



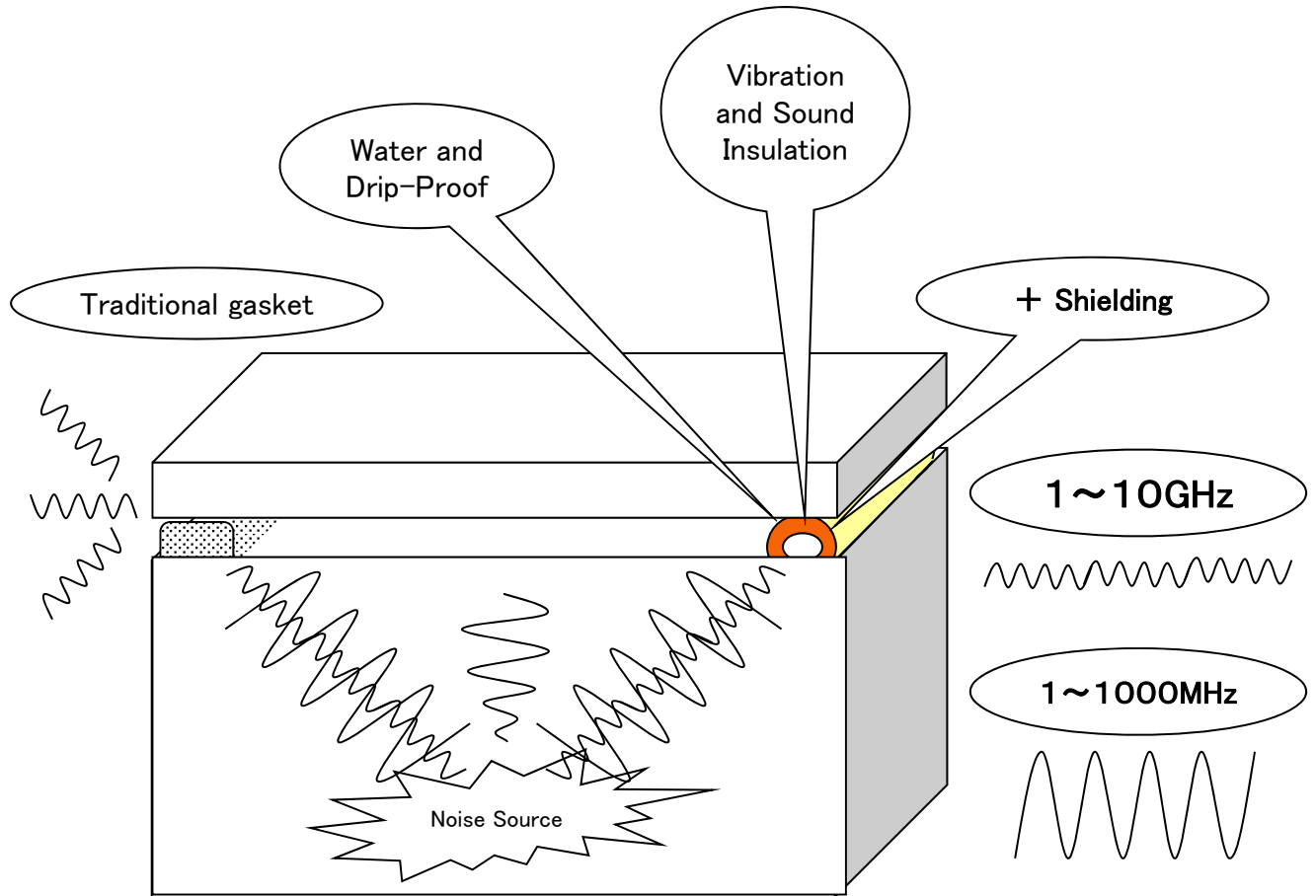
Manufactured by Vanguard (Japan), Co., Ltd.

Sold by Zippertubing (Japan), Ltd.

East sales office TEL +81-3-3544-0096

West sales office TEL +81-6-6457-3135

High Shielding Performance



*Water and drip-proof effect depends on the structure of enclosure.
Please conduct evaluation test before use.

Customer's Application

Optical Module
Transceivers

Military
Electronics

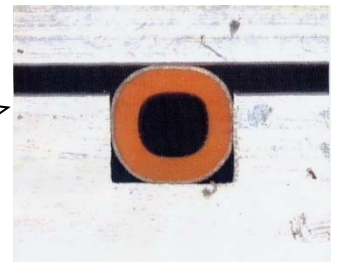
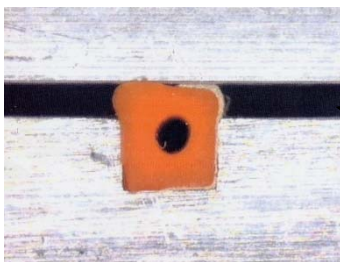
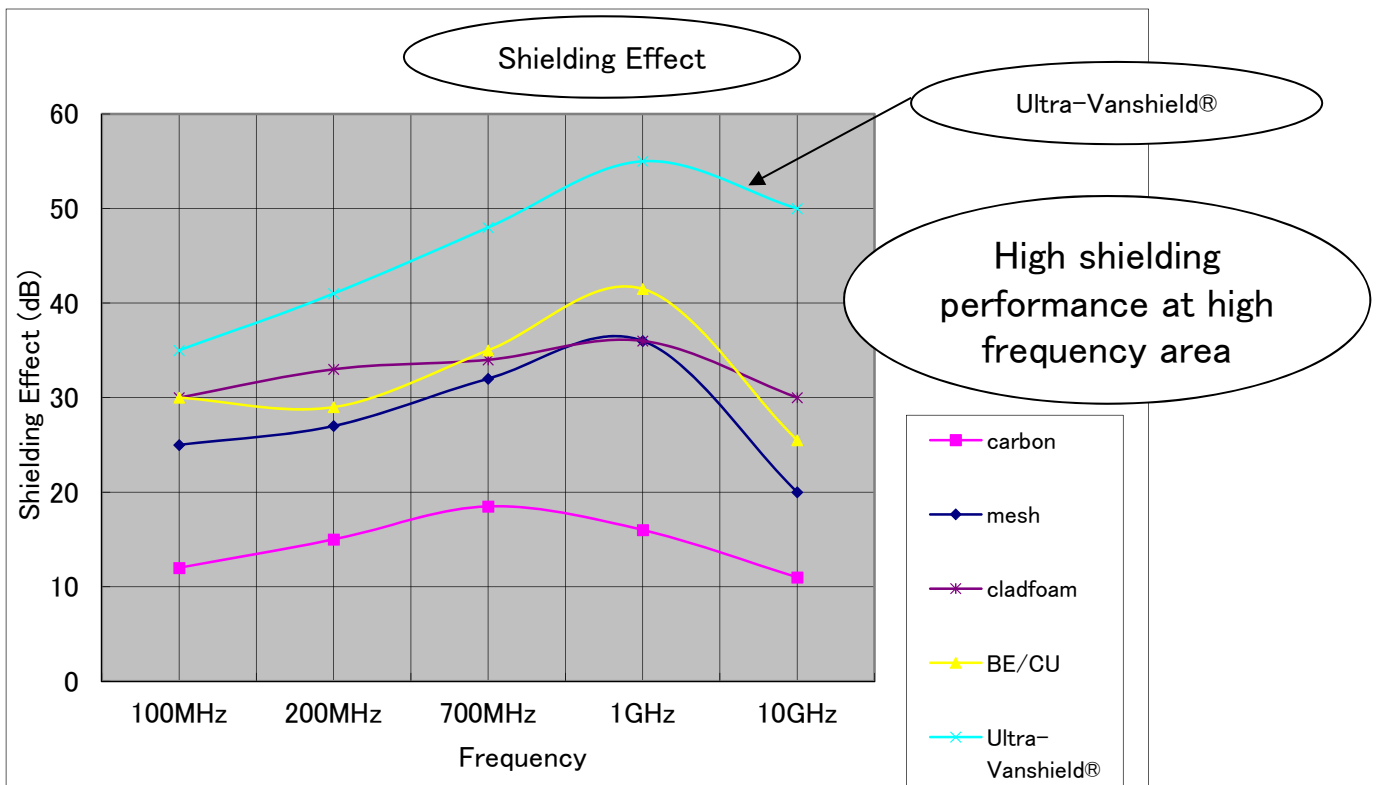
Shielding Room
Doors

