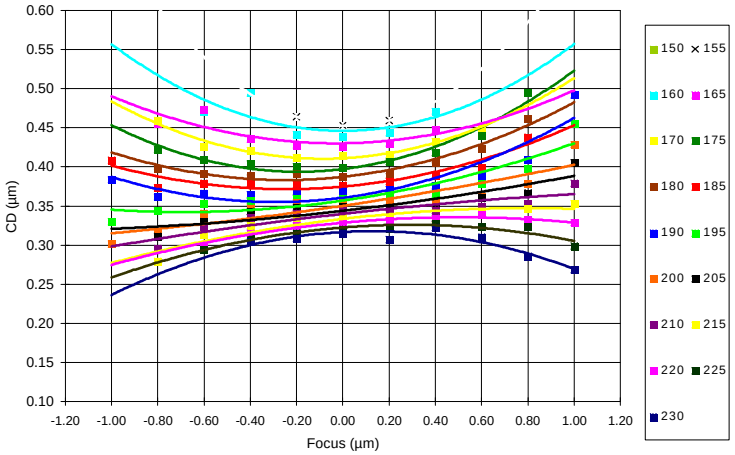
i-line Swing Curve



Spin Speed Curve on 150mm wafer



Bossung plot 0.35µm isolated lines



Contact your local **Clariant-*AZ* Electronic Materials** Representative for further information at the following locations:
Somerville, NJ: 800.515.4164
Dallas, TX: 800.422.3884
San Jose, CA: 408.616.2100

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