

Durimide® 7300 Photosensitive Polyimide Precursor

- Copper compatible polyimide
- Designed with a unique structure and sensitizer that gives it the following characteristics:

Enhanced resolution
Wide process latitude
Self priming
Excellent adhesion

- Superior mechanical property retention after extended pressure cooker test
- Cured film thickness range: 3.5-50µm

<u>Type</u>	<u>Viscosity</u>	<u>Cured Film Thickness</u>
Durimide® 7310	3300CS	4-15µm
Durimide® 7320	6400CS	11-25+µm

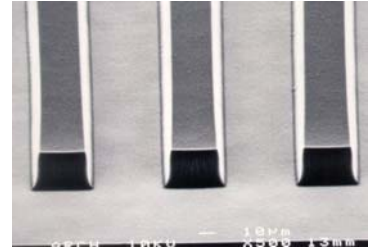
Compatible Ancillary Products:

<u>Developer/Rinse Combinations :</u>	<u>Back Side Rinse:</u>
QZ3501/QZ3512	QZ3501
HTRD2/RER600	HTRD2

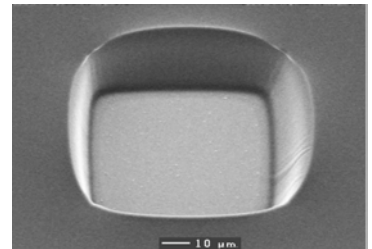
<u>Edge Bead Remover :</u>	<u>Stripper Products:</u>
HTRD2	N-Methyl 2-Pyrrolidone
RER470	QZ 3322

Cured Film Properties of Durimide® 7300 Series

Tensile Strength	MPa	215
Young's Modulus	GPa	2.5
Tensile Elongation	%	85
Glass Transition Temperature	°C	285
Thermal Decomposition Temperature	°C	525
Coefficient of Thermal Expansion	ppm/°C	55
Dielectric Constant		3.2-3.3
Moisture Absorption@50% RH	%	1.08



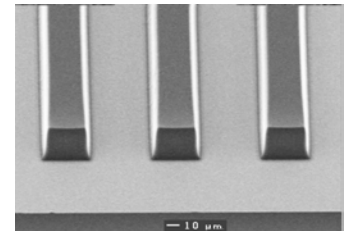
40 µm line/spaces



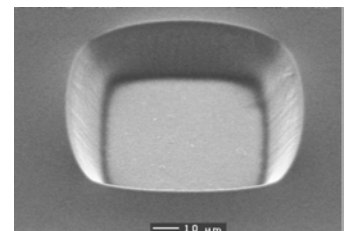
60 µm via

Top view : 1.0µm sputtered Copper,
Cured Film Thickness ~ 19µm,
E : 150mJ/cm², broadband exposure

Bottom view : Electroplated Copper,
Cured Film Thickness ~ 20µm,
E: 150mJ/cm², broadband exposure



40 µm line/spaces

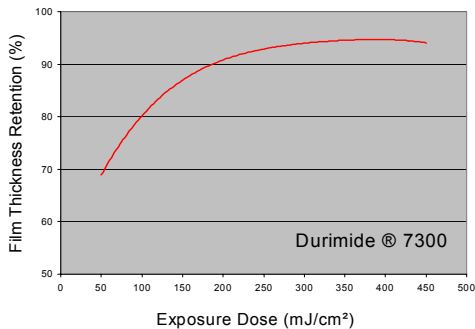


60 µm via

Process Window

Exp.Range 130-340 mJ/cm²
Focus Range 4-10 microns into film
Substrate: Silicon
Soft Bake: 100°C /3mins
PI Thickness: 12µm
Exposure Tool: GCA i-line stepper
 0.35NA , 0.68 sigma
Post Exposure delay: 20-22°C/ 30 mins
Developer/Rinse: HTRD2/RER600
 30"/10"/15"
Cure: 350°C/ 60 mins

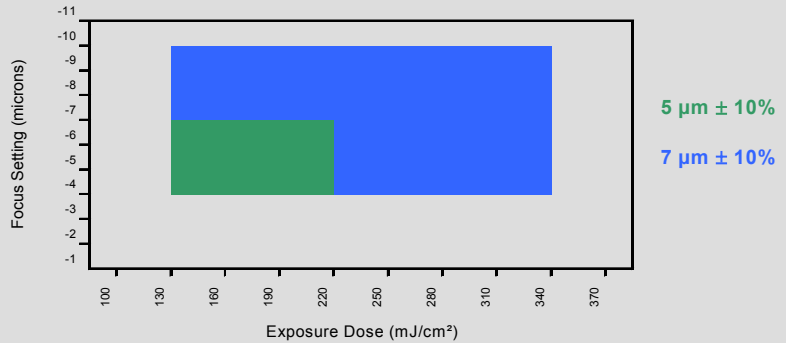
Characteristic Curve



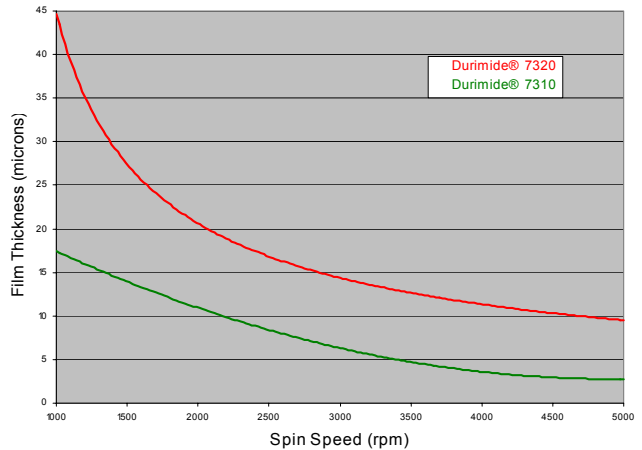
Process Summary

Substrate: silicon
Soft Bake: 100°C /3mins
Polyimide Thickness: 15 µm
Exposure Tool: GCA i-line stepper
Post Exposure delay: 20-22°C/30mins
Developer/Rinse: HTRD2/RER600
 35"/10"/15"

Process Window for a 5 & 7 µm CD space in a 12 µm film



Cured Film Thickness vs. Spin Speed



Durimide® 7300 undergoes a 45% shrinkage from softbake to cure.

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European Headquarters Fujifilm Electronic Materials (Europe) N.V.

Keetberglaan 1A
 Havennummer 1061
 B-2070 Zwijndrecht
 Belgium
 Telephone : 32-3-250-0511
 Fax : 32-3-252-4631

Worldwide Headquarters Fujifilm Electronic Materials, Co., Ltd.

15th Arai-BLDG, 6-19-20
 Jingumae Shibuya-Ku
 Tokyo 150-0001
 Japan
 Telephone : 81-3-3406-6911

Fujifilm Electronic Materials U.S.A., Inc.

6550 South Mountain Road
 Mesa, Arizona 85212
 U.S.A.
 Telephone : 1-480-987-7536
 Fax : 1-480-987-7104

Fujifilm Electronic Materials U.S.A., Inc.

Quonset Point
 80 Circuit Drive
 North Kingstown, Rhode Island 02852
 U.S.A.
 Telephone : 1-800-553-6546