Semiconductor
Manufacturing
Machines

High Frequency
Connectors

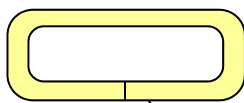
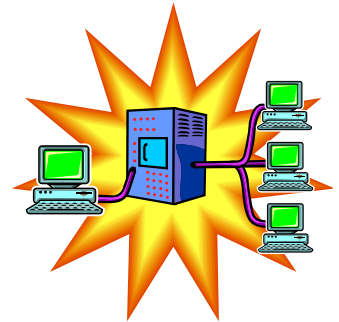
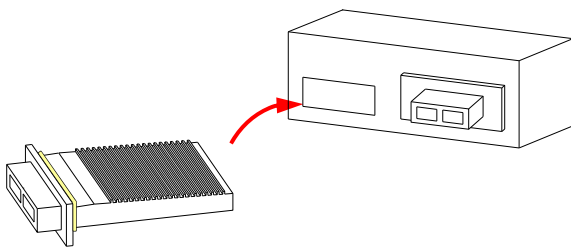
Power Meters

Weather Live
Cameras

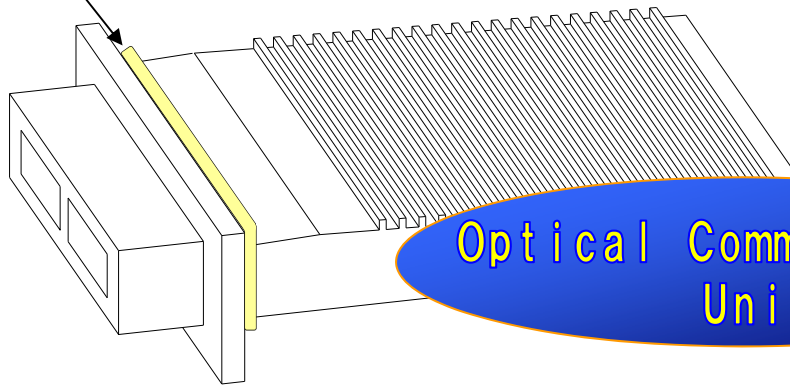


Unfilled elastomer core realize good contact and shielding performance.

☆Next generation optical communication...has high frequency problems.



※O-ring Processing



Optical Communication Unit

☆Ultra-Vanshield® is working as EMC

gasket and sealing
in the enclosures, and other hidden places.

For professional high-speed cameras

For weather live cameras

For professional video cameras



☆The reason why Ultra-Vanshield® is ideal for the enclosure of cameras.

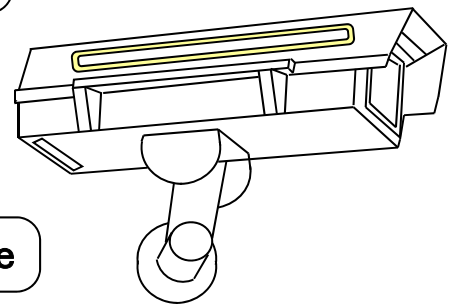
Easy to install without injuries as metal fingers.

Water, drip-proof and EMC shielding

Highly conductive in brine and hi-low temperature

Innovative dual-elastomer coextruded gasket

Good contact with unfilled elastomer, this cannot be produced by molding !

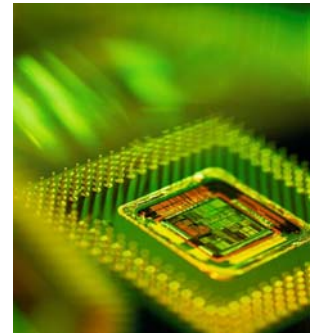


*above are images

☆What is Ultra-Vanshield® Used for?

For door part of mass flow controller

For door part of Semiconductor Manufacturing machines



☆Why is Ultra-Vanshield® used for Semiconductor manufacturing machines?

Unfilled elastomer core makes good contact

Silicone resists to heat, humidity, and chemical.

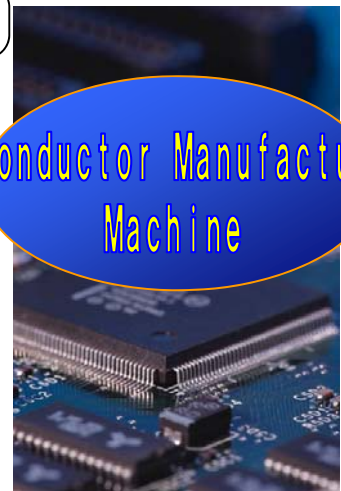
RoHS certified

Good conduciveness with dual-elastomer of silver and silicone


High demand for high frequency noise



Semiconductor Manufacturing Machine



Shape and size which we produce in Japan

Shape	Part No.	Outer Diameter (mm)	Inner Diameter (mm)
Tube 	UV O10J	1.00	(0.50)
	UV O135J	1.35	(0.55)
	UV O15J	1.50	(0.60)
	UV O20J	2.00	(0.70)
	UV O23J	2.30	(1.00)
	UV O25J	2.50	(1.00)
	UV O26-16J	2.60	(1.60)
	UV O30J	3.00	(1.50)
	UV O40J	4.00	(2.40)
	Customize size is available within +/-0.1mm.		

Shape	Part No.	Height (mm)	Width (mm)	Inner Diameter (mm)
P-shape	UV P15-60J	1.50	6.00	(0.70)
double-D	UV DD20-19J	2.00	1.90	(0.90)
	UV DD33-29J	3.30	2.90	(1.20)
D-shape	UV D45-44J	4.50	4.40	-
U-channel	UV U41-41J	4.10	4.10	-
T-wiper	18145	4.10	2.90	-

P-shape



Double-D



D-shape



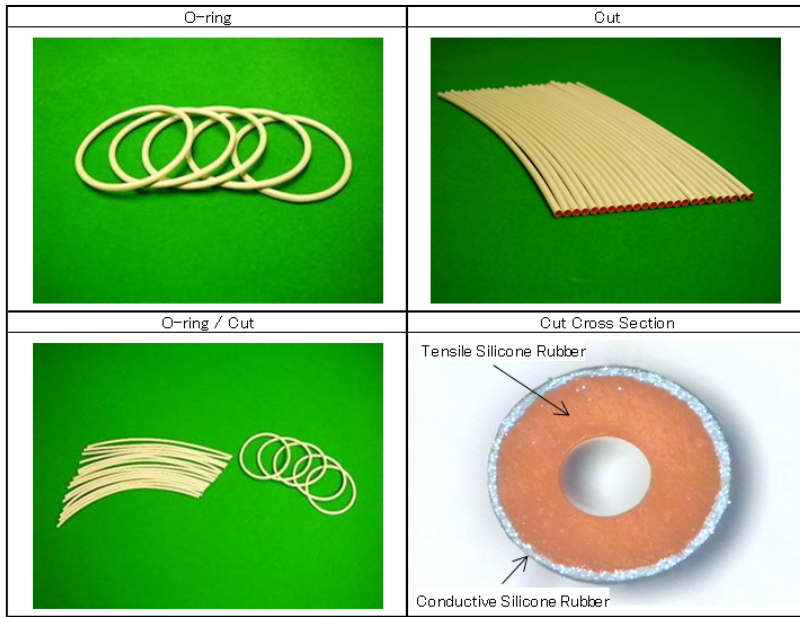
U-channel



T-Wiper



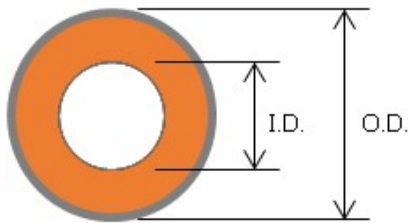
Ultra-Vanshield® UV O * * J-03 (AgAl)



■ Features

- **Dual Elastomer Gasket** have a **dual-layer construction** that combines a highly-conductive outer layer and non-conductive core.
- The core is made of flexible, high-tensile silicone rubber which has **extremely low compression set**.
- The outer layer is densely packed with conductive metal particles, giving it high conductivity.
- Usable in a wide range of thermal environments.
(-40°C ~ +200°C : at rest)
- **RoHS Compliant**
- We can do custom cuts, O-rings, etc.

■ Item Number



Part No.	O.D. (mm)	I.D. (mm)	Standard length (m)
UV O10J-03	1.0	(0.5)	100
UV O135J-03	1.35	(0.55)	50
UV O15J-03	1.5	(0.6)	50
UV O20J-03	2.0	(0.7)	50
UV O25J-03	2.5	(1.0)	50
UV O30J-03	3.0	(1.5)	50
UV O40J-03	4.0	(2.4)	30

※Customize diameter differ from standard length within +/-0.1mm are also available.

