



ACRYSOL™ RM-725 Rheology Modifier

Experimental Nonionic Associative Thickener

Description

ACRYSOL™ RM-725 Rheology Modifier is a solvent-free*, hydrophobically modified ethylene oxide urethane (HEUR) rheology modifier based on proprietary technology for an excellent balance of properties.

This KU-building associative thickener offers formulators an excellent balance of sag resistance and leveling, particularly in PVA and VAE binder based paints. ACRYSOL RM-725 Rheology Modifier also contributes significant ICI viscosity, allowing the reduction of ICI builder use level in the paint.

ACRYSOL RM-725 Rheology Modifier should be added under good mixing conditions to ensure complete incorporation into the formulation.

ACRYSOL RM-725 Rheology Modifier is supplied at low pH and, therefore, may slightly lower the pH of the paint formulation. Small amounts of extra base may need to be added to the paint formulation to ensure the final pH target is reached. We recommend that all base be added prior to the addition of ACRYSOL RM-725.

Key Features

- Efficient KU-builder for the PVA and VAE binder formulation space
- Utility with all binder types
- Significant ICI contribution
- Solvent free*, water based, no VOC intentionally added
- Provided as low viscosity liquid

Benefits

- Good thickening efficiency, and spatter resistance
- Good balance of sag resistance with excellent flow and leveling
- Excellent choice for low odor, low VOC applications
- Facilitates improved applied hiding and smooth application appearance
- Easy to handle and incorporate during manufacturing process

Typical Properties

(The following properties are typical but do not constitute specifications)

Property	Typical Values
Appearance	Hazy liquid
pH	~3.0
Solids, %	18.0
Active Polymer, %	15.0
Solvent	Water
Brookfield Viscosity, cP	< 3500
Density, lb/gallon	8.65

* - manufactured without added solvent

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ACRYSOL™ RM-725 Rheology Modifier / Dow Coating Materials

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**Starting Point
Formulation**

High Quality Vinyl-Acrylic Interior Flat Formulation based on
ROVACE™ 9900 Vinyl-Acrylic Binder
Formulation RM725-1

Material Name	Pounds	Gallons	Level	
Grind				
Water	100.00	11.98		
CELLOSIZETM QP300 HEC	1.50	0.14		
AMP-95™ Neutralizer	3.00	0.39		
TAMOL™ 1124 Dispersant	5.99	0.60	1.00%	Disp
TRITON™ CF-10 Surfactant	2.00	0.23		
TRITON™ X-405 Surfactant	4.00	0.43		
Defoamer	0.50	0.07		
Titanium Dioxide	158.70	4.75	12.51%	PVC
Attapulgite Clay	5.00	0.25	0.67%	PVC
Nepheline Syenite	100.00	4.59	12.08%	PVC
Calcined Aluminum Silicate	36.00	1.96	5.15%	PVC
<i>Grind Sub-total</i>	<i>416.69</i>	<i>25.39</i>	<i>30.40%</i>	<i>PVC</i>
LetDown				
Water	125.00	14.98		
ROVACE™ 9900 Emulsion Polymer	398.59	44.33		
ROPAQUE™ ULTRA Opacifier	59.97	7.01	9.60%	PVC
Propylene Glycol	10.00	1.16		
Defoamer	0.50	0.07		
ACRYSOL™ RM-6000	14.00	1.61		
ACRYSOL™ RM-725	20.80	2.45		
Water	25.17	3.02		
Totals		1070.72	100.00	

Property	Value
Total PVC (%)	40
Volume Solids (%)	38
KU Viscosity	100-105
ICI Viscosity (P)	1.3 ± 0.1
Sag Resistance (mil)	14-16
Leneta Leveling	9±1
VOC (g/L)	40



**Starting Point
Formulation**

Contractor Quality Interior Flat White Formulation Based on
Vinnapas(2) EF8001 Vinyl-Acetate Ethylene Binder
Formulation RM725-2

Material Name	Pounds	Gallons	Level
Grind			
Water	132.1	15.8	
ACRYSOL™ DR-110 Rheology Modifier	8.5	1.0	
AMP™-95 Neutralizer	2.0	0.3	
TAMOL™ 1124 Dispersant	6.8	0.7	1.00% Disp
ECOSURF™ 30 LF Surfactant	2.0	0.2	
Dextrol ¹ OC-180	2.0	0.2	
Defoamer	2.5	0.3	
Titanium Dioxide	150.0	4.5	13.80% PVC
Calcium carbonate	135.5	6.0	18.40% PVC
Calcined aluminum silicate	27.1	1.2	3.79% PVC
Attapulgite clay	4.7	0.2	0.73% PVC
Diatomaceous earth	20.6	1.1	3.29% PVC
Water	132.1	15.8	
<i>Grind Sub-total</i>	625.8	47.4	40.00% PVC
LetDown			
Vinnapas ² EF8001	280.5	31.4	
Texanol	3.4	0.4	2.00% Coal
ROPAQUE™ Ultra Opacifier	53.5	6.3	10.00% PVC
BYK-038	1.5	0.2	
ACRYSOL™ RM-725 Rheology Modifier	18.4	2.1	
Acrysol™ RM-6000 Rheology Modifier	22.0	2.5	
Water	82.4	9.9	
Totals	1087.5	100.2	

Property	Value
Total PVC	50 %
Volume Solids	32.5 %
KU Viscosity	100-105
ICI Viscosity	1.3±0.1 Poise
Sag Resistance	14-16 mils
Leneta Leveling	7±1
VOC Generic Water Excl.	19.1 g/l

¹ Ashland Chemical

² Wacker Chemie

³ Eastman Chemical



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Starting Point Formulation

High Quality Interior/Exterior Acrylic Satin Formulation Based On RHOPLEX™ VSR-2015 Binder Formulation RM725-3

Material Name	Pounds	Gallons	Level	
Grind				
Water	60.5	7.2		
TAMOL™ 731A Dispersant	6.4	0.7	0.6%	Disp
AMP™-95 Neutralizer	3.5	0.5		
Defoamer	2.0	0.2		
ECOSURF™ 30 LF Surfactant	4.0	0.5		
Titanium Dioxide	261.0	13.4	15.7%	PVC
Calcium Dioxide	39.0	1.7	4.6%	PVC
Napheline Syenite	39.0	1.8	4.7%	PVC
<i>Grind Sub-total</i>	415.4	26.1	25.0%	PVC
LetDown				
Water	98.2	11.8		
Defoamer	1.5	0.2		
RHOPLEX™ VSR-2015 Binder	466.8	53.3		
ROPAQUE™ Ultra Opacifier	31.2	3.7	5.0%	PVC
Propylene Glycol	10.0	1.2		
ACRYSOL™ RM-5000 Rheology Modifier	22.5	2.6		
ACRYSOL™ RM-725 Rheology Modifier	11.0	1.3		
Totals	1056.6	100.0		

Property	Value
Total PVC	30.0 %
Volume Solids	38.0 %
Weight Solids	49.3 %
KU Viscosity	105-110
ICI Viscosity	1.1±0.1 Poise
Sag Resistance	12-14 mils
Leneta Leveling	10
VOC Generic Water Excl.	47.5 g/l



Handling Precautions

Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

Storage

Store products in tightly closed original containers at temperatures recommended on the product label.

Disposal

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Coating Materials Technical Representative for more information.

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