

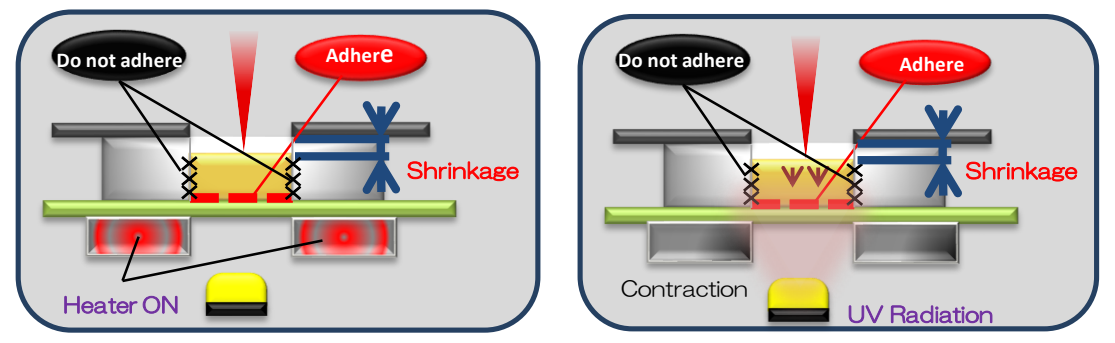
# Custron

Continuous measurement of resin cure shrinkage ratio, Volume change of shrinkage stress



\*Design and color may change without prior notice

Sample Volume Required is 1cc

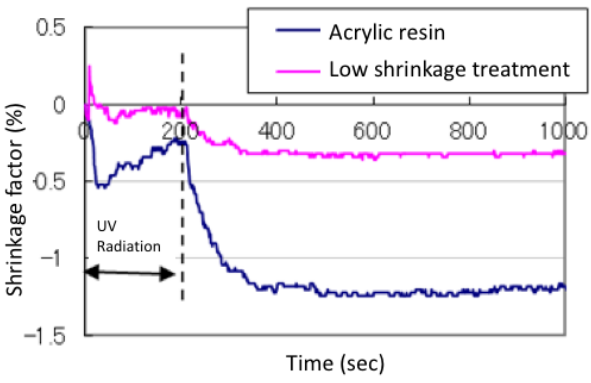


## Type of Division by Function

Model	EU201A	EU201-PRO	EU201B	EU201B-PRO	EU201C	EU201C-PRO	EU201G	EU201H	EU201I
Type	Heat + Stress	Heat + Stress + Procon	Heat + Shrinkage + Procon	Heat + Shrinkage + Procon	Heat + Stress + Shrinkage factor	Heat + Shrinkage factor + Procon	Stress	Shrinkage factor	Stress + Shrinkage factor
Function	Shrinkage Stress	●			●	●	●		●
	Shrinkage		●	●	●	●		●	●
	Heating or Cooling	●	●	●	●	●			
	Temperature Control		●	●	●	●			

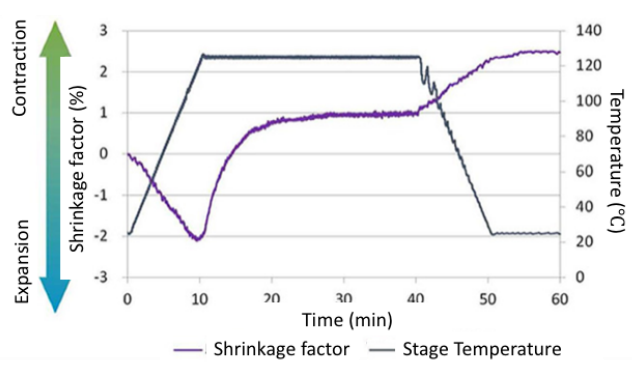
In addition to the evaluation of physical properties such as adhesive strength for improving the performance and stabilizing the quality of reactive resins such as adhesives and coating agents, cured state such as degree of hardening evaluation is required. The cure shrinkage stress measurement device can continuously measure the change in volume during curing.

### Measurement Example of UV Curable Resin



The graph shows a result of two types of UV curable resins after continuous measurement of the shrinkage rate during curing process. It can be seen that the expansion after UV irradiation is suppressed with the low shrinkage treated acrylic resin.

### Measurement Example of Thermosetting Resin



As the temperature increases, the shrinkage factor increase after the desired curing temperature is reached. Further shrinkage transpires when the temperature is lowered. It is found that the initial shrinkage rate is 2.5% and the maximum shrinkage rate is 4.5%.

## Performance

Laser displacement gauge for measurement of cure shrinkage ratio	<ol style="list-style-type: none"> <li>1. Repeatability 2μm</li> <li>2. Red Semiconductor laser 655nm (visible)</li> <li>3. Laser class 2 (FDA CDRH Part1040.10)</li> <li>4. Output 220μW</li> </ol>
Laser displacement meter for baseline measurement	<ol style="list-style-type: none"> <li>1. Repeatability 2μm</li> <li>2. Red Semiconductor laser 655nm (visible)</li> <li>3. Laser class 2 (FDA CDRH Part1040.10)</li> <li>4. Output 220μW</li> </ol>
Load cell for stress measurement	<ol style="list-style-type: none"> <li>1. Standard Rating 5N (Optionally 500mN, 1N, 2N, 10N, 20N)</li> <li>2. Non-rectilinearity within ± 0.5% RO</li> <li>3. Repetition accuracy within ± 0.5% RO</li> </ol>
Heater	<ol style="list-style-type: none"> <li>1. 150W x 3 pcs (total 450W) heat resistance 500°C</li> <li>2. Measuring temperature sensor K thermocouple</li> <li>3. Safety limit temperature sensor K thermocouple</li> </ol>

## Testing Capabilities

- Infrared Thermometer
- Nitrogen Purge
- Low Temperature (up to -50°C)
- High Temperature (up to 300°C)
- Thin Film Measurement

## Suggested Measurement

Please keep the sample, and report the measurement data. Customer can have a trial measurement for the first time use.