■ Mechanical Property (Raw Materials)

Item	Test Method	Unit	Value
Composition	High-tensile Silicone	-	-
Tensile Strength	JIS K6251	MPa	6.55
Hardness	ASTM D2240	Shore A Durometer	50
Elongation	JIS K6251	%	500<
Tear Strength	JIS K6252	kN/m	15.3
Composition	Conductive Silicone	-	-
Volume Resistivity	ASTM D991	Ω/cm	0.005

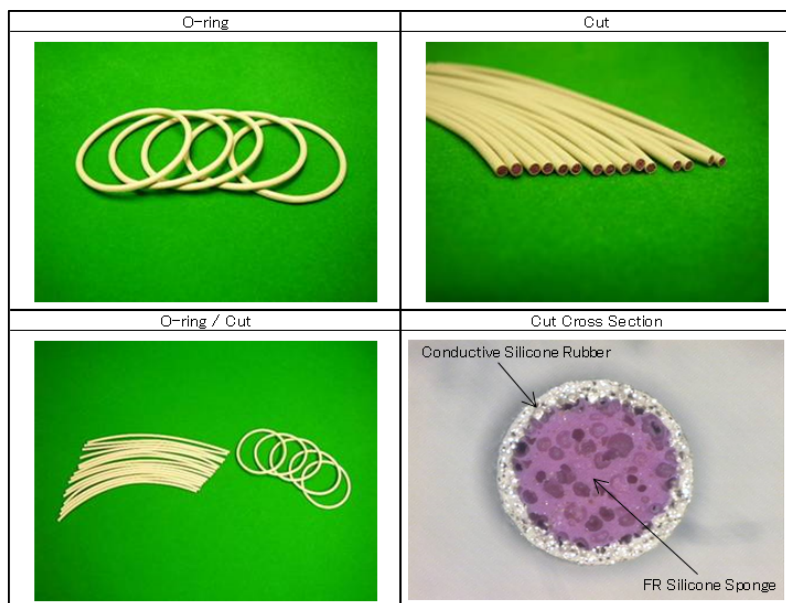
※The value above is measured value for reference.

Manufactured by Vanguard (Japan), Co., Ltd.
Sold by Zippertubing (Japan), Ltd.

<Contact us> East sales office +81-3-3544-0096
West sales office +81-6-6457-3135

Issued on 2014.2.3
VJ-0002

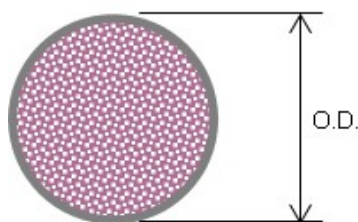
Ultra-Vanshield® UV O * * J-03-FRSPG (FR silicone Sponge)



■ Features

- **Dual Elastomer Gasket** have a **dual-layer construction** that combines a highly-conductive outer layer and non-conductive core.
- The core is made of FR silicone sponge rubber which is softer than tensile silicone.
- **Flame Retardant: UL94-V0 Certified**
- The outer layer is densely packed with conductive metal particles, giving it **high conductivity**.
- Usable in a wide range of thermal environments.
(-40°C ~ +200°C : at rest)
- **RoHS Compliant**
- We can do custom cuts, O-rings, etc.

■ Item Number



Part No.	O.D. (mm)	Standard length (m)
UV O10J-03-FRSPG	1.0	100
UV O15J-03-FRSPG	1.5	50
UV O17J-03-FRSPG	1.7	50
UV O20J-03-FRSPG	2.0	50
UV O25J-03-FRSPG	2.5	50
UV O30J-03-FRSPG	3.0	50
UV O40J-03-FRSPG	4.0	30

※Customize diameter differ from standard length within +/-0.1mm are also available.

■ Mechanical Property (Raw Materials)

Item	Test Method	Unit	Value
Composition	Silicone Sponge	-	-
Tensile Strength	JIS K6251	MPa	0.81
Hardness	JIS K6253	Durometer type A	15
		Durometer type E	35
Elongation	JIS K6251	%	100<
Tear Strength	JIS K6252	kN/m	2.0
Composition	Conductive Silicone	-	-
Volume Resistivity	ASTM D991	Ω/cm	0.005

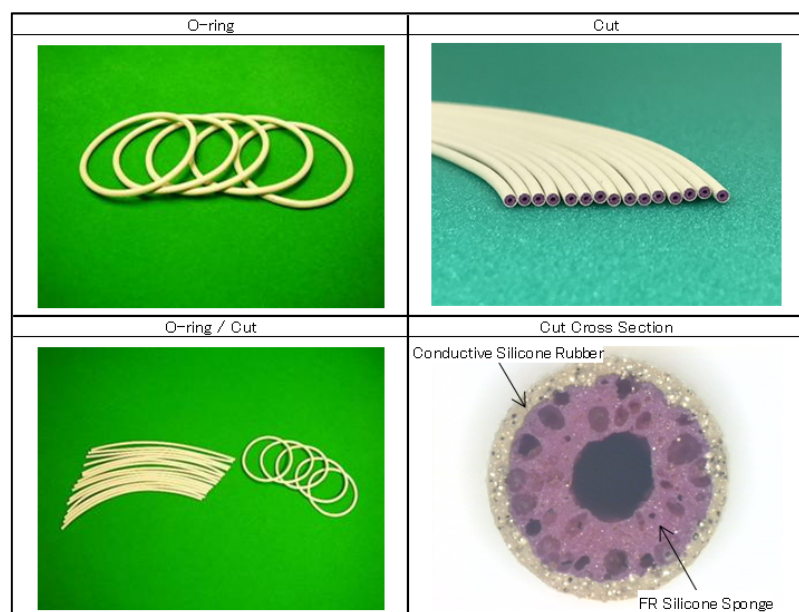
※The value above is measured value for reference.

Manufactured by Vanguard (Japan), Co., Ltd.
Sold by Zippertubing (Japan), Ltd.

<Contact us> East sales office +81-3-3544-0096
West sales office +81-6-6457-3135

Issued on 2014.2.3
VJ-0003

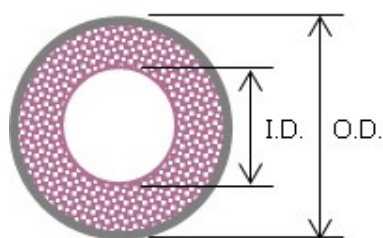
Ultra-Vanshield® UV O * * J-03-FRSPG-WH (FR sponge w/ unfilled core)



■ Features

- **Dual Elastomer Gasket** have a **dual-layer construction** that combines a highly-conductive outer layer and non-conductive core.
- Inner unfilled core allows extremely softness than FR silicone sponge type.
- **Flame Retardant: UL94-V0 Certified**
- The outer layer is densely packed with conductive metal particles, giving it **high conductivity**.
- Usable in a wide range of thermal environments.
($-40^{\circ}\text{C} \sim +200^{\circ}\text{C}$: at rest)
- **RoHS Compliant**
- We can do custom cuts, O-rings, etc.

■ Item Number



Part No.	O.D. (mm)	I.D. (mm)	Standard length (m)
UV O10J-03-FRSPG-WH	1.0	(0.5)	100
UV O15J-03-FRSPG-WH	1.5	(0.6)	50
UV O17J-03-FRSPG-WH	1.7	(0.6)	50
UV O20J-03-FRSPG-WH	2.0	(0.7)	50
UV O25J-03-FRSPG-WH	2.5	(1.0)	50
UV O30J-03-FRSPG-WH	3.0	(1.5)	50
UV O40J-03-FRSPG-WH	4.0	(2.4)	30

※Customize diameter differ from standard length within $\pm 0.1\text{mm}$ are also available.

■ Mechanical Property (Raw Materials)

Item	Test Method	Unit	Value
Composition	Silicone Sponge	-	-
Tensile Strength	JIS K6251	MPa	0.81
Hardness	JIS K6253	Durometer type A Durometer type E	15 35
Elongation	JIS K6251	%	100<
Tear Strength	JIS K6252	kN/m	2.0
Composition	Conductive Silicone	-	-
Volume Resistivity	ASTM D991	Ω/cm	0.005

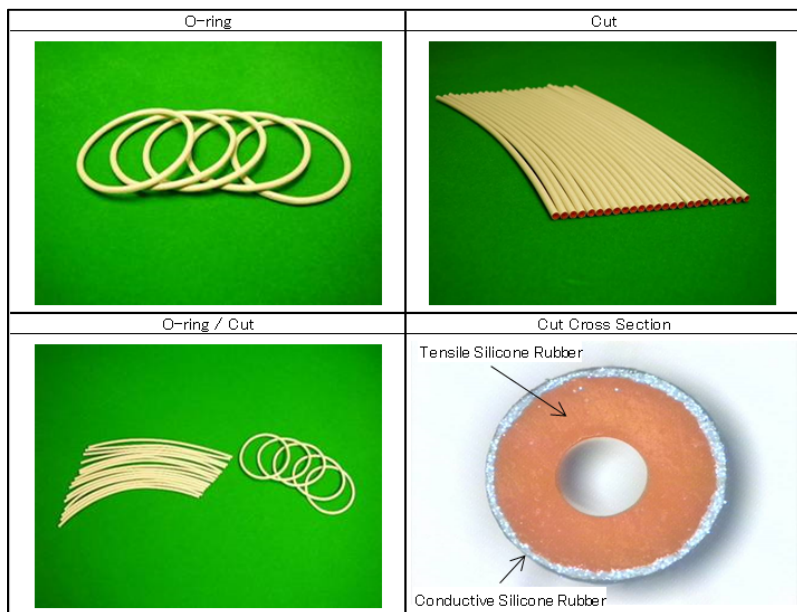
※The value above is measured value for reference.

