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## Advanced Materials

# RenCast® 6426-1 Resin / Hardener System

DT 081 OR DT 082 FILLER  
RAPID-CURING POLYURETHANE CASTING SYSTEM

### DESCRIPTION :

RenCast® 6426-1 system with either DT 081 or DT 082 is a rapid-curing polyurethane casting system with good dimensional stability, low shrinkage, and versatility. RP 6426-1 resin and hardener are now manufactured in the U.S.

### APPLICATIONS :

For use in manufacturing foundry patterns, pattern plates, core boxes, cores, gating, risering, negative and ancillary molds of all types, trial casting, prototypes, copy milling patterns and styling models, machining supports, trimming and assembly jigs.

### MIXING INTRUSCTIONS :

#### Reaction Ratio

Typical Formulation	1	2
	Parts by Weight	
Polyurethane RP 6426-1 Resin	100	100
Polyurethane RP 6426-1 Hardener	100	100
Filler DT 081 Low Density		100
Filler DT 082 High Density	300	

**Polyurethane RP 6426-1 Hardener Should be shaken thoroughly before use** to redisperse a desiccating agent which may have settled out.

The three components of the system can be added to one another in any sequence. They should be mixed thoroughly, **but not for longer than 60 to 90 seconds**.

The mix is then poured into a mold pretreated with Release Agent.

Theoretically, there is no limit to the thickness of the layer or the volume of mix which can be cast in a single operation because the system shows only low exothermic temperature rise. In practice, the short pot life of the mix does set definite limits.

Thick layers are best built up by casting a series of thin layers. To ensure durable adhesion between layers, each successive layer should be cast before the previous one has gelled. This entails casting successive layers at intervals of less than 7 minutes.

The pourability of the system can be improved by reducing the filler content.

The cured casting are impact resistant and easy to machine.



**TYPICAL MIXED PROPERTIES :**

Property	ASTM Test Method	Test Values <sup>(1)</sup>	Test Values <sup>(2)</sup>
<b>Formulations</b>		<b>1</b>	<b>2</b>
Gel Time (4 oz.)	D-2471	10 – 12 min.	7 – 8 min.
Color	Visual	Pail beige	Gray
Viscosity (4 oz.) @ 2 min	D-2393	4400 cP	2000 – 3000 cP
Demold Time			
10 mm layer after minutes		90 -120	90 – 120
30 mm layer after minutes		60 – 90	60 – 90
Exothermic Temperature Rise			
40 mm layer (°C)		40 – 45	40 - 45

<sup>(1)</sup> and <sup>(2)</sup> Tested - @ 77 °F (25 °C)

**TYPICAL CURED PROPERTIES :**

Property	ASTM Test Method	Test Values <sup>(1)</sup>	Test Values <sup>(2)</sup>
<b>Formulations</b>		<b>1</b>	<b>2</b>
Density (g/cc)	D-792	1.6 – 1.7	0.8
Hardness (Shore D)	D-2240	83	60 – 65
Compressive Strength (psi)	D-695	5500	5500
Flexural Strength (psi)	D-790	4500	3700
Flexural Modulus (psi)	D-790	.51 x 10 <sup>6</sup>	.34 x 10 <sup>6</sup>
Tensile Strength (psi)	D-638	2860	2400
Izod Impact (ft-lb/in)	D-256	.34	.24
Tg per DMA (°C)	D-4065	85	--
Shrinkage, Mold #1 in/in	D-2566	0.001	0.0028
Mold #2 in/in		0.003	0.0054
Coefficient of Thermal Expansion (in/in.°F)	D-3386	4.13 x 10 <sup>-5</sup>	

<sup>(1)</sup> and <sup>(2)</sup> Cure Schedule – 7 days @ 77 °F (25 °C), tested - @ 77 °F.

**NOTE :** Typical Properties – These physical properties are reported as typical test values obtained by our test laboratory. If assistance is needed in establishing product specifications, please consult with our Quality Control Department.

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**HANDLING :****RP 6426-1 Resin and Hardener**

This product is moisture-sensitive and packaged under a blanket of dry nitrogen. Maintain factory seal, after use reblanket with dry nitrogen and tightly reseal.

Stir well before use. This material will separate.

Work in a well ventilated area and use clean, dry tools for mixing and applying. For two component system, combine the resin and hardener according to mix ration. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 65 °F (18 °C) when mixing.

**DT 081 and DT 082 Fillers**

Store at 60 – 100 °F in a dry place. After use tightly reseal.

In accord with good industrial practice, handle with due care. Avoid dusty conditions, use adequate ventilation. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

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**PACKAGING :**

This product is available in 18# kits containing resin and hardener.

- DT 081 is available in 50# packages.
- DT 082 is available in 15# packages.

Please call Customer Service (800-367-8793) for price and availability.

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**STORAGE :**

RenCast<sup>®</sup> 6426-1 system should be stored in a dry place, in the sealed original container, at temperatures between +2°C and +40°C (+35.6°F and 104°F). Under these storage conditions, the shelf life is 1 year. The product should not be exposed to direct sunlight.

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**PRECAUTIONARY STATEMENT :**

Huntsman Advanced Materials Americas LLC maintains up-to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

**First Aid!**

Refer to MSDS as mentioned above.

**KEEP OUT OF REACH OF CHILDREN****FOR PROFESSIONAL AND INDUSTRIAL USE ONLY**

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