

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

Ink	Moisture PU wt % (Min)	Organic PU wt %	Av. Hydrogen (cm ³ /g of sample)	Temp. Stability °C
HTI 1	15	-	-	325
HTIR 2	10	-	50	325

- 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.

Ink	Input Power (mW)	Reflection from Gold Plated Surface (no getter) (mW)	Reflection from Gold Plated Surface (no getter) %	Reflection from Surface with Getter (mW)	Reflectivity of Surface with Getter %
HTIR 2	20	19.2	96.0	0.16	0.80

HERMETIC SOLUTIONS GROUP

Enabling Technology

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 effected by temperature.

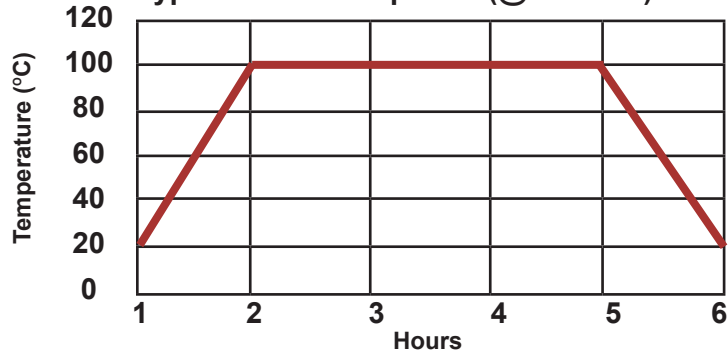
Moisture Capacity Loss Upon Atmospheric Exposure (Post Activation)

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

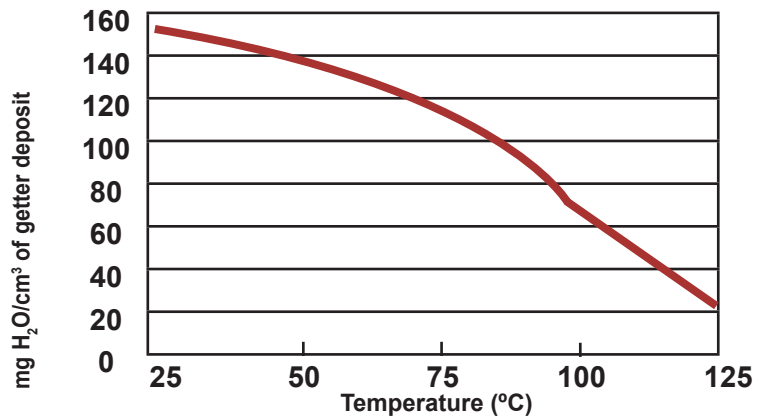
If necessary, the getter can be reactivated up to 10 times without loss of performance.

Hydrogen capacity is not affected.

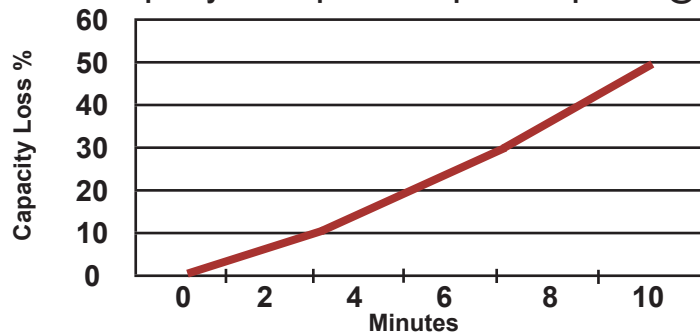
Typical activation profile (@20 mtorr)



Moisture Capacity as a Function of Operating Temperature



Getter Capacity Loss Upon Atmospheric Exposure @ 25°C



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Niagara Falls, Ontario
Canada, L2H 0Y5
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Litron Division
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Sinclair Manufacturing Division
PO Box 398, 12 South Worcester St.
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