

ORDYL DRY FILM AF 200E

PRODUCT DATA SHEET
Edition 07 – 12 April 2021

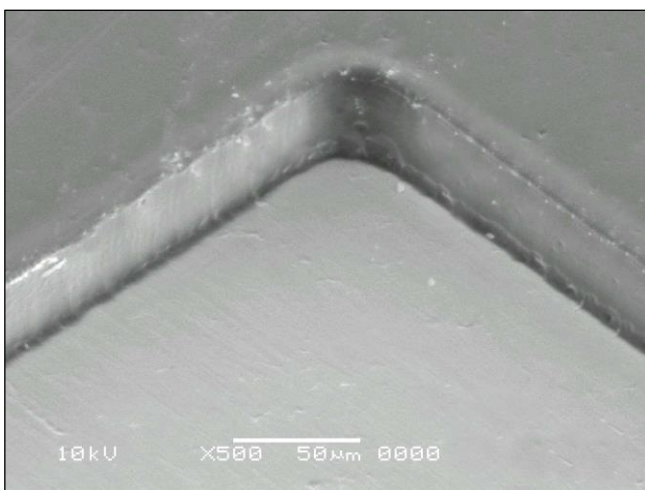
PRODUCT DESCRIPTION

Ordyl AF 200E is a negative, aqueous processable dry film specifically designed for chemical milling and ENIG application to be exposed with standard UV lamps.

AF 200E is developable and strippable in mildly alkaline solutions and offers superior performances and resistance to extreme conditions of use in strongly acid solutions.

Ordyl AF 200E has excellent adhesion on stainless steel and the most common metallic alloys.

AF 250E



Main Features:

- Excellent adhesion performance on stainless steel
- Very good resistance in ENIG process

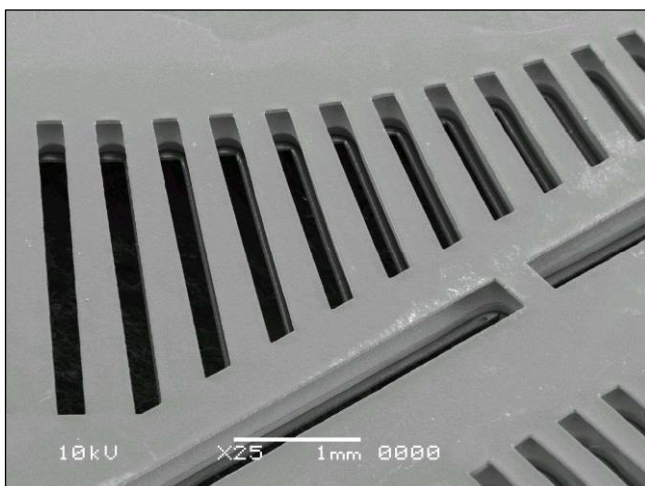
Typical Application:

- Chemical Milling
- ENIG

Available Thickness:

- 20 µm (0.8 mils), 30 µm (1.2 mils), 40 µm (1.6 mils) and 50 µm (2 mils)

AF 240E



PROCESS INFORMATION

Surface preparation

AF 200E guarantee good adhesion on the following surface:

- Stainless steel
- Copper Alloys
- Iron Alloys

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

LAMINATION

Panels must be thoroughly dry prior to lamination.

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

Board exit temperature

60 – 80°C (140 – 176°F)

Post lamination Hold Time

We recommend a hold time of at least 20 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.

Optimal exposure at 8 Solid STEP of SST21 (13-15 Solid STEP of RST25).

We recommend to stay between 6-9 Solid STEP of SST21 (7-18 Solid STEP of RST25).

The following parameters are referred to: 8 Solid STEP of SST21

	AF 220E	AF 230E	AF 240E	AF 250E
Energy (mJ/cm²)	80 - 130	100 - 150	120 - 170	130 - 180
Resolution	30 µm (1.2 mils)	40 µm (1.6 mils)	50 µm (2.0 mils)	60 µm (2.3 mils)

Hold Time after exposure

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

DEVELOPING

	Na ₂ CO ₃		K ₂ CO ₃	
	Range	Optimal	Range	Optimal
Concentration	0.8 – 1.2%	0.9%	0.6 – 1.0 %	0.8%
Temperature	26–32°C (79–90°F)	29°C (84°F)	26–30°C (79–86°F)	28°C (82°F)
Spray pressure	1.2–1.8 bar (17–26 Psi)	1.5 bar (22 Psi)	1.2–1.8 bar (17–26 Psi)	1.5 bar (22 Psi)
Break Point	50 – 65%			
Rinsing water	9-15°dH (150–250 ppm CaCO ₃)	12°dH (213 ppm CaCO ₃)	9-15°dH (150–250 ppm CaCO ₃)	12°dH (213 ppm CaCO ₃)

We recommend a rinse module with a length of a least 2/3 of the developing module.

