



## PRODUCT DESCRIPTION

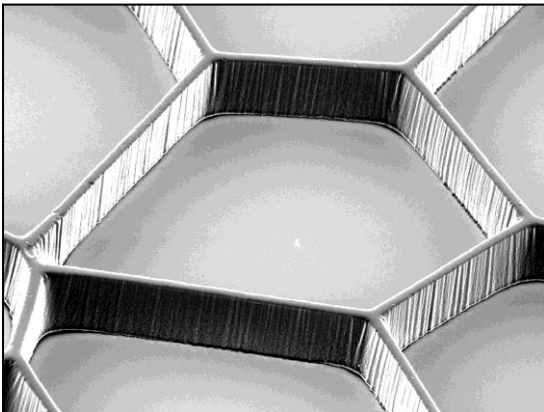
Ordyl SY 300 is a solvent type permanent dry film for special MEMS applications.

The Ordyl SY 300 in connection with his auxiliary product line CFC free: Ordyl SY Developer or Ordyl SY Developer XFB and Ordyl SY Rinse, offer the following performances:

- Excellent resolution
- Excellent heat resistance
- Excellent chemical resistance
- High stability
- Biocompatibility

Ordyl SY 300 could be used for sealing application, due to the capability to be pressed together with a top plate.

**SY 355**



### Main Features:

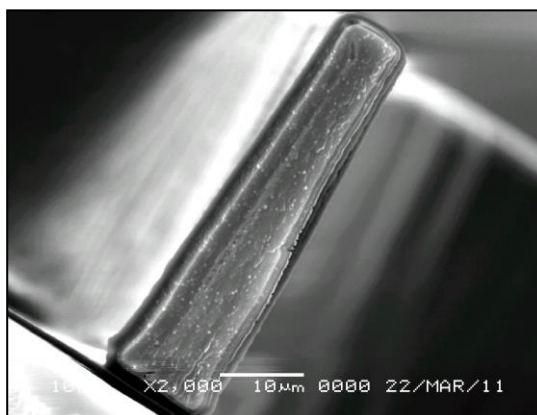
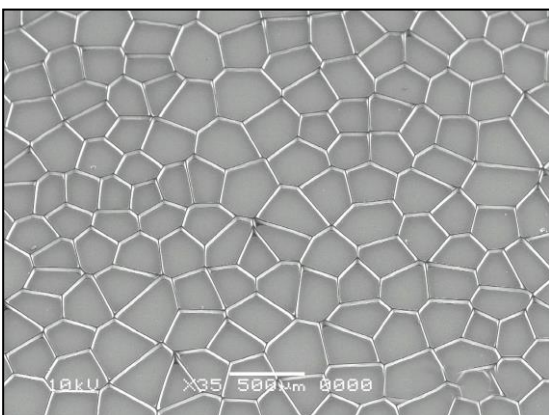
- Excellent chemical resistance
- Biocompatibility

### Typical Application:

- MEMS
- Sealing application
- Titanium etching

### Available Thickness:

- 10  $\mu\text{m}$  (0.4 mils), 20  $\mu\text{m}$  (0.8 mils), 30  $\mu\text{m}$  (1.2 mils), 55  $\mu\text{m}$  (2.2 mils), 90  $\mu\text{m}$  (3.6 mils) and 125  $\mu\text{m}$  (5.0 mils)
- Different thickness available on request



## PROCESS INFORMATION

Ordyl SY 300 guarantee good adhesion on the following surface:

- Glass
- Silicium
- Kapton
- Mylar

We recommend good surface cleaning in order to obtain optimal performance.

## LAMINATION

Panels must be thoroughly dry prior to lamination.

