

## VACUUM RELEASE (VR) PRODUCT SERIES CARRIER

### Product Datasheet

Gel-Pak's Vacuum Release Carrier (VR, VRP, VRV Product Series) is an extremely versatile "pocketless" tray that securely holds fragile devices including bare die during shipping, handling and processing. It is ideal for high-volume pick and place applications.

The surface of the VR carrier uses a proprietary Gel or non-silicone Vertec™ film membrane over a mesh material to hold components in place until they are released by applying vacuum to the underside of the tray.

Ideal for:

- High-volume automated device Pick & Place applications.
- Extremely fragile or thin devices.
- Handling bare die.
- No contact with edges or top surface of device.
- Handling device sizes (X, Y) ranging from <250 micron to 75mm.



VR Tray in Vacuum Release Mode



VR Tray on Automated Pick and Place

Material Properties	VR	VRP	VRV
<b>Elastomer</b>	Purified Silicone Film	Cross-linked Polyurethane Film	Extruded TPE Film
<b>Feature</b>	Insulative (Silicone gel)	Static Dissipative (Silicone free gel)	Insulative (Silicone free gel)
<b>ESD SR (ohms)</b>	>10 <sup>12</sup>	<10 <sup>9</sup>	>10 <sup>12</sup>
<b>Appearance</b>	Clear	Clear	Hazy
<b>Ease of Unload</b>	Best	Good	OK
<b>Ultra-Low Level</b>	XT	EH01	-
<b>Low Tack Level</b>	XL	EH02	FP64
<b>Medium Tack Level</b>	X4, X6	EH04	FM71
<b>High Tack Level</b>	X8	EH06	FK79
<b>Operating Max Temp</b>	75°C	35°C	35°C
<b>Shelf Life</b>	2 years	2 years	2 years

- NOTES:**
1. These values are for reference purposes only and are not intended for use in preparing specifications.
  2. Extended temperature ranges are possible; however, testing may be needed.
  3. VR tray carrier sizes were available in 2", 4" and Large Format for >75mm.

### GEL-PAK

31398 Huntwood Avenue, Hayward, CA 94544

Toll-Free 888-621-4147 Phone 510-576-2220 Fax 510-576-2282

Website [www.gelpak.com](http://www.gelpak.com)

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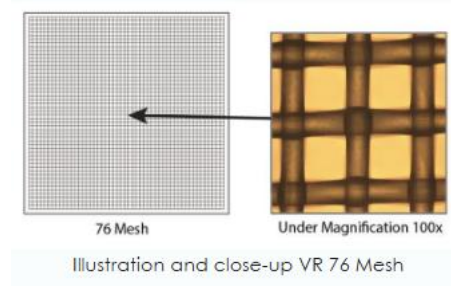
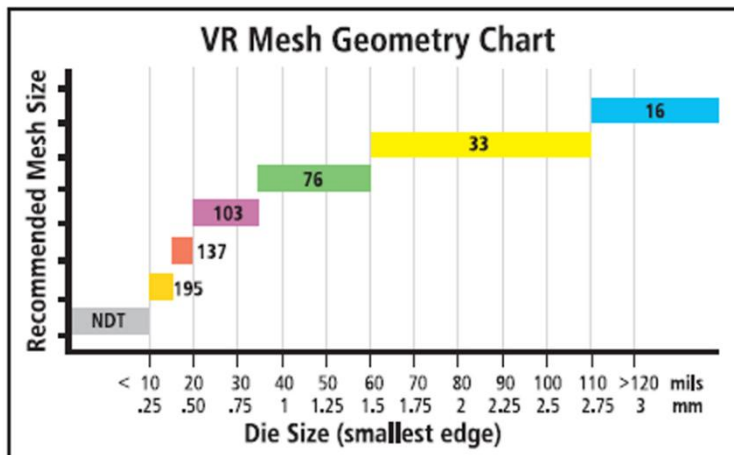
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## Mesh to Device size Selection Guide:

The correct Mesh Geometry (also referred to as Mesh Size) for a specific device is based on the device X, Y dimensions. Gel-Pak offers a range of different mesh geometries: 16, 33, 76, 103, 137, 195. Each mesh size number corresponds to the number of thread lines per linear inch. If the device is smaller than 254um x 254um, refer to the special NDT product page,

⇒ [Nano Device Tray \(NDT\) | Developing Unique Materials For Device Handling | Hayward, CA](#)



## Tray/Lid or Box carrier component/material configuration:

Tray / Lid configuration (00A / 00B)	
Component	Material
Tray, Black Conductive (C)	Polycarbonate
Tray, Transparent (T)	Polystyrene
Lid Transparent (T)	Polystyrene
Lid, Black Conductive (C)	Polycarbonate
Lid, Antistatic (AS)	ABS

Tray / Box configuration (02)	
Component	Material
Box, Black Conductive Hinged (C)	Polycarbonate
Box, Antistatic Hinged (AS)	ABS
Box, Transparent Hinged (T)	Polystyrene

*Note: Use "00B" configuration for 4" tray/lid size.*

## Print Options:

⇒ [Prints | Developing Unique Materials For Device Handling | Hayward, CA](#)

## References:

- ⇒ [Gel-Pak Vacuum Release™ \(VR\) Trays - \(VR, VRP, VRV Series\) | Developing Unique Materials For Device Handling | Hayward, CA](#)
- ⇒ [Vacuum Release \(VR\) Tray User Guide | Developing Unique Materials For Device Handling | Hayward, CA](#)
- ⇒ [Gel-Pak Wafer/Large Format VR Plates® | Developing Unique Materials For Device Handling | Hayward, CA](#)
- ⇒ [Vacuum Release Accessories | Developing Unique Materials For Device Handling | Hayward, CA](#)