ADCOTE™ 50C12

Description

ADCOTE™ 50C12 is a waterborne dispersion which has excellent adhesion to metal foils and cellulosic substrates. The dried polymer exhibits excellent chemical resistance, heat seal, and hot tack properties.

ADCOTE™ 50C12 can be used as an extrusion primer on aluminum foil for extrusion coating or laminating with polyethylene, ethylene vinyl acetate, and ethylene acrylic acid resins. ADCOTE™ 50C12 also may be used as a heat seal coating which exhibits water, oil and solvent resistance. As ADCOTE™ 50C12 is a thermoplastic composition with a low activating temperature, it can also be used to thermally bond to itself, metal, paper, or polyethylene substrates.

ADCOTE™ 50C12 may have a tendency to foam when applied by direct gravure. Foaming may be controlled by the addition of 0.1 - 0.5% of Adcote 7R4 defoamer. An alternate technique would be to add alcohol. ADCOTE™ 50C12 is compatible with ethanol. Alcohol addition will improve the wetting of certain substrates and improve drying efficiencies, as well as control foaming of the dispersion. Isopropyl alcohol may be used, but it will result in a higher viscosity if the diluted product is stored.

As an extrusion primer, ADCOTE™ 50C12 will exhibit its best performance when the extrudates are fully oxidized. This is accomplished by extruding at 605°F with a sufficient air gap or by extruding at a lower temperature in conjunction with external oxidation of the molten curtain.

When ADCOTE™ 50C12 is applied in a continuous film at ca 0.75 lb/ream onto a metal substrate, it will exhibit excellent corrosion resistance.

When used as a coating, application weights of 2-4 lbs/ream would be typical. Actual coating weights will depend upon end use requirements and the porosity of the substrate.

Since the coating is thermoplastic in nature, the coated web must be cooled over chill rolls prior to rewinding.

Bonds for aluminum foil/extrudate are generally at 500g/li for oxidized extrudate and 200-300 g/li for low temperature EVA type extrudates. Usage on paper or paperboard will generally produce fiber-tearing bonds.

Typical Applications

Coating
Primer

Suggested Substrates

Aluminium foil, converter grade.
Cellulosic film (cellophane).
Metalized films.
Paper.
Polyester (PET).
Polyvinylidene di-chloride (PVdC) coated substrates.
Smooth finished calendared or coated paper.
Treated polyethylene (PE), (minimum 38 dyne/cm).
Treated polypropylene (PP), (minimum 38 dyne/cm).
Other types of laminates are possible and should be tested.

Typical Physical Properties	Primer	Unit
Solids Content	22	%
Viscosity (25°C)	100	mPa·s
Weight/Gallon	8.25	lb
Volatile Solvent	• Ethyl Alcohol • Isopropyl Alcohol • Water	
pH	9.1 to 10.1	
Wet Appearance	• Liquid • Milky White	

*These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

Form No. 400-00302438en
Rev: 2017-07-11

Recommended Processing Guidelines

Foam Control: Mix gently and avoid free fall of the product to avoid air entrapment. If required, add defoamer to the product with mixing before use. Pre-dilute defoamer with 50/50 deionized water and Isopropanol before adding.

This is a water based dispersion; be careful to minimize foam generation. A recommended defoamer addition of 0.01 - 0.2% (based on wet dispersion weight) will help to reduce foam creation and build-up. Contact your Dow Representative for more information.

Apply product onto the less porous, more stable substrate.

The product is usually applied as received by gravure system.

Use of a smoothing bar will optimize film uniformity and appearance.

General Comments

Dow's Technical Service is ready to supply assistance in regards to the correct use of our products.

Interaction may occur with other components of the structure. Inks, retained solvents from any source, substrates, additives, coatings and the packed product are some of the components that may cause a property change of the total structure.

Before regular production, the end user is responsible to verify the suitability and performance properties of the total construction for the intended end use application, including the suitability of the process, construction and components.

To ensure optimal block-resistant properties, be sure that the coated substrate is cooled over a chill roll to room temperature prior to subsequent rewind or sheeting operations.

Heat seal bond performance or blocking properties may be affected by inks, other coatings, retained solvents, or other substances which may offset in a roll or a sheet.

Recommended Application Weight

Apply 3.3 to 6.5 g/m² dry, depending on substrate, printing and application.

Drying Guidelines

Cool the coated material down below 38°C to avoid blocking in the reel or sheet stack.

Dry properly with sufficient amount of heated air at adjusted temperature range of 71 to 104°C to evaporate water at given production speed.

Suggested Application and Operating Guidelines	Primer	Unit
Application Method	• Meyer Rod • Reverse Gravure	
Application Solids Percent Range	22	%
Recommended Dilution Solvent	• Deionized Water • Isobutyl Alcohol	
Dry Applied Weight Range	3 to 7	g/m²
Drying Web Temperature	71 to 104	°C
Rewind Temperature	< 38	°C

Suggested Cleanup Guidelines

A proper cleaning procedure should be implemented and practiced as part of the machine operation.

After finishing production, the equipment should be cleaned immediately with room temperature flushing water.

Clean wet deposits or spills with warm soapy water. Use a scrub brush to loosen hardened or dried deposits. Following standard safety precautions and having adequate ventilation, warm toluene or similar solvents may aid in cleaning dried deposits.

Storage and Shelf Life Guidelines

The expiry date of each product is the date reported on the label of the package.

The product may be stored up to stated expiry date provided that the product is stored in a dry and cool, well ventilated place between 5 - 35°C (41 - 95°F) unopened in the original shipping container.

WARNING: Keep product materials away from freezing temperatures. Material will become unusable or may precipitate.

FDA and/or European Food Contact Compliance

Due to the evolving nature of European and FDA food contact compliances, please contact Dow's Customer Information Group for the most up to date food contact compliance information. Call 800-258-2436 or use the web form at Dow.com for complete FDA and European food contact statements available.

Notes

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Form No. 400-00302438en
Rev: 2017-07-11

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Published:

Form No. 400-00302438en
Rev: 2017-07-11