

# Introduction Large size O-ring processing

What is “JOINTED O-RING” ?

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# What is “JOINTED O-RING”?



- ◆ In the past, O-rings without a mold were used by connecting an extruded rubber cord with an adhesive or the like. This method had problems with the strength, heat resistance, oil resistance, chemical resistance and sealing performance of the adhesive part. JOINTED O-RING is molded by press vulcanization, so **no adhesives or the like are used**. Therefore, it has the same performance as ordinary molded products.
- ◆ JOINTED O-RING is a technique for molding special dimensions that are neither specified in JIS nor AS standards, and because it does not require a mold for single items and small lots, it is possible to manufacture large-diameter O-rings **at low cost and in short delivery time**.
- ◆ Since molding is performed using various types of equipment dedicated to the molding process, **the finish, appearance, and dimensional accuracy are stable**.

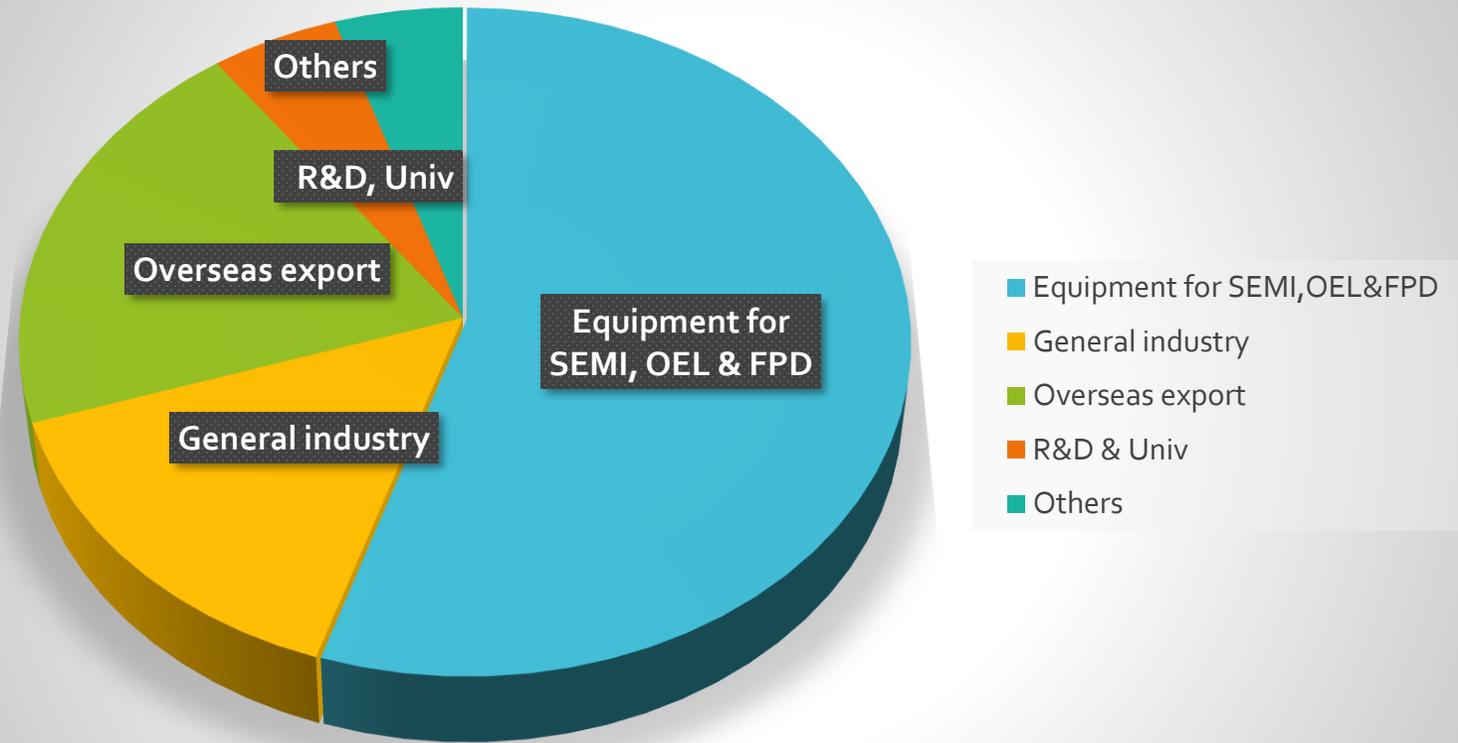
# Advantage of "JOINTED O-RING"



- ◆ If it is a mold owned by our company (see the mold list #7), the mold fee is unnecessary.
- ◆ It has the same performance as general mold products due to the molded by mold.
- ◆ The seams are almost invisible due to vulcanization adhesion.
- ◆ According to the customer's request, we manufacture the O-ring from one piece in the size (see the mold list #7).