Manufactured by Vanguard (Japan), Co., Ltd.
Sold by Zippertubing (Japan), Ltd.

<Contact us> East sales office +81-3-3544-0096
West sales office +81-6-6457-3135

Issued on 2017.4.1
VJ-0004

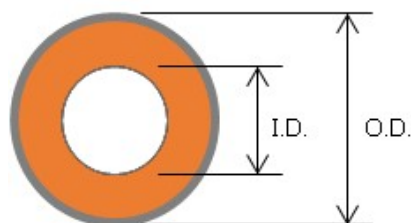
Ultra-Vanshield® UV O * * J-25 (Ag Glass)



■ Features

- **Dual Elastomer Gasket** have a **dual-layer construction** that combines a highly-conductive outer layer and non-conductive core.
- The core is made of flexible, high-tensile silicone rubber which has **extremely low compression set**.
- The outer layer is densely packed with conductive metal particles, giving it high conductivity.
- Ag Glass in outer layer allows **more cost reduction**.
- Usable in a wide range of thermal environments.
($-40^{\circ}\text{C} \sim +200^{\circ}\text{C}$: at rest)
- **RoHS Compliant**
- We can do custom cuts, O-rings, etc.

■ Item Number



Part No.	O.D. (mm)	I.D. (mm)	Standard length (m)
UV O10J-25	1.0	(0.5)	100
UV O135J-25	1.35	(0.55)	50
UV O15J-25	1.5	(0.6)	50
UV O20J-25	2.0	(0.7)	50
UV O25J-25	2.5	(1.0)	50
UV O30J-25	3.0	(1.5)	50
UV O40J-25	4.0	(2.4)	30

※Customize diameter differ from standard length within $\pm 0.1\text{mm}$ are also available.

■ Mechanical Property (Raw Materials)

Item	Test Method	Unit	Value
Composition	High-tensile Silicone	-	-
Tensile Strength	JIS K6251	MPa	6.55
Hardness	ASTM D2240	Shore A Durometer	50
Elongation	JIS K6251	%	500<
Tear Strength	JIS K6252	kN/m	15.3
Composition	Conductive Silicone	-	-
Volume Resistivity	ASTM D991	Ω/cm	0.010

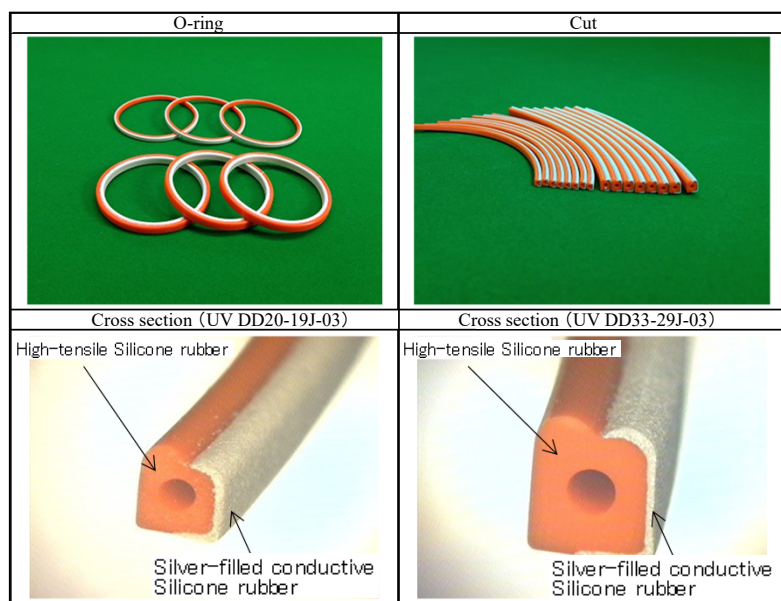
※The value above is measured value for reference.

Manufactured by Vanguard (Japan), Co., Ltd.
Sold by Zippertubing (Japan), Ltd.

<Contact us> East sales office +81-3-3544-0096
West sales office +81-6-6457-3135

Issued on 2014.2.3
VJ-0005

Ultra-Vanshield® Variant product (Environmental seal double-D)

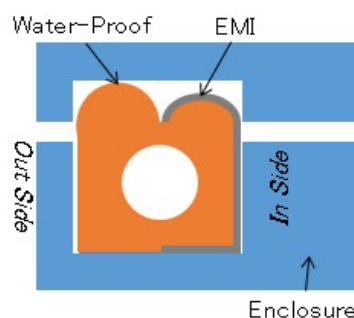
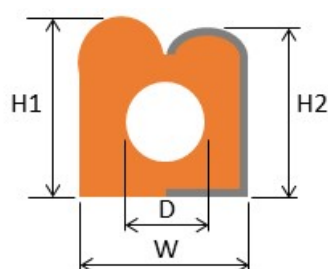


■ Features

- **Dual Elastomer Gasket** have a **dual-layer construction** that combines a highly-conductive outer layer and non-conductive core.
- **Waterproof seal + EMI shielding all in one product!**
- For weather-waterproofing, and shielding outdoor
- The core is made of flexible, high-tensile silicone rubber which has **extremely low compression set**.
- The outer layer is densely packed with conductive metal particles, giving it **high conductivity**.
- Usable in a wide range of thermal environments.
(-40°C ~ +200°C : at rest)
- **RoHS Compliant**
- We can do custom cuts, O-rings, etc.

■ Item Number

Part No.	H 1 (mm)	H 2 (mm)	W (mm)	D (mm)	Standard length (m)
UV DD20-19J-03	2.0	1.9	1.9	(0.9)	50
UV DD33-29J-03	3.3	3.2	2.9	(1.2)	50



■ Mechanical Property (Raw Materials)

Item	Test Method	Unit	Value
Composition	High-tensile Silicone	-	-
Tensile Strength	JIS K6251	MPa	6.55
Hardness	ASTM D2240	Shore A Durometer	50
Elongation	JIS K6251	%	500<
Tear Strength	JIS K6252	kN/m	15.3
Composition	Conductive Silicone	-	-
Volume Resistivity	ASTM D991	Ω/cm	0.005

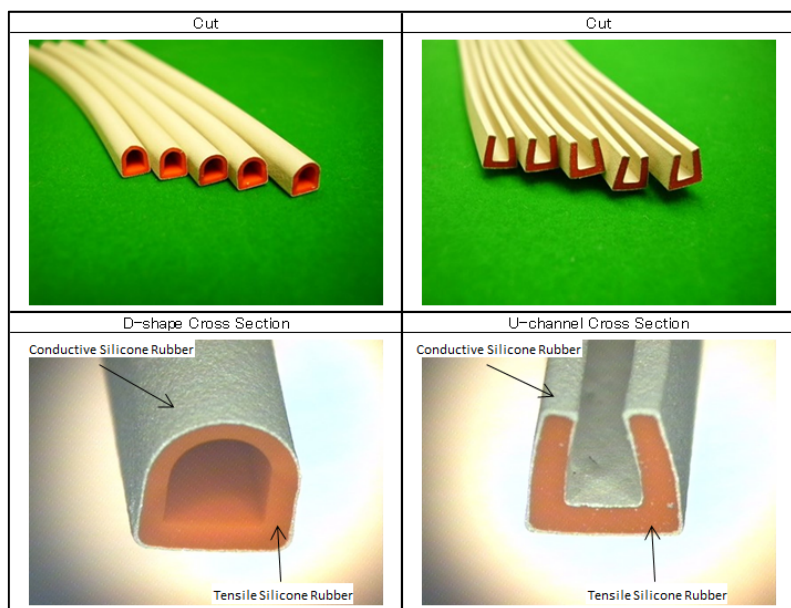
※ The value above is measured value for reference.

Manufactured by Vanguard (Japan), Co., Ltd.
Sold by Zippertubing (Japan), Ltd.

