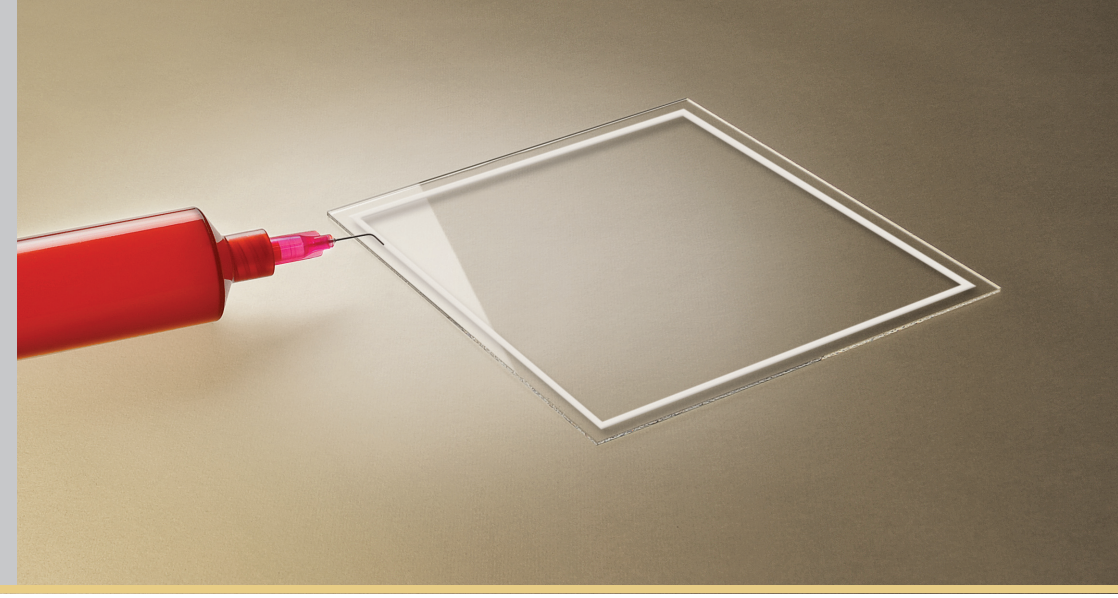
ZeoGlue-HV
Active Edge Sealant



HIGHLIGHTS

General Features

- ☐ The first active edge sealant to keep moisture out of sensitive packages
- ☐ An easy replacement of high performance edge sealants, boosting barrier properties through a proprietary getter technology
- ☐ Breakthrough time > 1,500 hours on 4 mm line width at 60 °C/90% RH
- ☐ Compatible with any surface suitable for UV-curing
- ☐ Now with increased adhesion performances

Applications

- ☐ Active Matrix OLED displays
- ☐ Passive Matrix OLED displays
- ☐ OLED lighting systems
- ☐ Organic photovoltaic devices
- ☐ Organic sensors
- ☐ OFETs
- ☐ OLETs
- ☐ Organic lasers

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Product Description

ZeoGlue®-HV is a UV curable dispersion of SAES Getters proprietary engineered nano-zeolites in an epoxy matrix. It is designed to work as an active edge sealant.
ZeoGlue-HV looks like a whitish paste.

ZeoGlue-HV Properties

Material Property	Typical value
Appearance	Whitish glue
Viscosity at 25 °C (cP) (*)	110,000
Density (g/cm^3)	1.20
Thermal stability at 100 °C	Stable (<<1%wt loss)
Decomposition temperature (°C)	> 300
Tg (glass transition temperature) (°C)	110
Storage temperature (°C)	+2 to + 5
Shelf life (months)	6
Pot life (RT, < 10 ppm H_2O) (days)	>5
Storage atmosphere	Dry air or nitrogen
Lap Shear(**) (MPa)	>8.0
CTE @ 100 °C (1/ °C)	5.4*10^{-3}

(*) at a shear rate of 5 s^{-1}
(**) in glass to glass configuration, with properly cured glue, after 85 °C/85%RH/1000h ageing process. Glass specimen broke at the indicated value.

