

The Benchmark of Quality

Low Powder  
Retention Capsules



**EMBOCAPS®**

**LPR**

embo  
caps



# EMBOCAPS® LPR

For inhalation applications using HPMC empty hard capsules

Empty hard capsules can be a drug delivery option to be used with Dry Powder Inhaler technologies (DPI). The advantage of DPI compared to a pressurized metered-dose inhaler (pMDI) is that it is convenient to carry, hand-breath simultaneous coordination is unnecessary, and medication delivery is quick even with smaller doses. EMBOCAPS® LPR (Low Powder Retention) is specifically designed and manufactured to be used with inhalation devices.

## WHY IS EMPTY HARD CAPSULE IMPORTANT? —————

Unique and different from an oral delivery capsule, the EMBOCAPS® LPR capsule maximizes the efficiency of DPI technology by ensuring the reliability and repeatability of the following capsule characteristics:

### **Stable puncture site**

Shell fragments remain attached to the capsule wall at the puncture site so that only the powder gets inhaled by the patient.

### **Stabilized low moisture content**

The capsule does not dry out and become brittle during shipping, storage or when exposed to hygroscopic ingredients.

### **Low Powder Retention**

It is important to deliver a consistent dosage per course. With a low powder retention capsule, dosage is easily released over a wide range of vacuum pressures with minimal amount left inside.

### **Low static charge**

Static charges can influence the powder retention and cause problematic post filling operations due to the small amounts of fill material used and the resulting low capsule mass.

## THE EMBOCAPS® LPR TECHNOLOGY

- Crystal clear capsule
- Extremely low static charge
- Low powder retention (NMT 5%)
- Uniform weight
- Stable low moisture content
- Easy capsule opening
- Microbial levels meeting all pharmacopeial requirements.

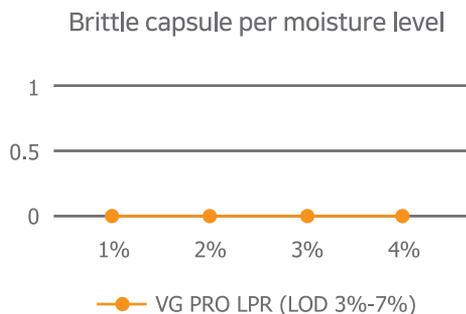


Figure 1 - Size 3 EMBOCAPS® LPR VG Pro post DPI puncture

### Excellent puncture performance

Any capsule fragments are still attached to the capsule even after puncturing.

### Superior separation in rotation DPIs

## PHARMACEUTICAL TRADE DRESS

Add visual attributes to the EMBOCAPS® LPR. The capsule can be manufactured with unique colors and cap/body printing for drug identification and trademark protection. A Size 3 EMBOCAPS® LPR is the typical and preferred capsule size for DPI technology. A translucent colored cap and clear body is recommended for ingredient transparency.

## BESPOKE EMPTY CAPSULES

EMBOCAPS® can offer further customization services to create exclusive capsules for different types of inhalation devices.

- Tighter weight variation
- Separation strength adjustments for rotation DPIs

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[www.embocaps.com](http://www.embocaps.com)