<Contact us> East sales office +81-3-3544-0096
West sales office +81-6-6457-3135

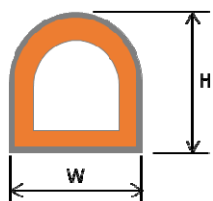
Issued on 2014.2.3
VJ-0006

Ultra-Vanshield® Variant product (D-shape and U-channel)



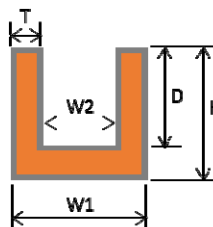
■ Features

- **Dual Elastomer Gasket** have a **dual-layer construction** that combines a highly-conductive outer layer and non-conductive core.
- The core is made of flexible, high-tensile silicone rubber which has **extremely low compression set**.
- The outer layer is densely packed with conductive metal particles, giving it **high conductivity**.
- Usable in a wide range of thermal environments.
($-40^{\circ}\text{C} \sim +200^{\circ}\text{C}$: at rest)
- **RoHS Compliant**
- We can do custom cuts.



■ Item Number

Part No.	H (mm)	W (mm)	Standard length (m)
UV D45-44J-03	4.5	4.4	30



Part No.	H (mm)	W1 (mm)	W2 (mm)	D (mm)	T (mm)	Standard length (m)
UV U41-41J-03	4.1	4.1	1.9	3.0	1.1	30

■ Mechanical Property (Raw Materials)

Item	Test Method	Unit	Value
Composition	High-tensile Silicone	-	-
Tensile Strength	JIS K6251	MPa	6.55
Hardness	ASTM D2240	Shore A Durometer	50
Elongation	JIS K6251	%	500<
Tear Strength	JIS K6252	kN/m	15.3
Composition	Conductive Silicone	-	-
Volume Resistivity	ASTM D991	Ω/cm	0.005

※The value above is measured value for reference.

Manufactured by Vanguard (Japan), Co., Ltd.
Sold by Zippertubing (Japan), Ltd.

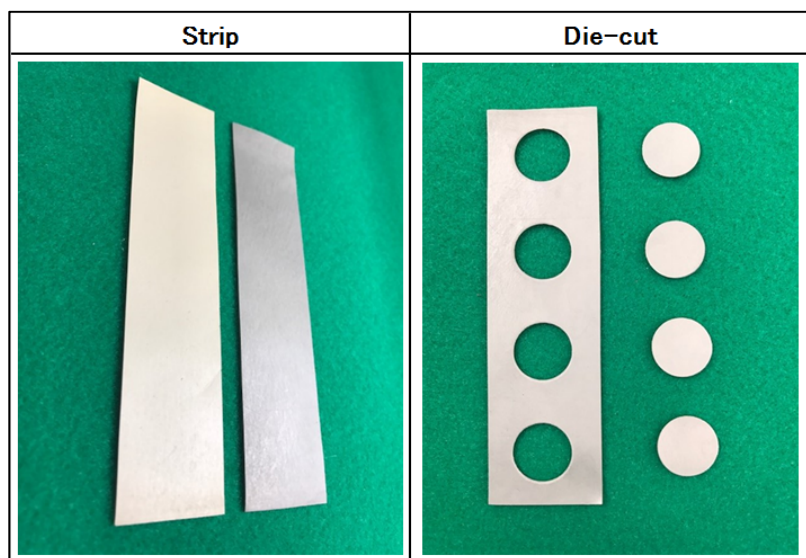
<Contact us> East sales office +81-3-3544-0096
West sales office +81-6-6457-3135

Issued on 2014.2.3
VJ-0007

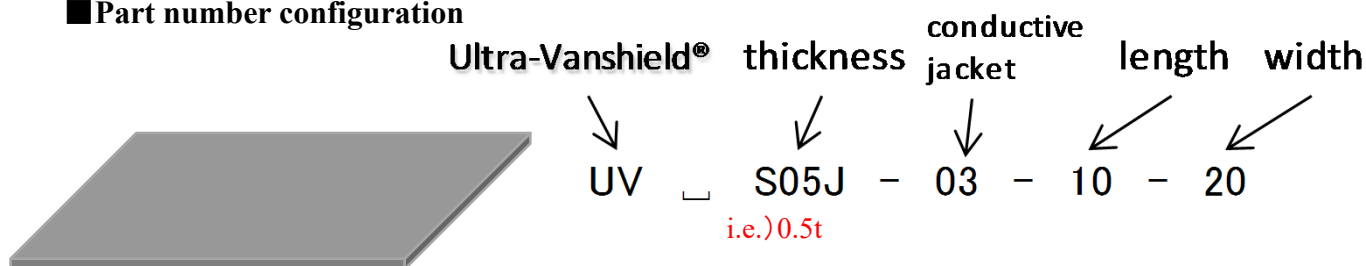
Ultra-Vanshield® UV S**J-**-**-** (Strips)

■ Features

- **Dual Elastomer Gasket** have a **dual-layer construction** that combines a highly-conductive outer layer and non-conductive core.
- Usable in a wide range of thermal environments.
(-40°C~+200°C : at rest)
- **RoHS Compliant**
- Customize dimension of your drawing is available. Please specify the tolerance.



■ Part number configuration



Item Number	Suffix	Conductive Matrix	Color
UV S**J-03-**-**	-03	Pure Ag+Al in silicone	Ivory white
UV S**J-16-**-**	-16	Pure Ag in silicone	Gray
UV S**J-25-**-**	-25	Pure Ag+Glass in silicone	Ivory white
UV S**J-26-**-**	-26	Pure Ag+Glass in silicone	Gray

■ Mechanical Property (Raw Materials)

Item	Suffix	Test Method	Unit	Value
Silver-filled Conductive Silicone Rubber Volume Resistivity	-03	ASTM D991	Ω/cm	0.005
	-16			0.005
	-25			0.010
	-26			0.010

※ The value above is measured value for reference.

Manufactured by Vanguard (Japan), Co., Ltd.
Sold by Zippertubing (Japan), Ltd.

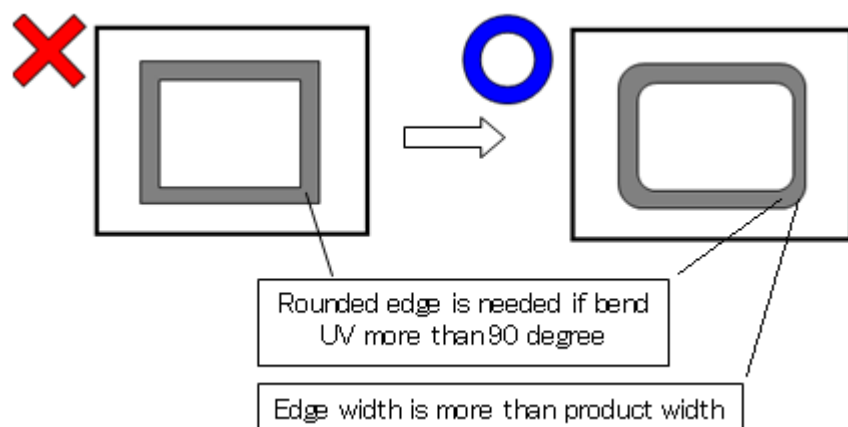
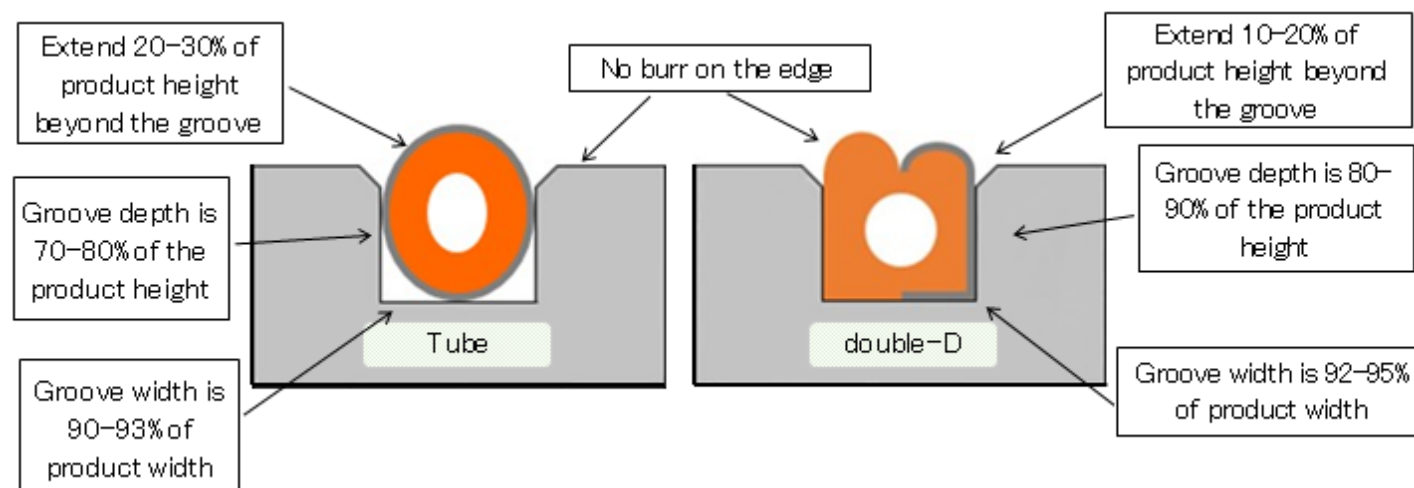
<Contact us> East sales office +81-3-3544-0096
West sales office +81-6-6457-3135

