



Product Data Sheet

Revision Date: 03/04

UNI-REZ® 2291 POLYAMIDE RESIN

UNI-REZ® 2291 POLYAMIDE RESIN is a high molecular weight polyamide designed to provide laminating inks with a combination of excellent adhesion and good viscosity stability. It has good alcohol solubility, low odor and the fast solvent release needed to obtain a low retain level in laminates.

TYPICAL PROPERTIES

Softening Point, Ring & Ball, °C	138
Viscosity, 40% in n-Propanol, 25°C Gardner	Z-
Viscosity, 20% in n-Propanol, 25°C Gardner	D
Melt Viscosity, Brookfield, cps at 205°C	12000
Acid Number	<2
Amine Number	<10
Gardner Color, 40% in n-Propanol	5

FDA Status:	UNI-REZ® 2291 POLYAMIDE RESIN meets the requirements of the Code of Federal Regulations, Title 21, under the following sections: 175.105 Adhesives
DOT Shipping Classification:	Non-hazardous.
Shipping:	Pellet form, packaged in poly/foil lined multi-wall bags, 50 lbs. net.
Storage:	The shelf life of this product can be extended by storing in a cool, dry area.



Technical Service: Savannah, GA (912) 238-6556
Sales Service: Jacksonville, FL - (800) 733-1374

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Polypropylene Back Sheet Bond Strength (G/LI) for U-2291				
Substrate:	Polyethylene LDPE	Polypropylene B-523	Capran/Nylon CAP 77K	Polyester ICI-813
Color				
Red	450	550	503	416
White	500	550	495	434
Red/White	450	550	512	428
Yellow	420	438	498	385
White	416	427	521	412
Yellow/White	425	425	507	438
Blue	527	503	502	494
White	536	537	569	521
Blue/White	579	528	556	517

Ink Print Viscosities	
Color	Seconds/Zahn Cup
Red	31/2
White	36/2
Blue	34/2
Yellow	33/2

K/S Color Strength	
Color	K/S
Red	19.4
Blue	31.8
Yellow	12.9



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Ink Block Resistance *		
140°F, 125 psi, 16 hrs.		
Orientation	Face To Back Prints	Face To Face Prints
Red	2/1 (slight cling/10 % transfer)	4/6 (slight block/60% transfer)
White	3/0 (cling/0 % transfer)	4/2 (slight block/20% transfer)
Blue	2/0 (slight cling/0 % transfer)	4/5 (slight block/50% transfer)
Yellow	2/0 (slight cling/0 % transfer)	4/4 (slight block/40% transfer)

- Results equal to competitive standard.

APPLICATIONS TEST FORMULATIONS PARTS BY WEIGHT	
RESIN SOLUTION: U-2291 n-Propanol	30.0 <u>70.0</u> 100.0
WHITE INK: Titanium Dioxide, OR-580 Resin Solution n-Propanol	24.5 18.7 <u>56.8</u> 100.0
RED INK: Permanent Red 2B, RT-880 Resin Solution n-Propanol	10.0 18.7 <u>71.3</u> 100.0
YELLOW INK: Diarylide Yellow, 274-1744 Resin Solution n-Propanol	10.0 18.7 <u>71.3</u> 100.0
BLUE INK: Phthalo Blue, 249-0535 Resin Solution n-Propanol	10.0 18.7 <u>71.3</u> 100.0



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FILMS:

Arizona Chemicals, Low Density Polyethylene, 1.0 mil, 50 dynes/cm.
Hercules, B-523 Polypropylene, 1.0 mil, 44 dynes/cm.
Allied, CAP 77K Capran Coated Nylon, 1.5 mil, 54 dynes/cm.
ICI, 813 Polyester, 0.5 mil, 48 dynes/cm.

PRINTS:

All prints applied using a flexo hand proofer.

ADHESIVE:

Morton Chemical, Adcote 333, single component curing type adhesive, reduced to 30% nonvolatile in toluene, applied using a #8 Meyer rod.

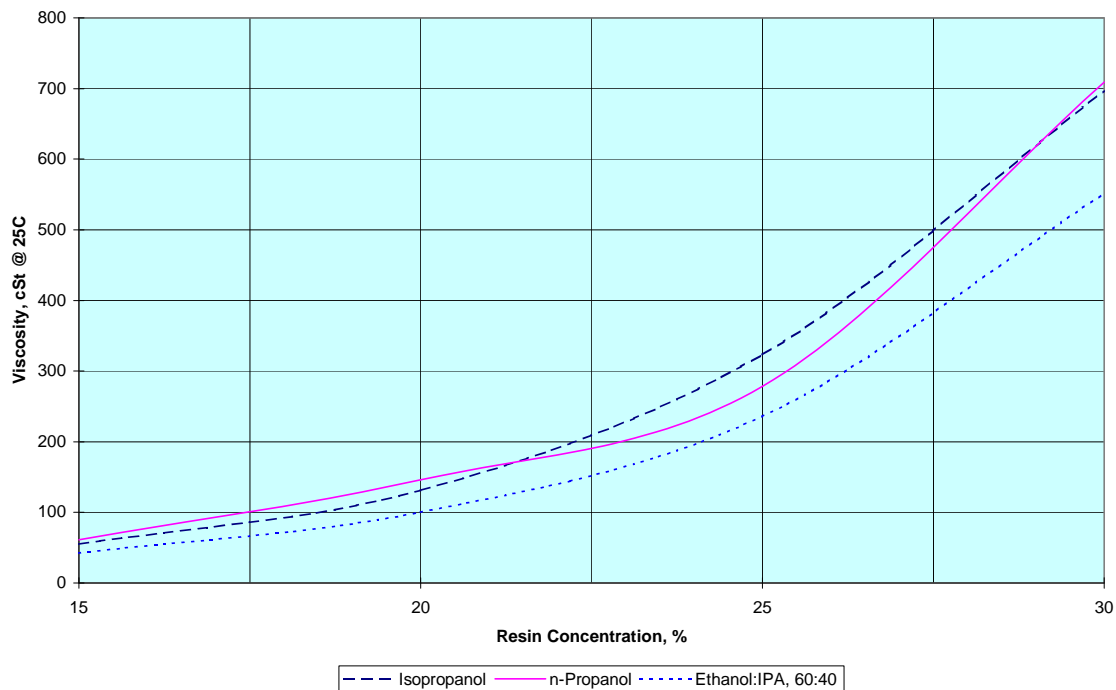
LAMINATION:

Talboys Engineering Corporation, 150°F, 20 psi, 20 rpm, Polypropylene backsheet.

SAMPLE EVALUATION:

Strips of laminated film 1/2" X 6" cut using a TMI Precision Cutter. T-peel test 5 strips and average results of values obtained from an Instron 4201 Tensile Tester, 6 in/min crosshead speed.

UNI-REZ 2291 Solution Properties



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