High Capacity Getters for Hermetically Sealed Devices

Overview

Based on well established zeolite technology, with additional precious metals for tailored absorption, these materials offer a highly flexible getter system. HTI materials have been developed with a unique polymeric binder which allows them to withstand processing temperatures of up to 325°C. HTI getters are supplied as a cured deposition on a suitable substrate (typically a package lid). Once cured, this substance will not outgas any organics into the housing (TGA analysis is available to support this). This material is suitable for a wide range of packaging types and applications.

Technical Advantages

Current Types Available

<table>
<thead>
<tr>
<th>Ink</th>
<th>Moisture PU wt % (Min)</th>
<th>Organic PU wt %</th>
<th>Av. Hydrogen (cm³/g of sample)</th>
<th>Temp. Stability °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTI 1</td>
<td>15</td>
<td>-</td>
<td>-</td>
<td>325</td>
</tr>
<tr>
<td>HTIR 2</td>
<td>10</td>
<td>-</td>
<td>50</td>
<td>325</td>
</tr>
</tbody>
</table>

- Density of cured getter is 1g/cm³
- Maximum processing temperature - 325°C;
- Maximum operating temperature 250°C. Moisture getter effective up to 100°C. Hydrogen getter is unaffected by temperature.
- Material is fully RoHS & REACH compliant.

IR Absorption

HTIR 2 also acts as an absorber of IR wavelength light. This means that the getter can also act as an effective anti-reflective coating in certain optical devices.
Typical Performance Characteristics of HTI Series Getter

**Getter Activation**
- Fast activation times at modest temperatures.
- Lower temperature activation also possible under higher vacuum conditions.
- Activation profiles can often be tailored to match existing pre-lid bake operations.

**Getter Performance (Typical)**
- Moisture capacity still significant even at elevated temperatures.
- Hydrogen capacity is not affected by temperature.

**Moisture Capacity Loss Upon Atmospheric Exposure (Post Activation)**

Getter should remain in dry nitrogen after activation to prevent re-absorption of moisture from the atmosphere.

If necessary, the getter can be reactivated up to 10 times without loss of performance.

Hydrogen capacity is not affected.