

SMARTER BINDER SOLUTIONS FOR GREATER PERFORMANCE & VALUE

PEN-COTE™ D series coating binders



PEN-COTE D coating binders surpass the inherent limitations of other naturally derived binders

Coating formulations produced with PEN-COTE D coating binders offer technical benefits for coating operations. By imparting a high level of water-holding to the coating, PEN-COTE D increases the development of coating structure, reduces binder migration and improves coating uniformity without a loss in gloss or print performance. In addition, the design of PEN-COTE D coating binders at the molecular level promotes optimal cross-linking to achieve high binder strength.

PEN-COTE D binders are easily hydratable and do not require cooking. They can be mixed with water to produce a usable paste, mixed directly into the pigment slurry or introduced as a powder during the coating makedown process to elevate coating solids.

Features & benefits:

- Replace up to 60% of latex
- Increased water retention capability for enhanced surface appearance
- Improved coater runnability
- Increase saleable tons with improved quality and appearance
- Cross-linkable to improve print fidelity providing higher printer satisfaction

Regulatory status:

- FDA approved under 21 CFR.176.170 and 21 CFR 176.180
- Meet requirements of BfR Recommendation XXXVI
- No volatile organic compounds (VOC's)



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Dry materials for coating

PRODUCT	PRODUCT VISCOSITY	PRODUCT MOISTURE	MOLECULAR WEIGHT	WATER RETENTION INFLUENCE/part used
PEN-COTE D – ULV	Ultra-low	5%	Ultra-low	Minimal
PEN-COTE D – LV	Low	5%	Low	Low
PEN-COTE D – MV	Medium	5%	Medium	Moderate
PEN-COTE D – HV	High	5%	High	High
PEN-COTE D – UHV	Ultra-high	5%	Ultra-high	Ultra-high

1 challenge

A coated recycled boxboard mill needed to improve their print strength to secure new business on a high speed offset press.

2 solution

PEN-COTE D UHV replaced 25% of the formulation latex and eliminated need for coating thickener used in the top coat formulation

3 results

- **Improved board print quality**
 - Higher passes to failure on NPA print test validated improved print strength
 - Improved sheet appearance; DAV/ DAA values improved
 - Sheet brightness improved by 1.5 points
 - Cold glue and hot melt glue tests improved
- **Reduced coating costs:**
 - Top coat weight reduced by 10-12% while maintaining critical quality specifications
 - Eliminated the need for coating thickener while maintaining coating rheology and runnability
- **Secured new business on high speed offset printing press**

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