

## SX AR-P 3500/8 產品說明

SXAR-P 3500/8 產品為耐高溫正型光阻，耐溫可達300°C，適合各類高溫製程。

目前產品屬實驗型及可客製化調整，購買前需先詢問：

|                                |      | SX AR-P 3500/8 |
|--------------------------------|------|----------------|
| Film thickness@4000rpm         | um   | 1.4            |
| Viscosity 25°C                 | mPas | 20             |
| Resolution                     | um   | 0.8            |
| Contrast                       |      | 3.0            |
| Flash point                    | °C   | 42             |
| Storage 6 months <sup>1</sup>  | °C   | 10 - 18        |
| Production status <sup>2</sup> |      | on-demand      |

**1** Product is guaranteed 6 months shelf life from the data of sale if stored correctly.

在正確的儲存條件下，產品保證的有效期為銷售日起6個月

Product can also be used without guarantee until the date indicated on the label  
在無提供保證的情況下，產品可使用至標籤上所示的有效期

**2** Production status :

on-demand : 產品無固定排程生產，需先詢問價格。可能會有最小量訂單，或需等待批次生產排程。

Routine : 產品固定排程生產，交貨期約 2 - 4 週。

## 產品包裝:

✓ 250 ml/瓶

✓ 1 L /瓶

其它包裝可依客戶需求增加。

 [價格詢問](#)

 [其它諮詢](#)

## 出貨:

本產品非固定排程生產，需先詢問  
交期與價格，可能的交期如下：

✓ 4 - 8 週。德國運出。

 [SX AR-P 3500/8 GHS 標識](#)

## Characterization 產品特性

- broadband UV, i-line, g-line  
曝光波長: 寬頻紫外線, i-line (365nm) , g-line (436nm)
- high plasma resistant, thermal stable up to 300 °C  
耐電漿, 耐溫可達300°C
- suitable for high-temperature 2-layer lift-off processes as well as plasma etching and implantation processes  
適合高溫製程, 例如: 雙層懸浮剝離, 電漿蝕刻, 離子植入等
- combination of poly(hydroxystyrene-co-MMA) and naphthoquinone diazide  
主要成份為高分子共聚物(羥基苯乙烯-co-甲基丙烯酸甲酯)及疊氮基萘醌
- safer solvent PGMEA  
使用較安全溶劑丙二醇單甲醚醋酸酯

# Thermostable Positive Photoresist SX AR-P 3500/8

for high-temperature application up to 300 °C

## Property I

| Parameter              |       | SX AR-P 3500/8 |
|------------------------|-------|----------------|
| Solids content         | %     | 27             |
| Viscosity@25°C         | mPa.s | 20             |
| Film thickness@4000rpm | um    | 1.4            |
| Resolution             | um    | 0.8            |
| Contrast               |       | 3.0            |
| Flash point            | °C    | 42             |
| Storage 6 months       | °C    | 10 - 18        |