Processing

Bring ZeoGlue-HV to room temperature before use. Deposition must be carried out in dry environment.

Deposition

Typical dispensing by syringe (needle diameter > 0.1 mm)

Compatible surfaces are:

- Glass
- Stainless Steel and other metals (one-side only e.g. metal to glass)
- Plastics if compatible with UV curing

Curing

- UV Curing is required
- Suggested curing conditions are:
  - ☐ irradiance of 100mW/cm^2 for > 120s with λ = 365 nm
  - ☐ thermal post curing at 80 °C for 30 minutes
  - ☐ max irradiance: < 500mW/cm^2
  - ☐ max energy density: < 12J/cm^2

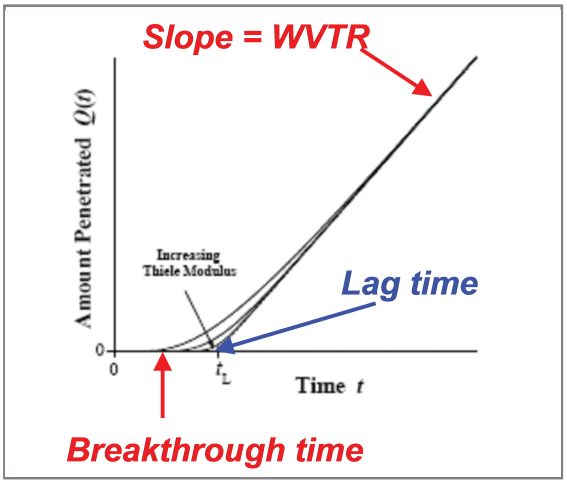
- Curing must take place in glove box (< 10 ppm H_2O)
- Weight loss during curing: < 0.2 %

Barrier Properties

Barrier property	ZeoGlue-HV Typical value
WVTR at 23 °C 65% RH (300 µm, g/m^2 day) after saturation(*)	<0.1
Breakthrough time on 4 mm line width at 60 °C/90% RH (*) (hour)	>1,500 (**)

(*) In glass to glass configuration, on properly cured film. During breakthrough time the WVTR is theoretically zero and lower than the limit of detection.
(**) This can be considered equivalent to 2.5 years at 25 °C 30% RH. After this transient period the glue keeps working as state-of-art passive barrier, as shown with the reported WVTR after saturation.

Barrier Properties: the Concept of Breakthrough Time



Cleaning

Typical solvent used for cleaning is Acetone or Acetic acid diluted at 5% in water.

Shipping and Storage

Shelf life of ZeoGlue-HV is 6 months.
Storage conditions are temperature of +2 to +5 °C and dry atmosphere.
ZeoGlue-HV can be stored in a normal refrigerator provided that the original packaging is not open, or it is sealed in dry atmosphere.
In the event of exposure at temperature higher than 50°C, ZeoGlue must be discarded.

Handling and Air Exposure

Barrier bag should be opened in glove box (< 10 ppm H_2O).
Opening in air must be avoided.
In the event of air exposure, ZeoGlue-HV must be discarded.
Before use, it must be left at room temperature for at least 2 hours; otherwise viscosity could be higher than the nominal value.
Uncured ZeoGlue-HV can be maintained at room temperature for maximum 120 hours before using.

Ordering Information

Code: 5X0400	Description: ZEOGLUE-HV/SMU10 (Musashi syringe - 10cc)
Code: 5X0401	Description: ZEOGLUE-HV/SMU50 (Musashi syringe - 50cc)
Code: 5X0402	Description: ZEOGLUE-HV/S1/SMU10 (with spacers)
Code: 5X0403	Description: ZEOGLUE-HV/SEU10 (EFD syringe - 10cc)
Code: 5X0404	Description: ZEOGLUE-HV/SEU50 (EFD syringe - 50cc)
Code: 5X0405	Description: ZEOGLUE-HV-0/SEU10

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The SAES Group manufacturing companies are ISO9001 certified, the Asian and Italian companies are also ISO14001 certified. Full information about our certifications for each company of the Group are available on our website at: www.saesgroup.com

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