Issued on 2017.8.16
VJ-0008

Recommended Dimension of Enclosure (Tube/double-D)

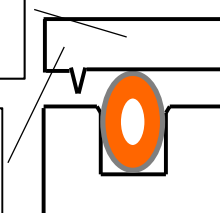
Tube	Product Size			Recommended groove size (width)				Recommended groove size (depth)			
	Width	Height	Tolerance	Groove width (%)	Groove width(mm)			Groove Depth (%)	Groove depth(mm)		
UVO10J-03	1.0mm	1.0mm	±0.1mm	90% ~ 93%	0.90mm	~	0.93mm	70% ~ 80%	0.70mm	~	0.80mm
UVO15J-03	1.5mm	1.5mm	±0.1mm	90% ~ 93%	1.35mm	~	1.40mm	70% ~ 80%	1.05mm	~	1.20mm
UVO20J-03	2.0mm	2.0mm	±0.1mm	90% ~ 93%	1.80mm	~	1.86mm	70% ~ 80%	1.40mm	~	1.60mm
UVO25J-03	2.5mm	2.5mm	±0.1mm	90% ~ 93%	2.25mm	~	2.33mm	70% ~ 80%	1.75mm	~	2.00mm
UVO30J-03	3.0mm	3.0mm	±0.1mm	90% ~ 93%	2.70mm	~	2.79mm	70% ~ 80%	2.10mm	~	2.40mm
UVO40J-03	4.0mm	4.0mm	±0.1mm	90% ~ 93%	3.60mm	~	3.72mm	70% ~ 80%	2.80mm	~	3.20mm

double-D	Product Size			Recommended groove size (width)				Recommended groove size (depth)			
	Width	Height	Tolerance	Groove width (%)	Groove width(mm)			Groove Depth (%)	Groove depth(mm)		
UVDD20-19J-03	1.9mm	2.0mm	±0.1mm	92% ~ 95%	1.75mm	~	1.81mm	80% ~ 90%	1.60mm	~	1.80mm
UVDD33-29J-03	2.9mm	3.3mm	±0.1mm	92% ~ 95%	2.67mm	~	2.76mm	80% ~ 90%	2.64mm	~	2.97mm



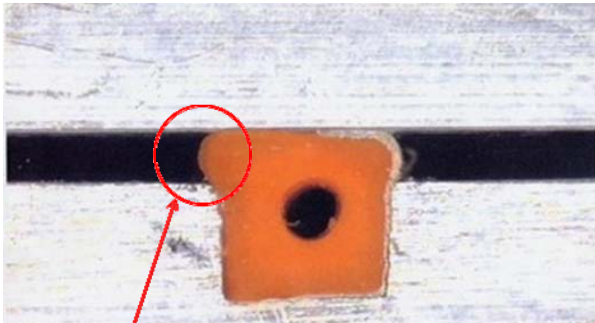
Design your enclosure's hole and closing force to remove warpage.

We recommend enclosure without over pressure.

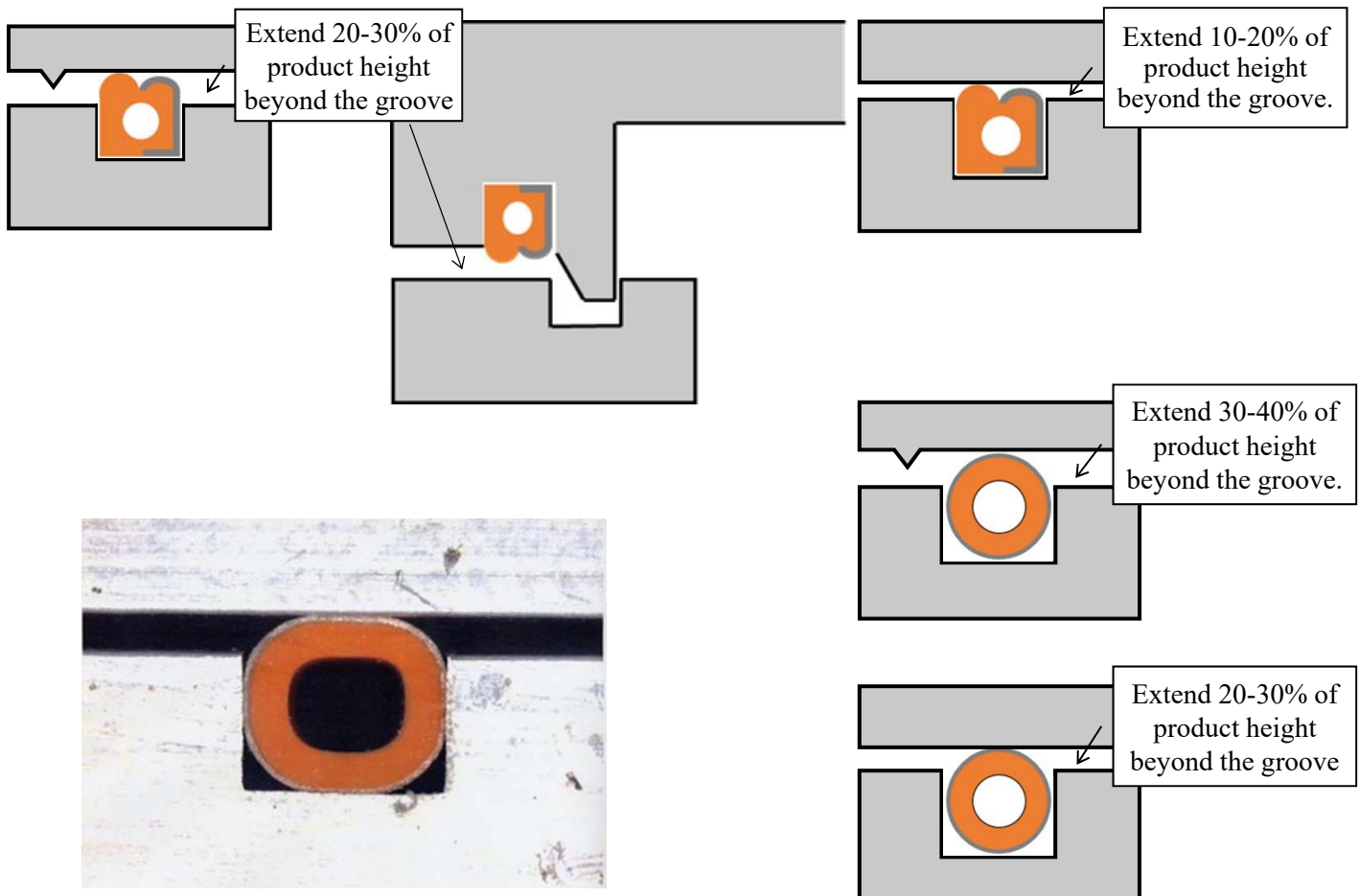
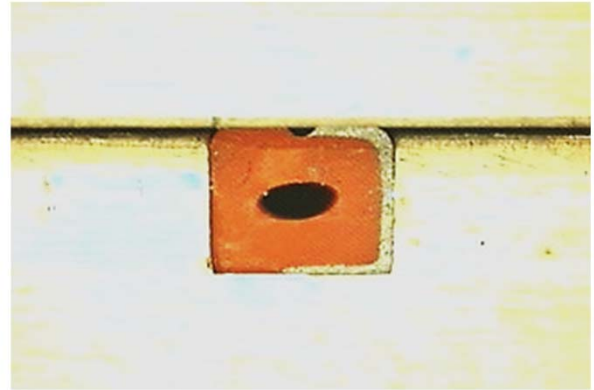


Example : Enclosure Design (Tube • double-D)

