

Durimide® 7000

Photosensitive Polyimide Precursor

- Negative acting photosensitive material for processing on broadband or g-line exposure tools. Durimide 7000 has the following characteristics:

- Fast photospeed
- Good resolution
- Self priming
- Excellent adhesion

- Durimide 7000 has a high Tg making it suitable for applications with subsequent high temperature (>400°C) process steps.

- Cured film thickness range: 2-50µm

Type	Viscosity	Cured Film Thickness
Durimide® 7005	900CS	2-5µm
Durimide® 7020	5500CS	11-25+µm

Compatible Ancillary Products:

Developer/Rinse Combinations :	Back Side Rinse:
QZ3501/QZ3512	QZ3501
HTRD2/RER600	HTRD2

Edge Bead Remover :	Stripper Products:
HTRD2	N-Methyl 2-Pyrrolidone
	QZ 3322

Cured Film Properties of Durimide® 7000 Series

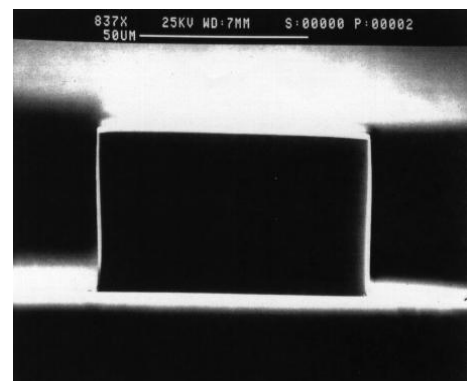
Tensile Strength	MPa	170
Young's Modulus	GPa	2.9
Tensile Elongation	%	73
Glass Transition Temperature	°C	> 350
Thermal Decomposition Temperature	°C	> 510
Coefficient of Thermal Expansion	ppm/°C	27
Dielectric Constant		3.3
Moisture Absorption@50% RH	%	1.3



Via mask in 40µm softbake film



100µm via in 40µm softbake film

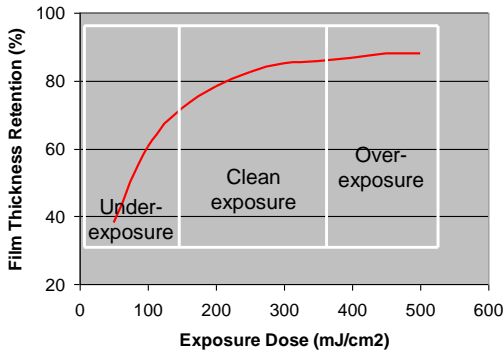


Broadband exposure, Contact print
250mJ/cm²

Durimide 7020 Thick Film Process

Spin: 1000rpm/7" + 1900rpm/10"
Soft Bake: 70°C / 6 mins +
 100°C / 6 mins
PI Thickness: 40µm
Exposure Tool: Broadband or g-line
Exp. Range 200-300mJ/cm²
Focus Range 12 microns into film
Post Exposure delay: 20-22°C/ 30 mins
Developer/Rinse: HTRD2/RER600
 85"/10"/15"
Cure: 350°C/ 60 mins
Cured Thickness: 22 µm

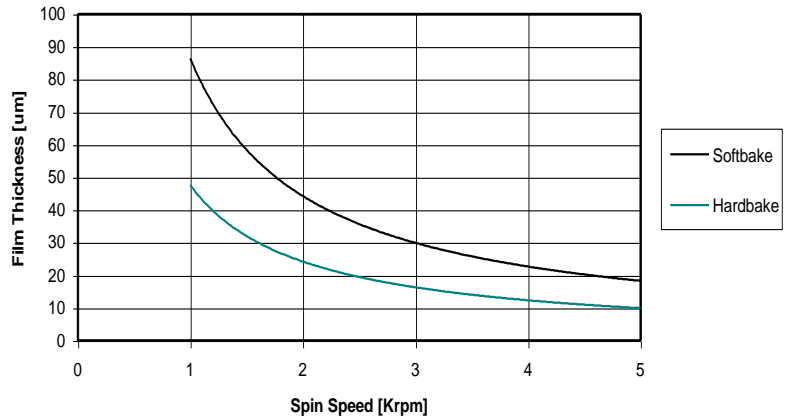
7005 Characteristic Curve



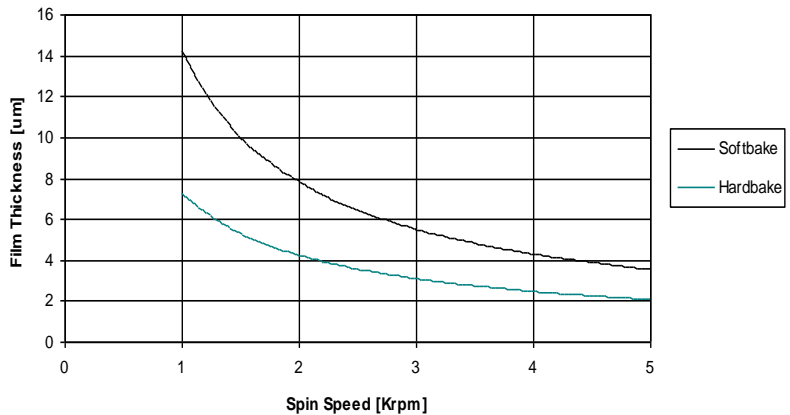
Process Summary:

Substrate: silicon
Soft Bake: 110°C / 2 mins
PI Thickness: 5µm
Exposure Tool: GCA g-line stepper
 .38NA
Post Exposure delay: 20-22°C/ 30 mins
Developer/Rinse: QZ3501/QZ3512
 30"/10"/15"

Durimide 7020 Film Thickness vs. Spin Speed



Durimide 7005 Film Thickness vs. Spin Speed



Durimide® 7000 undergoes a 45% shrinkage from softbake to cure.

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FUJIFILM
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