FORWARD AM
Innovating Additive Manufacturing

BASF
We create chemistry

Stratasys 3D Printing Workflow

Printing and post-processing workflow instructions

Origin One

- **DM 2505**
- **EL 150**
- **EL 4000**
- **FL 60**
- **FL 300**
- **RG 1100**
- **RG 1100 B**
- **RG 35**
- **RG 35 B**
- **RG 3280**
- **RG 9400 B FR**
- **ST 1400**
- **ST 45**
- **ST 45 B**
- **ST 80**

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® DM 2505

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	3.25

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	3	3

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	10
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® DM 2505

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	3.25

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Distilled water	Distilled water
Cleaning Time (min)	3	3

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	10
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® EL 150

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
50	5	1.1

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	5	5

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	15
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	80
Holding Time (h)	4
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® EL 4000

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
50	5	1.1

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	5	5

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	15
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® FL 60

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	3.5

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	6	6

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	10
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® FL 300

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	4

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	5	5

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	10
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® RG 1100

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	2

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	3	3

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	10
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® RG 1100 B

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	2.5

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	2	2

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	10
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® RG 35

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	2.5

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	2	2

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	10
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® RG 35 B

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	3

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	3	3

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	15
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® RG 1100 B

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	2.5

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	2	2

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 5000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	2
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® RG 3280

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	1.4

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Rotor / Propeller	Rotor / Propeller
Cleaner	IPA	IPA
Cleaning Time (min)	1	1

WAIT BEFORE POST CURING

Waiting Time (min) None **Temperature (°C)** None

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	15
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	1
Holding Temp. (°C)	150
Holding Time (h)	3
Ramp down (°C / min)	1

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® RG 3280

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	1.4

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Rotor / Propeller	Rotor / Propeller
Cleaner	IPA	IPA
Cleaning Time (min)	1	1

WAIT BEFORE POST CURING

Waiting Time (min) None **Temperature (°C)** None

POST CURING

Model	Dymax ECE 5000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	2
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	1
Holding Temp. (°C)	150
Holding Time (h)	3
Ramp down (°C / min)	1

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® RG 9400 B FR

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	3

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	4	4

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	10
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® ST 1400

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	3

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	5	5

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	10
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® ST 45

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	2.35

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	3	3

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	10
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® ST 45 B

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	4.5

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	3	3

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	15
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® ST 45 B

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	4.5

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	3	3

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 5000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	2
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.

FORWARD AM Innovating Additive Manufacturing | BASF We create chemistry

Stratasys - Origin One

3D Printing Workflow: Ultracur3D® ST 80

Technology: DLP

PRINT SETTINGS

Layer Thickness (µm)	Irradiance (mW/cm2)	Exposure Time (s)
100	5	3.25

	WASH CYCLE 1	WASH CYCLE 2
Agitation Method	Ultrasonic	Ultrasonic
Cleaner	Ultracur3D Cleaner	IPA
Cleaning Time (min)	3	3

WAIT BEFORE POST CURING

Waiting Time (min) 30 **Temperature (°C)** 40

POST CURING

Model	Dymax ECE 2000
Settings	N.A.
Atmosphere	Ambient
Time (min) or Flashes	10
Flip & Repeat	Yes

THERMAL TREATMENT

Ramp up (°C / min)	N.A.
Holding Temp. (°C)	N.A.
Holding Time (h)	N.A.
Ramp down (°C / min)	N.A.