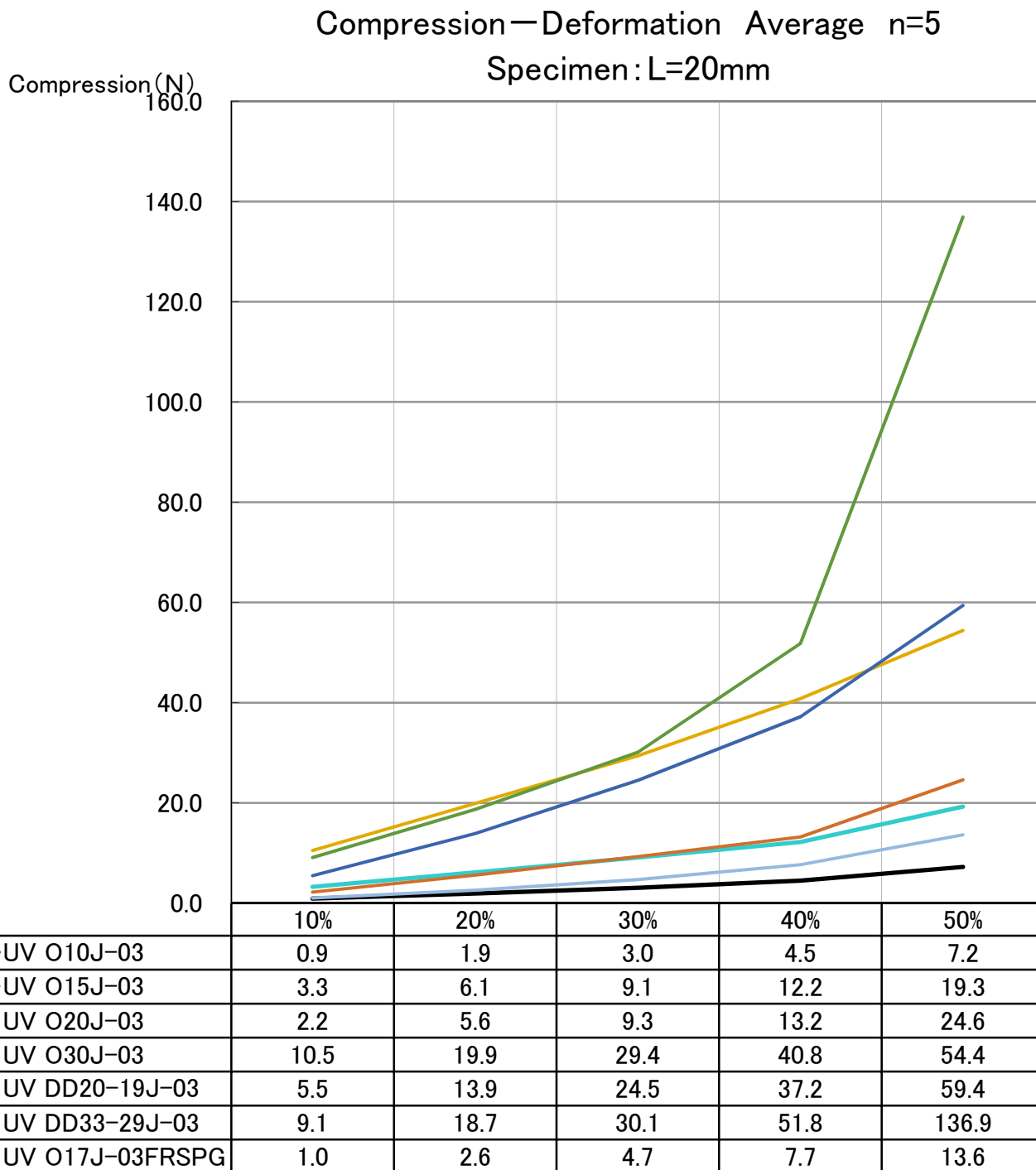
For Environmental Seal Double-D



Over pressure on the part circled in red may cause leakage of silicone oil. Please design your enclosure not to place over pressure.

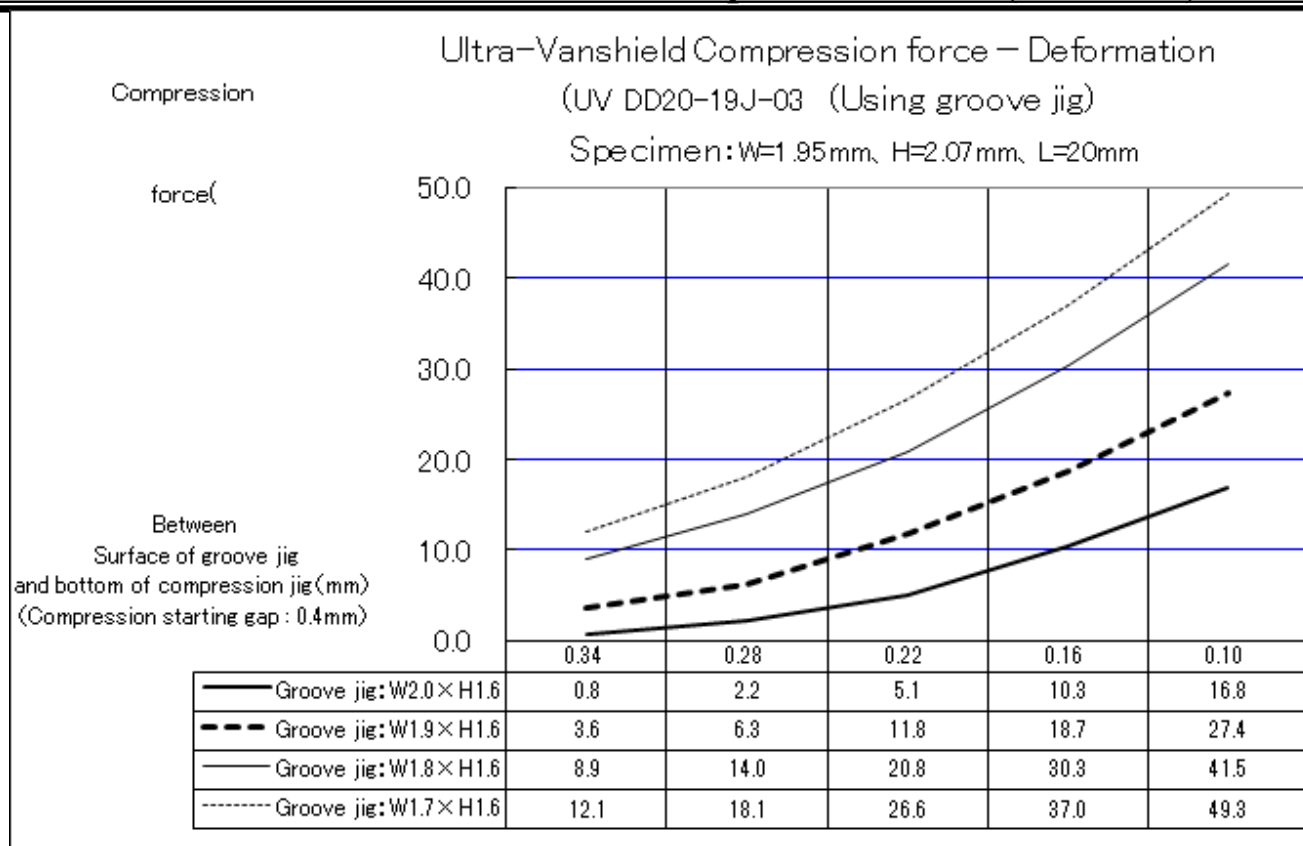


Reference Data: Production Compression Force (Tube・double-D)