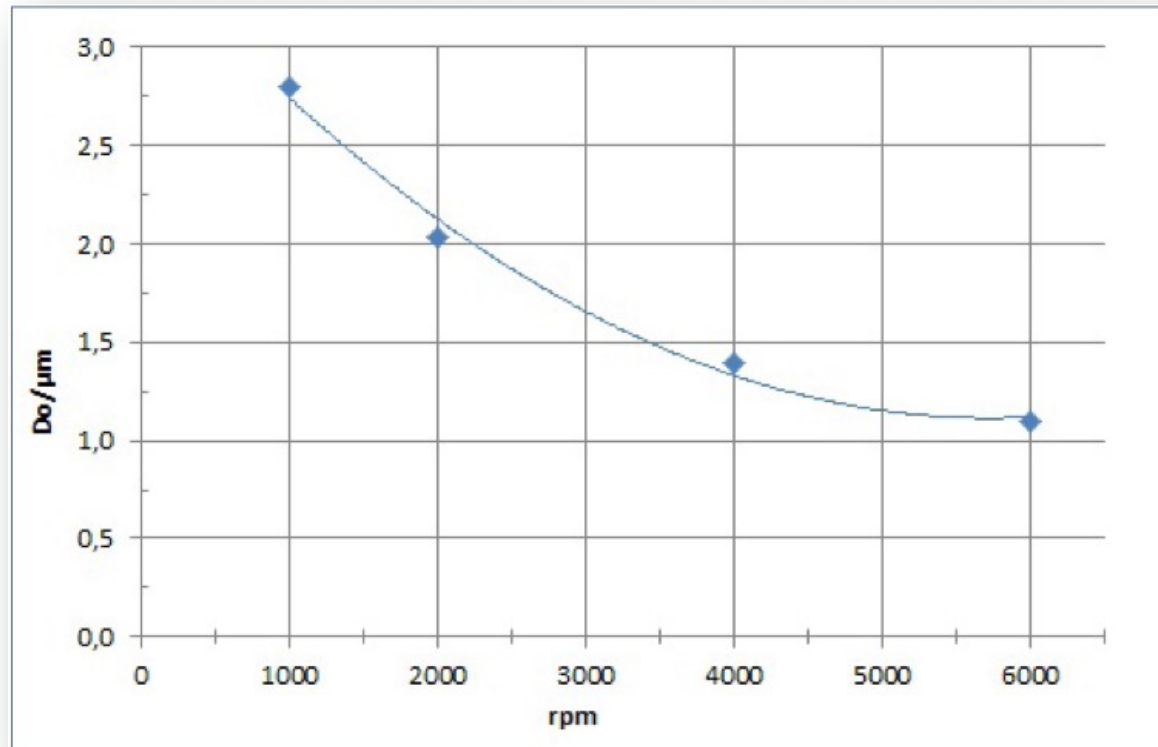
## Property II

|                                             |                |                                       |     |
|---------------------------------------------|----------------|---------------------------------------|-----|
| Glass trans. temperature                    | °C             | 120                                   |     |
| Dielectric constant                         |                | 3.1                                   |     |
| Cauchy coefficients                         | N <sub>0</sub> | 1.559                                 |     |
|                                             | N <sub>1</sub> | 144.0                                 |     |
|                                             | N <sub>2</sub> | 13.6                                  |     |
| Plasma etching rate<br>5 Pa, 240-250 V Bias | nm/min         | Ar-sputtering                         | 10  |
|                                             |                | O <sub>2</sub>                        |     |
|                                             |                | CF <sub>4</sub>                       |     |
|                                             |                | 80 CF <sub>4</sub> +16 O <sub>2</sub> | 120 |

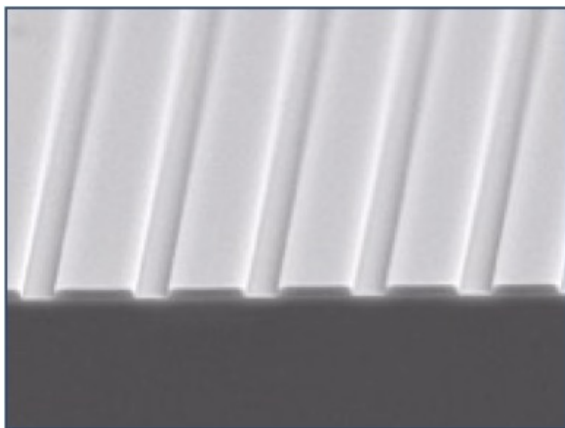
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## SXAR-P 3500/8 Spin curve

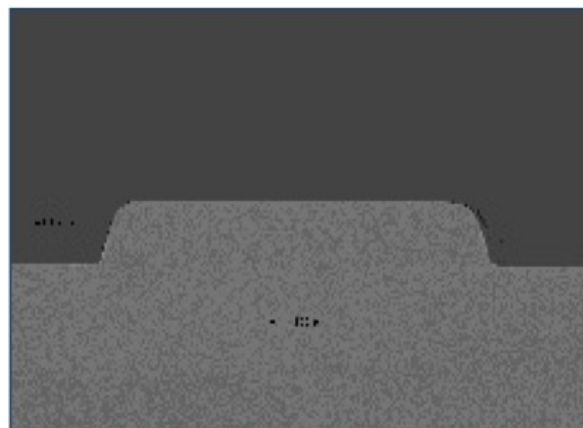


## Resist structures



7 µm trenches with SX AR-P 3500/8

## Resist structures (thermally stable)



10 µm webs of SX AR-P 3500/8 after a hard bake of 280 °C

## Process parameter

|             |                              |
|-------------|------------------------------|
| Substrate   | Si 4" wafer                  |
| Soft-bake   | 95°C x 2 min, hot plate      |
| Exposure    | i-line stepper (NA: 0.65)    |
| Development | AR 300-47 (1:1), 1 min, 22°C |

## Process chemicals

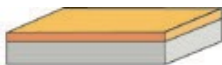
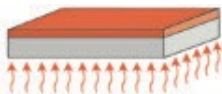
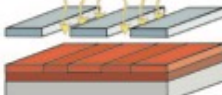
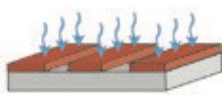
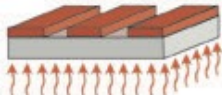
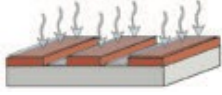
|                   |                      |
|-------------------|----------------------|
| Adhesion promoter | AR 300-80new         |
| Developer         | AR 300-47            |
| Thinner           | AR 300-12            |
| Remover           | AR 300-76, AR 600-70 |

# Thermostable Positive Photoresist SX AR-P 3500/8

for high-temperature application up to 300 °C

This diagram shows exemplary process steps for SXAR-P 3500/8 resists. All specifications are guideline values which must be adapted to own specific conditions. For further information on processing, ☞ “Detailed instructions for optimum processing of photoresists”. For recommendations on wastewater treatment and general safety instructions, ☞ “General product information on Allresist photoresists”.

圖示SXAR-P 3500/8產品製程參數的範例. 所有參數為參考值,使用者應依設備環境實際狀況加以調整

|                                                                                                                             |                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Coating                                    | SX AR-P 3500/8<br>1.4 um@4000rpm x 60 sec                               |
| Soft bake ( $\pm 1$ °C)                    | 100°C x 2 min, hot plate. or,<br>95°C x 30 min, convection oven         |
| UV exposure                                | Broadband UV/Exposure dose ( $E_0$ , stepper)<br>200 mJ/cm <sup>2</sup> |
| Development<br>(21-23 $\pm$ 0.5°C) puddle  | AR 300-47 (1 : 1) x 60 sec                                              |
| Rinse                                                                                                                       | DI water, 30 sec                                                        |
| Post-bake<br>(optional)                   | Not required                                                            |
| Customer specific<br>technology          | Generation of semiconductor properties                                  |
| Removal                                  | AR 300-76 or O2 plasma ashing                                           |

# Thermostable Positive Photoresist SX AR-P 3500/8

for high-temperature application up to 300 °C

## Reference data for process tuning

### Development recommendations

| Resist        |           |           |
|---------------|-----------|-----------|
|               | AR 300-35 | AR 300-47 |
| SXAR-P 3500/8 | 1 : 1     | 1 : 1     |