

## 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

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

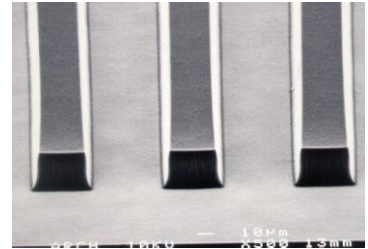
### Compatible Ancillary Products:

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

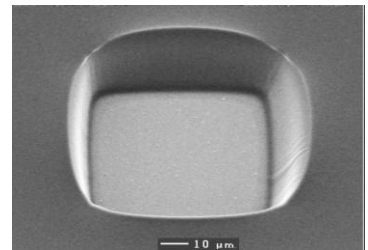
<u>Edge Bead Remover :</u>	<u>Stripper Products:</u>
HTRD2	N-Methyl 2-Pyrrolidone
RER470	QZ 3322

### 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



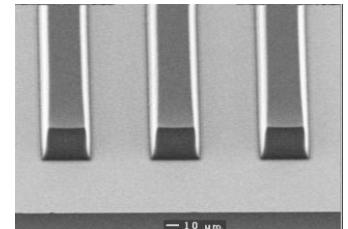
40 µm line/spaces



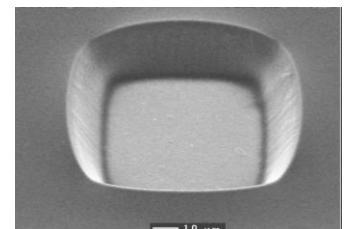
60 µm via

Top view : 1.0µm sputtered Copper,  
Cured Film Thickness ~ 19µm,  
E : 150mJ/cm<sup>2</sup>, broadband exposure

Bottom view : Electroplated Copper,  
Cured Film Thickness ~ 20µm,  
E : 150mJ/cm<sup>2</sup>, broadband exposure



40 µm line/spaces

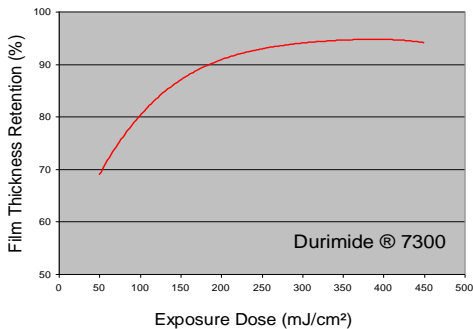


60 µm via

## Process Window

**Exp.Range** 130-340 mJ/cm<sup>2</sup>  
**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

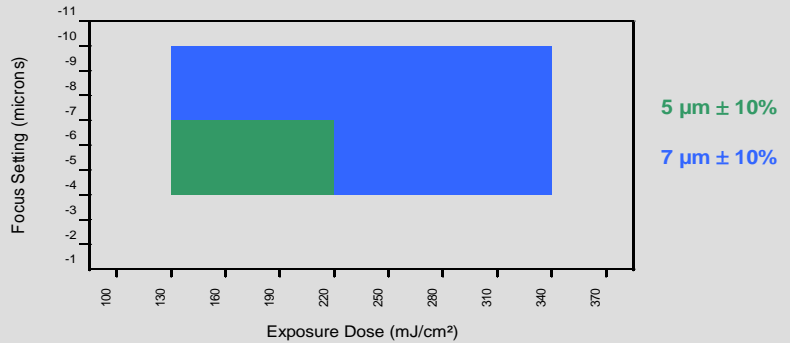
## Characteristic Curve



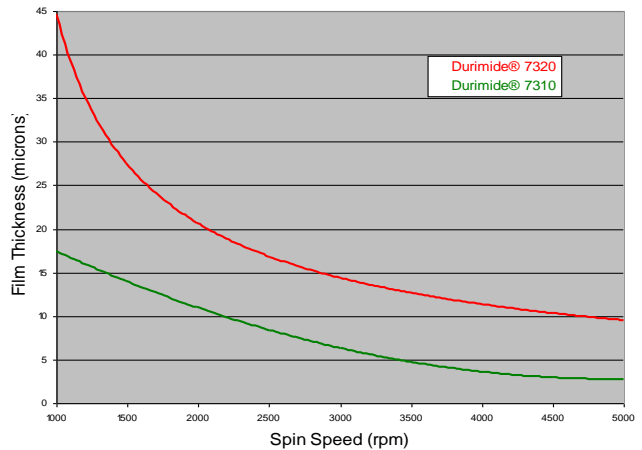
## Process Summary

**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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[www.fujifilm-ffem.com](http://www.fujifilm-ffem.com)

### 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

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

6550 South Mountain Road  
 Mesa, Arizona 85212  
 U.S.A.  
 Telephone : 1-800-553-6546  
 Fax : 1-480-987-0014

### 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.

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