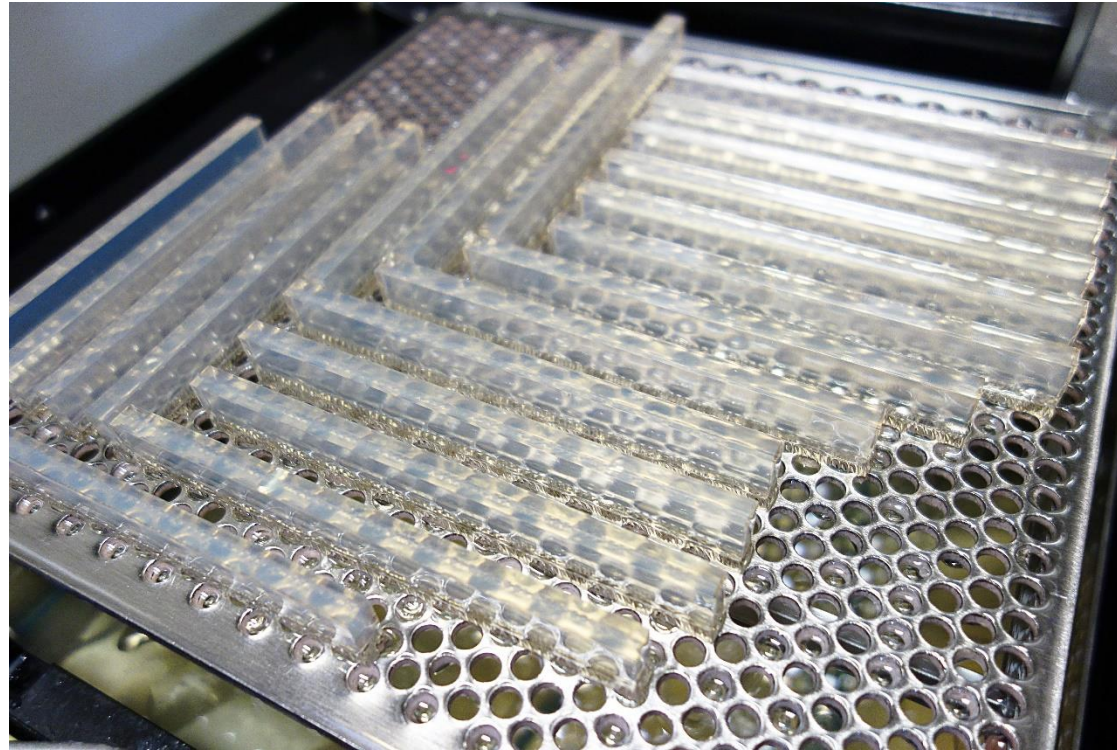


# SL-UV HTR250

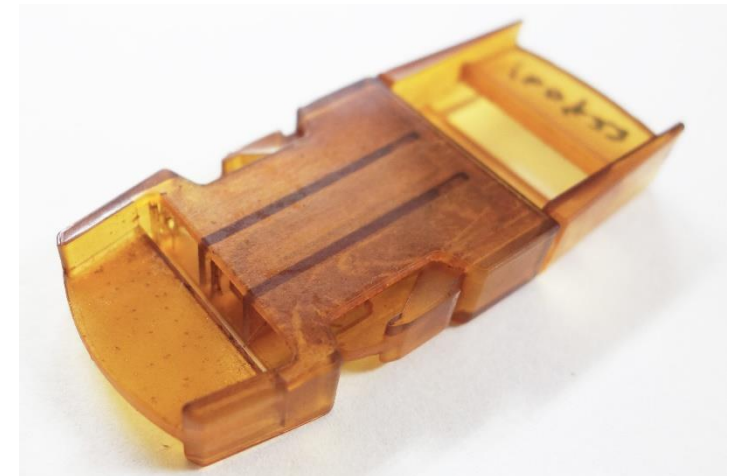
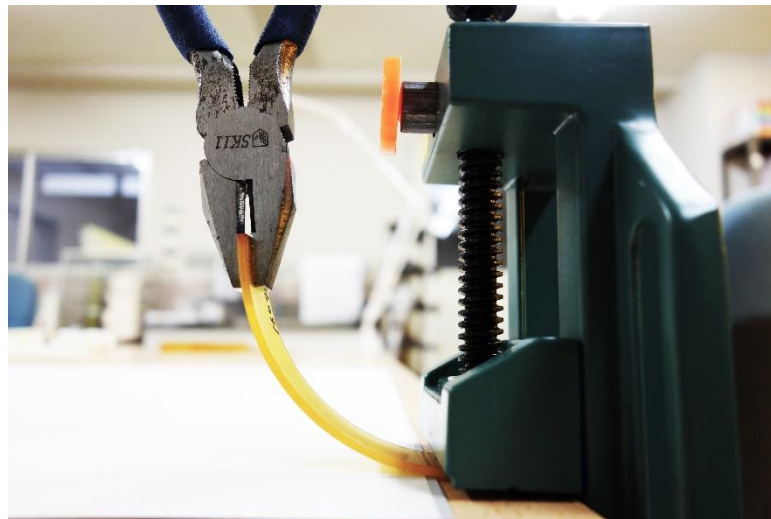
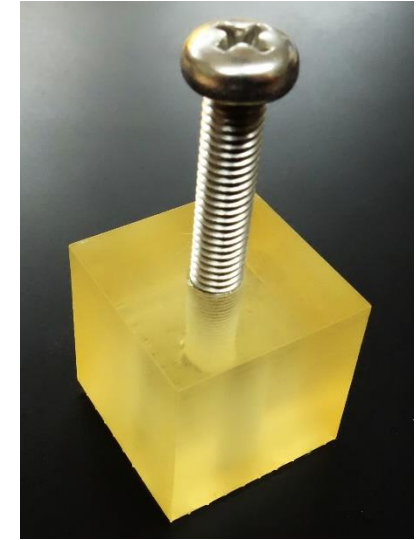
High Temperature Resistance UV Cured Resin for SLA



