

# ENCOR<sup>®</sup> 137

VINYL ACETATE-ETHYLENE LATEX OFFERS VERSATILITY IN FORMULATING



## Product Benefits

ENCOR<sup>®</sup> 137 is a vinyl acetate – ethylene latex stabilized with polyvinyl alcohol. The binder is suitable for use in tape joint compounds, cement admixtures as well as the production of redispersible powders.

## Polymer Design

- Vinyl Acetate-Ethylene

## Performance Benefits

- Excellent compatibility and stability
- Easy to formulate; offers high efficiency
- Does not require external plasticizer
- Excellent tape bond adhesion and crack resistance

## Typical Properties<sup>1</sup>

Total Solids, % by weight	56
Weight per Gallon, lb	8.9
pH Value	4.5
Viscosity, Brookfield, cP, #2 LVT @ 30 rpm, 25°C	200
Glass Transition Temperature (T <sub>g</sub> ), midpoint, °C	18
Minimum Film-Forming Temperature (MFFT), °C	5

<sup>1</sup>The data provided for these properties are typical values, intended only as guides, and should not be construed as sales specifications.



Joint finishing products are an integral part of gypsum board systems. Their role is to finish the joint between the individual sheets of gypsum board in such a manner that even under critical lighting the whole wall (or ceiling) gives the impression of a monolithic surface.



Figure 1. Illustrates the use of joint compound to finish interior walls and ceilings.

## Tape Bond Adhesion

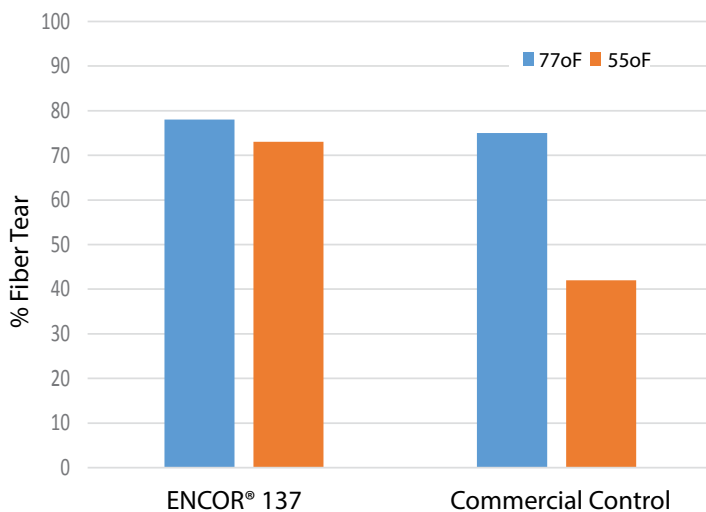


Figure 2. Illustrates the superior low temperature tape bond adhesion performance of joint compounds formulated with ENCOR®137 latex.

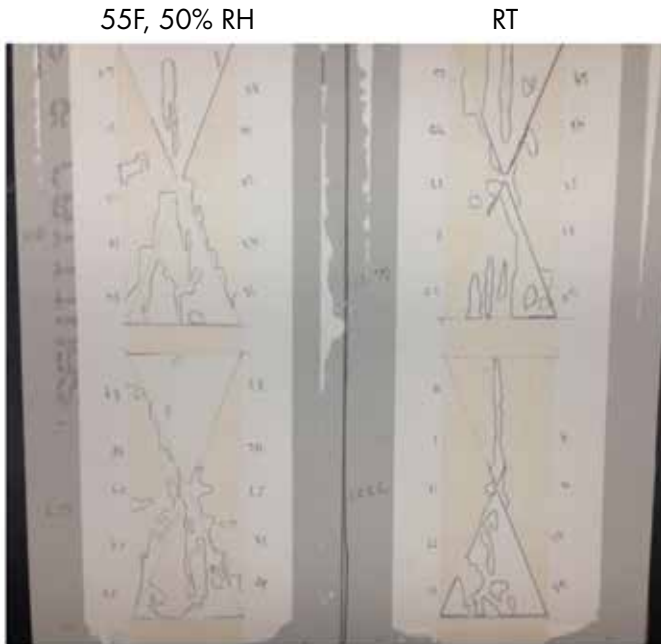


Figure 3. Fiber Tear testing illustrates the excellent durability of joint compounds based on ENCOR® 137 latex.

