



Introduced an Active Packaging with Name of

ActivePac™



Alutech ActivePac™

Next-Generation Active Barrier Foil for
High-Sensitivity Pharma Formulations

Technical Structure Base Foil (Blister):-

25μ BOPA

50μ Aluminium

85μ Active PE (Moisture scavenging)

Lidding Foil:-

25μ Aluminium

30μ Functional PE (CO₂ Scavenging Layer)

Functional Benefits:

Active Moisture Absorption: Continuously pulls ambient moisture away from the dosage form Protects moisture-sensitive active from hydrolysis and physical deformation

Carbon Dioxide Management: Absorbs internal Carbon Dioxide released from excipients / reactions / degradation Prevents blister puffing, tablet swelling, and acidification

Odor Control: Significantly reduces unwanted sulfuric or ammonia-like odors during storage Improves end-user experience and reduces field complaints



What is ActivePac™?

ActivePac™ is a smart, active cold-form foil system engineered to protect the most sensitive pharmaceutical formulations from degradation threats. Going beyond traditional barrier laminates. **ActivePac™** features built-in absorption technology that actively trap moisture and carbon dioxide (CO₂)—two of the most common causes of Drug instability.

ActivePac™ designed specifically for challenging molecules like Amoxicillin-Clavulanate and Cefixime-Clavulanate, etc.

ActivePac™ enhances product shelf-life, prevents odor formation, and reduces the need for Drug overages—making it a preferred solution in humid and high-risk environments.

Hygroscopic Formulations:

Clavunic Acid Combinations

- Amoxicillin + Clavulanate
- Cefixime + Clavulanate
- Cefpodoxime + Clavulanate
- Cefuroxime + Clavulanate
- Azithromycin + Clavulanate

Hygroscopic APIs & Excipients:

- Metformin HCl
- Levocetirizine Dihydrochloride
- Desloratadine
- Montelukast
- Levocetirizine
- Rosuvastatin Calcium
- Aspirin + Clopidogrel (sensitive to moisture-induced hydrolysis)

Nutraceuticals & Vitamins:

- Ascorbic Acid (Vitamin C)
- Folic Acid
- Vitamin B-Complex blends
- Vitamin D3 + K2
- Calcium + Magnesium + Zinc combinations

Multivitamin/Multimineral tablets

- L-Carnitine Fumarate
- Glucosamine Sulphate formulations
- Enzymes & Probiotics:
- Pancreatin
- Alpha-Galactosidase
- Saccharomyces boulardii
- Lactobacillus & Bifidobacterium blends

Effervescent Tablets & Powders:

- Vitamin C or Electrolyte Effervescent Tabs
- Antacid powders in tablet form
- Rehydration salts and energy sachets

Other Sensitive Categories:

- Orally Disintegrating Tablets (ODTs)
- Sublingual tablets
- Rapid melt strips or films
- Chewables with hygroscopic fillers
- & Many More



(How It Works)

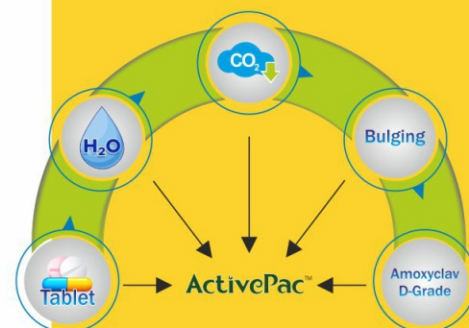
How ActivePac™ Protects Amoxicillin+Clavulanate

Why Amoxycyclav Degrades:

- Clavulanic Acid is highly unstable in humid conditions.
- Moisture causes hydrolysis, breaking it down into inactive compounds.
- This reaction also produces Carbon Dioxide, which builds pressure in the blister.
- Result: Blister puffing, unpleasant rotten egg odor, and loss of potency.
- Amoxicillin itself is also moisture-sensitive—can discolor or degrade.

How ActivePac™ Solves This:

- 1. Moisture Control:** The inner Active PE layer (85µm) of ActivePac CFB absorbs over 3g/m² of water vapor, reducing hydrolysis of Clavulanate and protecting Amoxicillin from early breakdown.
- 2. Carbon Dioxide Scavenging:** In combination with ActivePac CFB, The lidding film absorbs Carbon Dioxide, preventing internal pressure buildup—this eliminate possibility of blister puffing and maintains physical integrity.
- 3. Odor Suppression:** Reactive compounds responsible for sulfur/rotten egg smell are neutralized within the sealed pack.
- 4. Improved Stability:** Together, moisture and gas control, prolong API integrity and reduce the need for overages.
- 5. Regulatory Benefit:** Helps meet stability guidelines for hot/humid zones (Zone IVa & IVb) more reliably.



Formulation Advantages:

ActivePac™ helps reduce API overages, especially for formulations where API degradation is a known issue. It is ideal for both domestic and regulated export markets enabling:

Better Regulatory Guideline Adherence
Improved Inventory Shelf-life

Shelf-Life Advantages:

ActivePac™ improves shelf-life by actively absorbing moisture and other reactive gases inside the pack, protective sensitive formulation from degradation. This results in longer product stability, reduce of risk of failure and extended efficacy without the need for formulation changes or access is overages.



In Summary:

- **ActivePac™** is the go-to solution for pharmaceutical products that demand more than just passive barrier protection.
- With its, integrated proprietary absorbent technology, Actively guards against environmental threats that compromise drug quality.
- If your formulation is vulnerable to moisture, Carbon Dioxide, or odor formation, **ActivePac™** is your trusted shield.



Conventional Alu-Alu vs ActivePac™

| Feature | Traditional Alu-Alu | Alutech ActivePac™ |
|-------------------------|---------------------|------------------------------|
| Moisture Barrier | Passive | Active (3+g/m ²) |
| Co ₂ Control | None | Active (3+g/m ²) |
| Odor Prevention | No | Yes |
| Blister Puffing | Frequent | Controlled |
| Overages Required | High | Reduced |
| Shelf-life | Shorter | Extended |

Real-World Benefits:-

- 6-12 Month Shelf-life Extension.
- Reduction in API Overages.
- Reduced Puffing/Bulging & Odor.



AN ISO, GMP & US-DMF Certified Company

+91 1147098591, 9810040061, 8199983114

www.alutechpackaging.com | info@alutechpackaging.com

UNIT-I: Rida, Dehkora, Road, Village Rohad, Bahadurgarh-124507, Haryana, India

UNIT-II: NH - 21 A, Baddi, Nalagarh Road, Distt. Solan-174101, Himachal Pradesh, India

UNIT-III: Phase-V, IDA Cherlapally, Hyderabad 500051, Distt. Medchal Malkajgiri

New Delhi : ho@alutechpackaging.com / **West India :** mumbai@alutechpackaging.com

Gujarat : gujarat@alutechpackaging.com / **South India :** south@alutechpackaging.com

North East : sikkim@alutechpackaging.com / **Himachal :** baddi@alutechpackaging.com

Uttarakhand : uk@alutechpackaging.com