The rinse water temperature should be preferably between 15-25°C (59-77°F), optimal at 20°C (68°F).

Developing time (B.P. 60%)

	AF 220E	AF 230E	AF 240E	AF 250E
Developing time	45 sec.	60 sec.	85 sec.	120 sec.
Dry Film load 1 g/l (0.13 oz/gal)	0.05 m ² /l (2.0 ft ² /gal)	0.03 m ² /l (1.2 ft ² /gal)	0.025 m ² /l (1.0 ft ² /gal)	0.017 m ² /l (0.7 ft ² /gal)

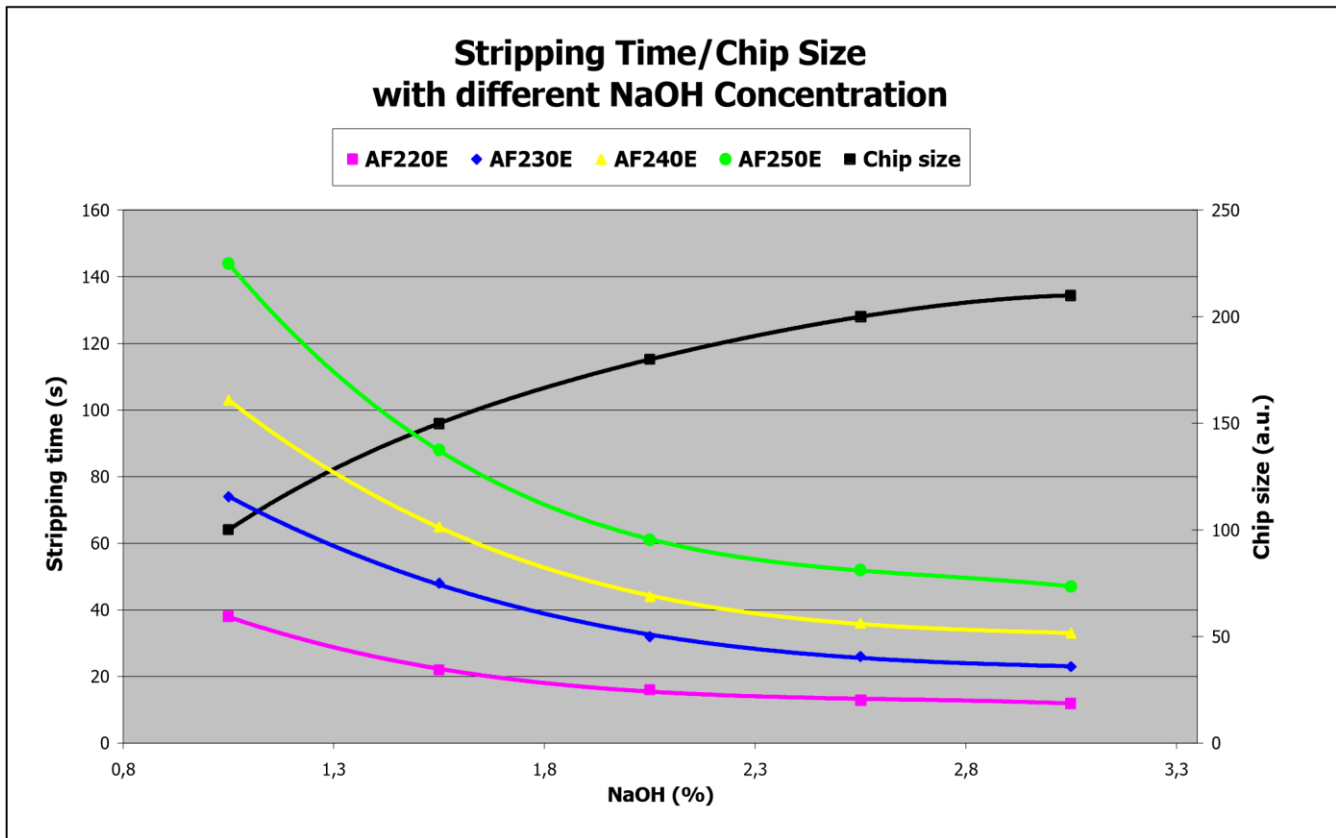
We recommend a maximum Dry Film load of 5 g/l (0.65 oz/gal).

We recommend the use of "Ordyl Antifoam C".

STRIPPING

Stripper	NaOH / KOH
Concentration	1.0 – 3.0%
Temperature	40–60°C (104–140°F)
Spray pressure	1.5 – 4.0 Bar (22–58 Psi)
Break Point	40 – 60%

We recommend the use of "Ordyl Antifoam C".



Data in the graph are obtained with laboratory dipping test.

Proprietary strippers

Can be used in order to obtain smaller flakes, higher stripping speed, reduce metal oxidation.

We recommend the use of "Ordyl Stripper 5000".

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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