



RenCast™ 6426-1/Ren® 6426-1

DT 081 OR DT 082 FILLER

RAPID-CURING POLYURETHANE CASTING SYSTEM

DESCRIPTION: RenCast 6426-1(Resin)/Ren 6426-1(Hardener) system with either DT 081 or DT 082 is a rapid-curing polyurethane casting system with good dimensional stability, low shrinkage, and versatility.

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

MIXING INSTRUCTIONS:	Reaction Ratio:	Typical Formulations	1	2	3
			Parts by Weight		
		RenCast 6426-1	100	100	100
		Ren 6426-1	100	100	100
		Filler DT 081 Low Density			100
		Filler DT 082 High Density		300	

RenCast 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 castings are impact resistant and easy to machine.

TYPICAL MIXED PROPERTIES:

Property	ASTM Test Method	Test Values ⁽¹⁾	Test Values ⁽¹⁾	Test Values ⁽¹⁾
Formulations		1	2	3
Gel Time (4 oz.)	D-2471	9-11 min.	10-12 min.	7-8 min.
Color	Visual	Beige	Pale beige	Gray
Viscosity (4 oz.) @ 2 min	D-2393	3000 cP	4400 cP	2000-3000 cP
Demold Time 10 mm layer after minutes 30 mm layer after minutes		90-120 60-90	90-120 60-90	90-120 60-90
Exothermic Temperature Rise 40 mm layer (°C)		-----	40-45	40-45

⁽¹⁾ Tested – @ 77°F (25°C)

TYPICAL CURED PROPERTIES:

Property	ASTM Test Method	Test Values ⁽¹⁾	Test Values ⁽¹⁾	Test Values ⁽¹⁾
Formulations		1	2	3
Density (g/cc)	D-792	1.15	1.6-1.7	0.8
Hardness (Shore D)	D-2240	70	83	60-65
Compressive Strength (psi)	D-695	4000	5500	5500
Flexural Strength (psi)	D-790	5100	4500	3700
Flexural Modulus (psi)	D-790	.15 x 10 ⁶	.51 x 10 ⁶	.34 x 10 ⁶
Tensile Strength (psi)	D-638	3100	2860	2400
Izod Impact (ft-lb/in)	D-256	.39	.34	.24
Tg per DMA (°C)	D-4065	75	85	--
Shrinkage, Mold #1 in/in Mold #2 in/in Mold #0 in/in	D-2566	0.002	0.001 0.003	0.0028 0.0054
Coefficient of Thermal Expansion (in/in/°F)	D-3386	7.4 x 10 ⁻⁵	4.13 x 10 ⁻⁵	

⁽¹⁾ and ⁽²⁾ 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.

STORAGE/HANDLING INFORMATION:**RenCast 6426-1/Ren 6426-1**

Store at 70-90°F. 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 ratio. 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.

SHELF LIFE: Provided materials are stored under the recommended storage conditions in their original containers, they will remain in useable condition for six months from date of shipping.

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.

SAFETY/HANDLING PRECAUTIONS: Do not use or handle this product until the Material Safety Data Sheet has been read and understood.

RenCast 6426-1

WARNING! Harmful if inhaled. Causes skin and eye irritations. Causes allergic skin and respiratory reactions.

Do not get in eyes. Avoid contact with skin and clothing.
Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin.
Keep container closed. Use with adequate ventilation.
Wash thoroughly after handling.

Ren 6426-1

WARNING! COMBUSTIBLE. Causes skin and eye irritation.

Keep away from heat and flame.
Avoid contact with eyes, skin, and clothing.
Wash thoroughly after handling.

DT 081 Filler

CAUTION! In accord with good industrial practice, handle with due care. Avoid dusty conditions. Use with adequate ventilation. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

NOTICE! Contains free crystalline silica. Breathing dust may cause cancer and delayed lung injury.

DT 082 Filler

CAUTION! In accord with good industrial practice, handle with due care. Avoid dusty conditions. Use with adequate ventilation. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

Nuisance dust may be generated when sanding or sawing cured material.

FIRST AID: In case of contact with:

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

Eyes: Immediately flush with water for at least 15 minutes. Call a physician.

Ingestion: If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.

Inhalation: Remove to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Other: Referral to physician is recommended if there is any question about the seriousness of any injury.

PRECAUTIONARY NOTE: Thermosetting systems generate heat when curing. The amount of heat and the period of time in which heat is released vary significantly between systems. Additionally, ambient or compound temperature, amount of material mixed, and construction and shape of the mold or container can also be factors in the temperature profile of a mixed system. In some cases, the thermosetting reaction can be vigorous, generating heat sufficient to cause decomposition of the system with subsequent liberation of large volumes of acrid smoke.

A good rule of thumb is never mix more material than can be applied during the stated pot life or gel time. Also take care when using materials in applications other than stated on the Product Data Sheet, i.e., a laminating resin for casting.

Please feel welcome to call our Product Information Department or your local Ren representative for instructions before you start your job.

IMPORTANT: The following supersedes Buyer's documents. SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTIES AND CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential, or indirect damages for alleged negligence, breach of warranty, strict liability, tort, or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results are based on controlled or lab work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

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