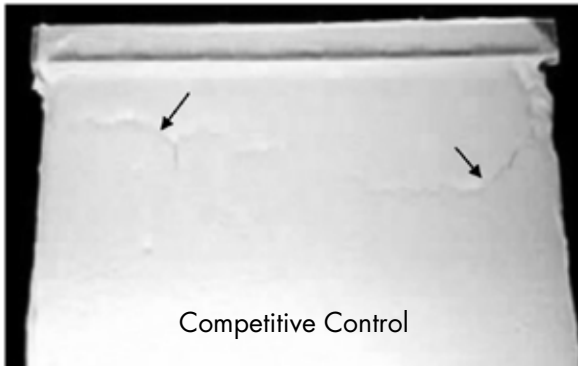


Figure 4. Illustrates the superior mud crack resistance of formulations utilizing ENCOR® 137. This allows for thicker applications of joint compound to address major irregularities in walls and ceilings.

## Formulating Guidelines

### Thickener Choice

- HEC and HEMC thickeners are preferred, high molecular weight products are more efficient than lower molecular weight grades.
- ASE and HASE thickener types such as Rheotech™ 46, Acrysol™ ASE 60, Rheotech™ 4200 and Acrysol™ TT-615 may also be employed.
- HEUR thickener types should be avoided because of undesirable flow characteristics.

### Filler Selection

- Calcium Carbonate Grade
  - Primary filler pigment.
  - Performance differences can be anticipated with different sources of ground calcium carbonates due to natural variations in quality of calcium carbonate source. Trace minerals and salts in the ground calcium carbonate can negatively impact performance. Any new grade of calcium carbonate should be tested for suitability.
  - Calcium carbonate with an average particle size of 6-10 µm is preferred when formulating joint compounds.
- Mica and Hydrous Clay
  - May be utilized as a particle replacement for Calcium Carbonate to minimize cracking.
  - Will impact hardness and porosity of finish.
- Perlite and Glass Microspheres
  - Utilized in light weight and ultra-light weight formulations.
  - Functions as partial replacement for Calcium Carbonate, should be substituted on an equal volume basis taking into account their ultra low density.

### Biocides/Mildewcides

- Biocides and mildewcides are necessary to achieve the desired product shelf-life and maximum performance.
- Kathon™ LX is the recommended package biocide.
- There are several recommended mildewcides and either Polyphase® 663 or Busan™ 1192D are good choices.

## Formulation Suggestions

### Regular Weight Joint Compound

Ingredients	Quantity
ENCOR® 137	53.4
Water	278.2
Propylene Glycol	3.6
Cellulose ether	4.9
Calcium Carbonate (6-10 µm)	623.3
Diatomous Earth	6.7
Mica	28.5
Biocide	1.4
Total	1000.0

### Paint Properties:

Weight Solids, %	70.0
Volume Solids, %	47.0
P/B	22.0
Density, lb/gal	15.5

### Light Weight Joint Compound

Ingredients	Quantity
ENCOR® 137	70.7
Water	383.2
Cellulose ether	4.8
Perlite	54.4
Calcium Carbonate (6-10 µm)	440.7
Diatomous Earth	24.2
Mica	20.0
Biocide	2.0
Total	1000.0

### Paint Properties:

Weight Solids, %	53.0
Volume Solids, %	26.0
P/B	13.6
Density, lb/gal	9.8

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## Product Safety

Before handling the materials listed in this bulletin, read and understand the product SDS (Safety Data Sheet) for additional information on personal protective equipment and for safety, health and environmental information. For environmental, safety and toxicological information, contact our Customer Service Department at 1-866-837-5532 to find an SDS, or visit our web site: [www.arkemacoatingresins.com](http://www.arkemacoatingresins.com)

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## Storage and Handling

Follow procedures typically recommended for polymer dispersions. Use corrosion-resistant storage tanks and piping. Air-operated diaphragm pumps are preferred. Avoid temperature extremes. Do not freeze; store between 4-40°C.

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