	MANUAL LAMINATOR	AUTOMATIC LAMINATOR
<b>Pre-heat</b>	(OPTIONAL)	(OPTIONAL)
<b>Hot roll temperature</b>	105 – 125°C (221 – 257°F)	105 – 125°C (221 – 257°F)
<b>Lamination roll pressure</b>	2.5 – 3.5 bar (36 – 50 Psi)	2.5 – 6.0 bar (36 – 87 Psi)
<b>Lamination speed</b>	1 – 3m/min (3 – 10 feet/min)	1 – 3m/min (3 – 10 feet/min)
<b>Seal temperature</b>	---	40 – 80°C (104 – 176°F)
<b>Seal pressure</b>	---	3.0 – 6.0 bar (44 – 87 Psi)
<b>Seal time</b>	---	1 – 4 sec.

## Post lamination Hold Time

We recommend a hold time of at least 15 min, or in any case the minimum hold time necessary to allow panels to cool down to room temperature.

Hold time should not be over 1 week.

## EXPOSURE

We recommend using UV lamps or laser source with emission peak at 360 – 380 nm.

Energy (mJ/cm <sup>2</sup> )	100	150	200	250	300	350	400
<b>SST 21</b>	5	6	7	8	9	9.5	10
<b>RST 25</b>	4	7-8	10	13	16	17-18	19

## Hold Time after exposure

We recommend a minimum hold time after exposure of at least 15 minutes.

## DEVELOPING

SY 300 could be develop with spray, paddle or dipping method.

Using Ordyl SY Developer or Ordyl SY Developer XFB in dipping process at room temperature maintain the Break Point between 60% and 80% depend on application.

Use Ordyl SY Rinse to remove scum and clean the surface.

If final rinse with DI water is necessary an intermediate rinse with IPA is suggested.

## POST BAKE

After developing is necessary a post-baking at 150°C (302°F) for 30 – 60 min.

## STRIPPING

Ordyl SY 300 could be stripped only before post bake using Ordyl SY Developer or Ordyl SY Developer XFB increasing dipping time indicated in "Ordyl SY Developers product data sheet" or using solvent like Acetone or MEK in dipping method.

## RESIST PROFILE

For the test we used a 55 µm thickness dry film, laminated on SiO<sub>2</sub> wafer.

EXPOSURE	LINE	SPACE
100 mJ/cm <sup>2</sup>	60 µm (2.4 mils)	50 µm (2.0 mils)
150 mJ/cm <sup>2</sup>	50 µm (2.0 mils)	60 µm (2.4 mils)
200 mJ/cm <sup>2</sup>	40 µm (1.6 mils)	70 µm (2.8 mils)
250 mJ/cm <sup>2</sup>	40 µm (1.6 mils)	80 µm (3.1 mils)

Exposure Unit ORC HMW201B not collimated.

## PROPERTIES

ITEM		VALUES	METHOD / REQUIREMENTS
GLASS TRANSITION	<i>Unexposed</i>	79.06°C	DSC - METHOD ISO 11357-2
	<i>Exposed</i>	105.99°C	
	<i>After Final Curing</i>	108.15°C	
5% WEIGHT LOSS		270.7°C	TGA - METHOD UNI ISO 11358-1
ONSET IN N <sub>2</sub>	<i>Volatile Compounds</i>	137.88°C	TGA - METHOD UNI ISO 11358-1
	<i>Polymer Content</i>	1° - 278.15°C	
		2° - 335.27°C 3° - 389.79°C	
NON CYTOTOXIC <sup>(1)</sup>		PASS	ISO 10993-5 / USP <87>
REFRACTIVE INDEX	<i>Liquid resist</i>	1.4553	P-FA-3510 Rev.1
	<i>SY 355</i>	> 1.7	

<sup>(1)</sup> SY 300 is considered to have **NO CITOTOXIC** potential and **PASSES** the requirements of **ISO 100993-5** and **USP <87>**.

Test report based on MEM elution-assay: In-vitro Cytotoxicity Assay on L-929 mouse fibroblasts of SY300 analysis.

**For any other technical information (storage conditions, packaging information, etc.) refer to the Ordyl Specification (Form EE.P11.CV.02-ww).**

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