Rapid Manufacturing Akihabara Inc.

# Characteristic highlights of SL-UV HTR250

- Fast scanning speed
- HDT (0.46MPa) 250°C
- High accuracy
- High density
- Tapping
- High impact strength
- Non filler
- High flexibility



# High Level of Safety

- No Antimony

- No Bisphenol A

- GHS Pictogram ONLY “warning”.



- Acute Toxicity (Oral)

LD50 Rat 1338mg/kg

Category 4

# Property Comparison 1 (vs other UV cured resin with high temp resistance)

		SL-UV HTR250		Somos Nanotool		3Dsystems BlueStone	
	Unit	UV cured	Thermal Cured	UV cured	Thermal Cured	UV Cured	Thermal Cured
Viscosity	cps	970		1000		1200-1800	
Color		Amber		White		Blue	
Tensile strength at yield	MPa						
Tensile strength at break	MPa	80.3	89.9	68	80	68	
Elongation	%	4.5	3.9	1.1	1.2	1.4-2.4	
Flexural strength	Mpa	142.6	140.6	120	146	124-154	
Flexural modulus	Mpa	5240	6628	10000	9030	8300-9800	
Izod (notched)	J/m	23.3	24.3	17	20	13-17	
HDT (@0.46MPa)	°C	126	252<	132	268	81-98	276-284
HDT (@1.81MPa)	°C	81	129	82	119	33-44	
Remarks		Antimony Free, BPA Free, Non filler		Antimony, Alumina filled			

# Property Comparison 2 (VS Laser sintered materials)

		SL-UV HTR250		PA-GF		PA-CF	
	Unit	UV cured	Thermal Cured				
Viscosity	cps	970					
Color		Clear		White		Gray	
Tensile strength at yield	MPa						
Tensile strength at break	MPa	80.3	89.9	27		66	
Elongation	%	4.5	3.9	1.4		3.6	
Flexural strength	Mpa	142.6	140.6	NA		NA	
Flexural modulus	Mpa	5240	6628	3106		3447	
Izod (notched)	J/m	23.3	24.3	41		54	
HDT (@0.46MPa)	°C	126	252<	179		178	
HDT (@1.81MPa)	°C	81	129	134		177	
Remarks		Antimony Free, BPA Free, Non filler		PA12 40% Glass filled		PA12 30% carbon filled	

## Oil resistance test result with 0W-20 Engine Oil (New)

		Flexural Strength(MPa)		Flexural Modulus(MPa)	
Time (h)	Temp	UV Cured	Thermal Cured	UV Cured	Thermal Cured
0	150°C	142.6	140.6	5240.0	6628.0
500	150°C	204.2	144.7	5881.6	6777.9
750	150°C	180.9	131.7	5681.4	6819.1
1000	150°C	196.7	192.1	6236.6	6846.5

# Thermal Cure

- ① 120°C 1hour
- ② 180°C 1hour
- ③ 220°C 2hours



# Method Comparison (low volume project)

★ = Bad  
 ★★ = Normal  
 ★★★ = Good

	Price	Lead time	Accuracy	HDT	Impact	Flexural Modulus	Tapping
Injection molding	★	★	★★★	★★★	★★★	★★★	★★★
CNC	★★	★	★★★	★★★	★★★	★★★	★★★
SLS	★★★	★★	★	★★	★★	★★	★★★
Vacuum Casting	★★	★★	★★	★	★	★	★★
Nylon Casting	★	★	★	★★★	★★★	★★	★★★
Typical SLA	★★★	★★★	★★	★	★	★	★
<b>SL-UV HTR250</b>	<b>★★★</b>	<b>★★★</b>	<b>★★★</b>	<b>★★★</b>	<b>★★</b>	<b>★★★</b>	<b>★★★</b>



# Possible Applications

- Short-run functional parts with high temperature resistance.
- Tool for injection molding.
- Visible models with high temperature fluid and gas.

