

**Technical Data Sheet**

**Electronic & Engineering Materials**

**CONAP<sup>®</sup> UC-23**

**Two-Component Casting Urethane**

**ELANTAS PDG, Inc.**

1405 Buffalo Street  
Olean, NY 14760  
USA  
Tel +1 716 372-9650  
Fax +1 716 372-1594  
info.elantas.pdg@altana.com  
[www.elantas.com](http://www.elantas.com)

5200 North Second Street  
St. Louis, MO 63147  
USA  
Tel +1 314 621-5700  
Fax +1 314 436-1030  
info.elantas.pdg@altana.com  
[www.elantas.com](http://www.elantas.com)

## CONAP® UC-23

### Product Description

CONAP® UC-23 is an unfilled, two-component, room temperature curing, 100%-solids urethane casting system.

### Areas of Application

Highly recommended for use in potting or casting applications requiring tough, high impact resistant elastoplastic. Common applications include making fixtures, patterns, industrial and structural parts, and metal stamping pads. It can also perform as an excellent adhesive for tooling boards and other urethane and epoxy parts.

### Features and Benefits

- Excellent handling properties
- High tensile strength
- Good abrasion resistance
- Room and elevated temperature curing
- Excellent adhesion

### Application Methods

- Hand-mix Bench Potting / Casting
- Meter-mix Bench Potting / Casting
- Meter-mix Vacuum Potting / Casting

### Transportation / Storage

Store at 20 - 30°C / 68 - 86°F in a dry controlled environment out of direct sunlight. This material should be suitable for use stored under these conditions in the original sealed containers for twelve (12) months from the date of shipment.

Failure to store the product as recommended above may lead to deterioration in product performance.

This product is sensitive to moisture and atmospheric humidity. Containers, once opened, should be used immediately or blanketed with dry air or nitrogen (CONAP® Dri-Purge) before resealing.

Mix individual components thoroughly before use.

### Health / Safety

Refer to the Safety Data Sheet.

### Typical Properties of Material as Supplied

Property	Conditions	Value	
		CONAP® UC-23 Part A Polymer	CONAP® UC-23 Part B Curative
Viscosity	25°C / 77°F	10,000 cP	650 cP
Specific Gravity	25°C / 77°F	1.12	0.91
Appearance		Light Amber	Clear Light Amber
Mix Ratio	Parts by weight	100	20
	Parts by volume	100	25

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### Typical Properties of Mixed Materials

Property	Conditions	Value	Units
Viscosity (initial)	25°C / 77°F	3,500	cP
Work Life	1 lb @ 25°C / 77°F	30	minutes
Gel Time	1 lb @ 25°C / 77°F	40	minutes
Peak Exotherm	1 lb @ 25°C / 77°F	162 325	°C °F

### Application / Curing Schedule

Mix the UC-23 Part A and UC-23 Part B in the ratio specified above until homogeneous. Components may be preheated up to 60°C if reduced viscosity is required. If hand mixing, degas at >27 in. Hg vacuum before use.

Cure 5 - 7 days at 25°C / 77°F – or – 5 hours at 60°C / 140°F

Demold time of 3 hours at 25°C / 77°F

The cure schedules above are based on time after the unit reaches the specified temperature and are recommendations only. The user is responsible for determining the optimum cure conditions for his application.

### Typical Electrical Properties – Cured @ 60°C

Property	Test Method	Conditions	Value	Units
Dielectric Strength	ASTM D149	1/16" @ 25°C / 77°F	480	volts / mil
Dielectric Constant	ASTM D150	1 kHz @ 25°C / 77°F	4.80	
Dissipation Factor	ASTM D150	1 kHz @ 25°C / 77°F	0.024	
Volume Resistivity	ASTM D257	25°C / 77°F	4.0 x 10 <sup>13</sup>	ohm-cm

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### Typical Mechanical Properties

Property	Test Method	Conditions	Value	Units
Appearance	Visual	25°C / 77°F	light amber	
Specific Gravity	ASTM D792	25°C / 77°F	1.04	
Shore Hardness	ASTM D2240	25°C / 77°F	D 80	
Tensile Strength	ASTM D412	25°C / 77°F	5,300	psi
Ultimate Elongation	ASTM D412	25°C / 77°F	20	%
Graves Tear Strength	ASTM D624	25°C / 77°F	350	pli
Flexural Strength	ASTM D790	25°C / 77°F	8,460	psi
Flexural Modulus	ASTM D790	25°C / 77°F	241,350	psi
Impact Strength	ASTM D256	Notched / Unnotched	0.57 / 1.04	ft-lb / in
Linear Shrinkage	ASTM D2566		0.6	%
Water Absorption	ASTM D570	24 h @ 25°C / 77°F	0.72	%

The above properties are typical values and are not intended for specification use.

ELANTAS PDG, Inc. warrants the chemical composition of its products within stated tolerances, but does not guarantee that a product will be appropriate for any particular application. Any recommendation, performance of tests or suggestion is offered merely as a guide and is not a substitute for a thorough evaluation by the user. No representative of ELANTAS PDG, Inc. has the authority to offer a warranty that a product will perform satisfactorily in manufacturing an article and no such representation should be relied upon.

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