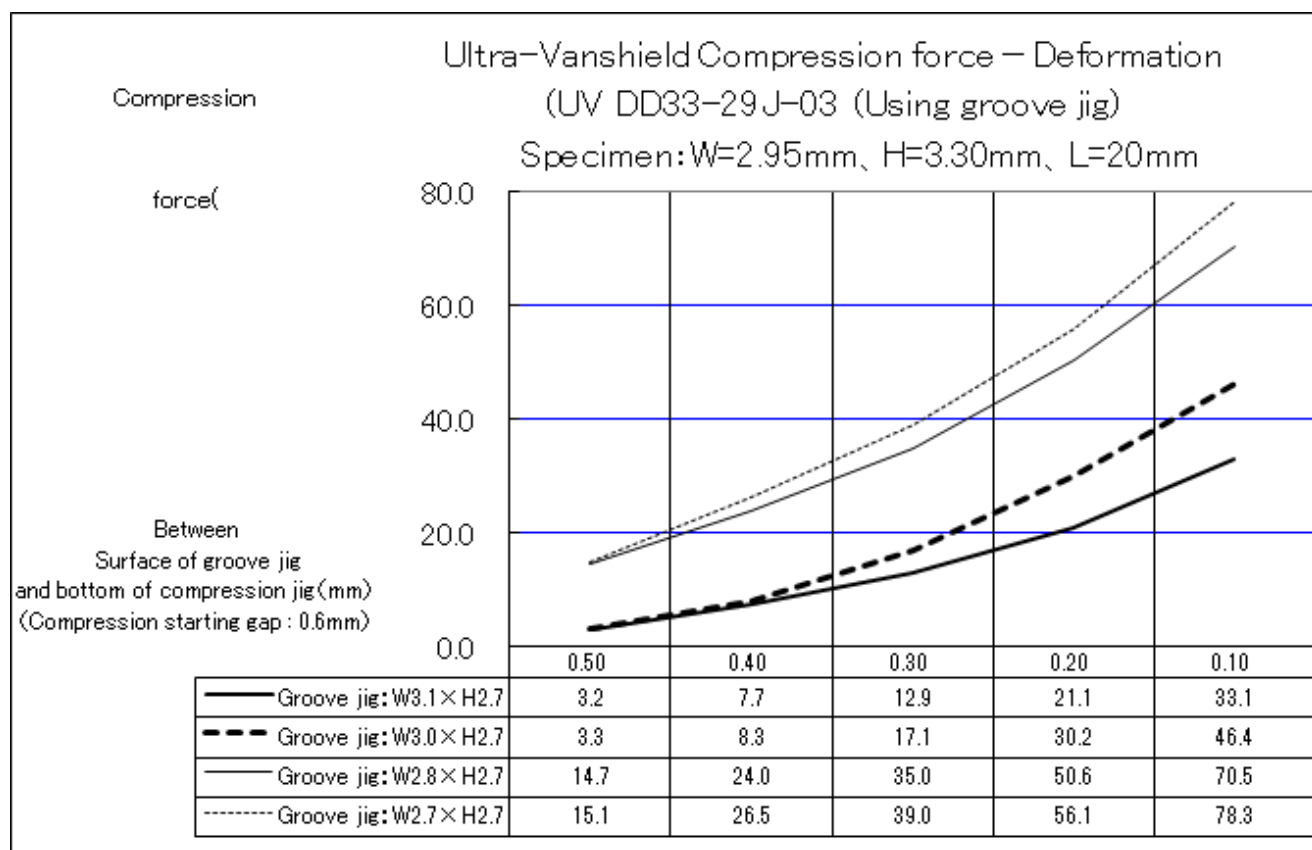


※ The data above is measured average value (n=5) and not guaranteed.

Reference Data: Production Compression Force (double-D)



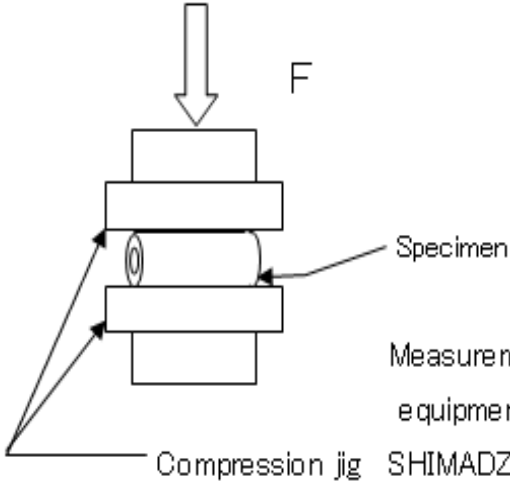
※The data above is measured average value (n=5) and not guaranteed.



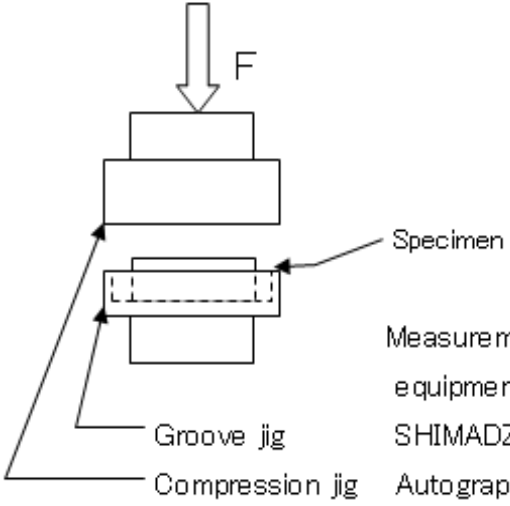
※The data above is measured average value (n=5) and not guaranteed.

Reference: Measuring Method

Compression - Deformation

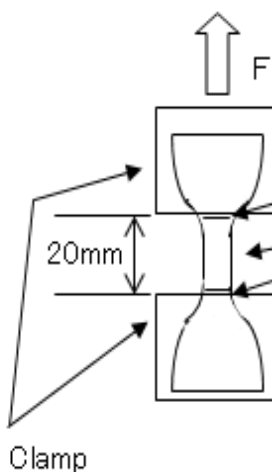
Item	Contents	Test method
Compression - Deformation	<p>Specimen: L=20mm</p> <p>Compression force with 10% ~ 50% deformation of standard height of the specimen is measured.</p> <p>Unit: [N]</p> <p>n=5</p>	 <p>Measurement equipment : SHIMADZU Autograph AG-IS Type MS</p>

Compression – Deformation (with Slot-shape tooling)

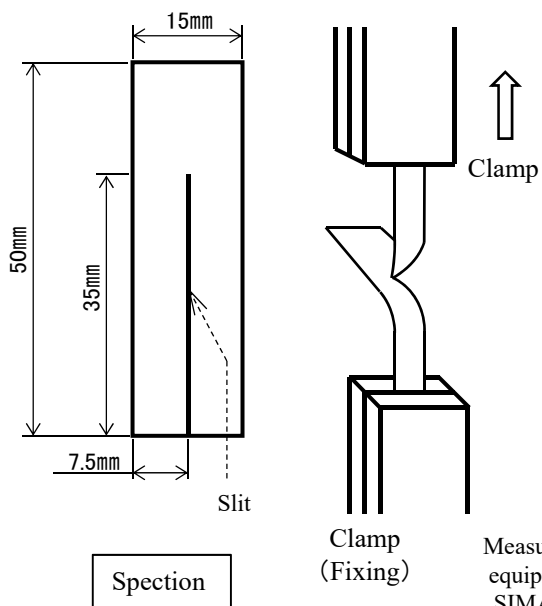
Item	Contents	Test method
<p>Compression - Deformation</p> <p>(Using groove jig)</p>	<p>Specimen: L=20mm</p> <p>Fit specimen into the jig with recommended groove.</p> <p>Reproduce enclosure and measure force value that needed for closing the lid.</p> <p>Unit: [N]</p> <p>n=5</p>	 <p>Measurement equipment : SHIMADZU Autograph AG-IS Type MS</p>

Reference: Measuring Method

Tensile Strength

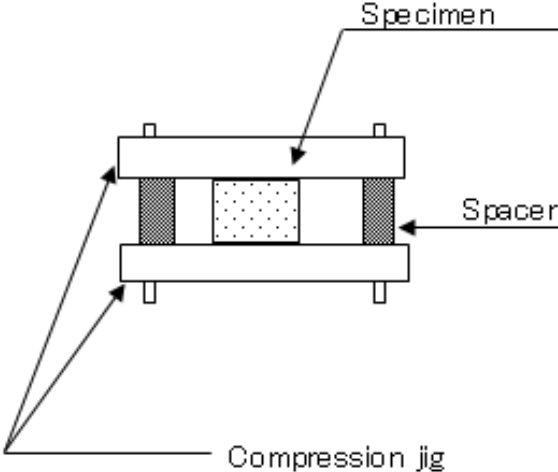
Item	Contents	Test method
Tensile strength, Elongation at break (JIS K6251 -2010)	Specimen: Dumb-bell Type 3 Pull specimen at a rate of 500mm/min. until break and measure the maximum tensile strength at the break. Devide the value by initial cross-section area. Indicate the elongation at the break ratio to the initial gauge length. Unit (Tensile strength): [MPa] Unit (Elongation at break): [%] n=5	 <p>Inter-marked line Specimen Measurement equipment : SHIMADZU Autograph AG-IS Type MS</p>

Tear Strength

Item	Contents	Test method
Tear strength (JIS k6252-2007, For reference)	Specimen : W 15mm × L50mm (See right sketch.) Make a cut 35mm from bottom of short side to middle. Pinch both sides of both edges by the clamps. Pull and tear specimen toward cut line at a rate of 100mm/min. Show the tear strength and time until break on the graph and calculate the median. Devide the median by specimen thickness. Unit: [kN/m] n=5	 <p>Clamp (Fixing) Measurement equipment : SIMADZU Autograph AG-IS Type MS</p>

Reference: Measuring Method

Compression Residual Strain

Item	Contents	Test method
Compression set (JIS K6401-2011, For reference)	Specimen: 25mm×50mm, t=4mm With 50% compression of standard height, the specimen is left in 70°C environment for 22 hours. Compression set is measured after compression is released 30 minutes later. H_0 : Height before measurement (mm) H_1 : Height after measurement (mm) Compression set = $\frac{(H_0 - H_1)}{H_0} \times 100$ Unit: [%] n=5	

Durometer Hardness

Item	Contents	Test method
Durometer hardness (JIS K6253-3-2012)	Specimen: 50mm×50mm t=4mm×2 Apply the durometer to the material with sufficient force and measure value. (Type A, Type E) n=5	Ex: Type A 