# Composition table by industry of JOINTED O-ring

## Composition table



# Main products



O-rings	Standard O-ring (P / G / V / AS etc.) Kalrez <sup>®</sup> , Other Perfluoro Centering & Centering / O-ring
Non-adhesive fluorines	This is a special fluoro-rubber that is ideal for preventing sticking to mounting grooves, etc., with greatly improved wear resistance and non-adhesiveness, while maintaining the chemical resistance and heat resistance of fluoro-rubber.  And there is no coating peeling due to surface modification treatment.
Fluoropolymer products	Backup rings / PTFE O-rings / Various molded products / PFA / FEP coated O-rings (Fluorine / Silicone)
Gaskets	Entire surface gaskets (FF/RF) / Sanitary gaskets

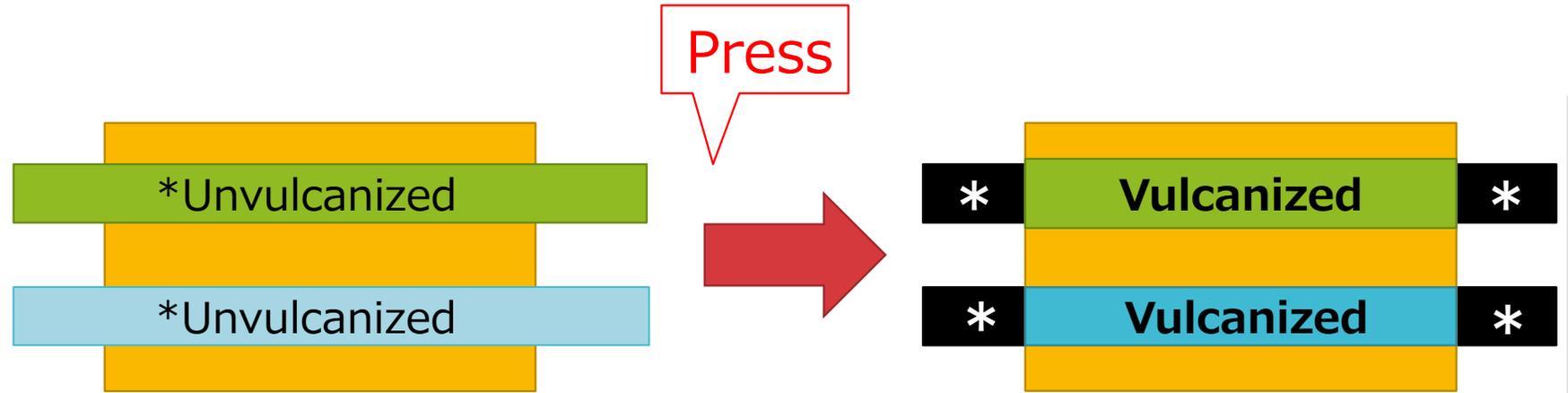
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unit : mm

# Owning mold list



Wire dia	Wire dia tolerance	Min dia inner		Wire dia	Wire dia Tolerance	Min dia inner		Square ring		Square-angle		Square-circle	
3.1	±0.1	160~		12.7	±0.4	300~		Wire dia	Min dia	Wire dia	Min dia	Wire dia	Min dia
3.5	±0.1	160~		13.0	±0.4	300~		7	500~	8	500~	8	500~
4.0	±0.1	160~		14.0	±0.4	300~		9.5	500~	10	500~	10	500~
4.5	±0.12	500~		15.0	±0.4	300~		10	500~	12	500~	12	500~
5.0	±0.12	160~		16.0	±0.4	300~		12	500~	16	500~		
5.33	±0.12	160~		17.0	±0.4	300~		13	500~				
5.5	±0.13	500~		18.0	±0.4	300~							
5.7	±0.13	160~		19.0	±0.4	500~							
6.0	±0.13	160~		20.0	±0.4	500~							
6.5	±0.13	280~		20.5	±0.4	500~							
7.0	±0.15	160~		22.0	±0.4	550~		Material	Hardness	Material	Hardness	Material	Hardness
7.5	±0.15	160~		23.0	±0.4	800~		NBR	60/70/80/90	Fluorine (brown)	70/80	SI (red)	50/60/70
8.0	±0.15	160~		25.0	±0.4	800~		EP	70	※EP	70	SI milkywhite	70
8.4	±0.15	160~		28.0	±0.4	800~		SBR	70	※Fluorine	60/70	SI(trans)	50/70
9.0	±0.15	300~		30.0	±0.4	800~		CR	60/70/80	※SI	50/70	Heat SI	60/70
9.5	±0.3	300~		35.0	±0.4	800~		IIR	70			Steam SI	60/70
10.0	±0.3	160~		40.0	±0.4	800~		H-NBR	75/90				
10.5	±0.3	300~						Fluorine	60/70/80/90				
11.0	±0.3	300~						Fluorine (3 yuan)	60/70				
12.0	±0.4	300~						Aphras	70				7

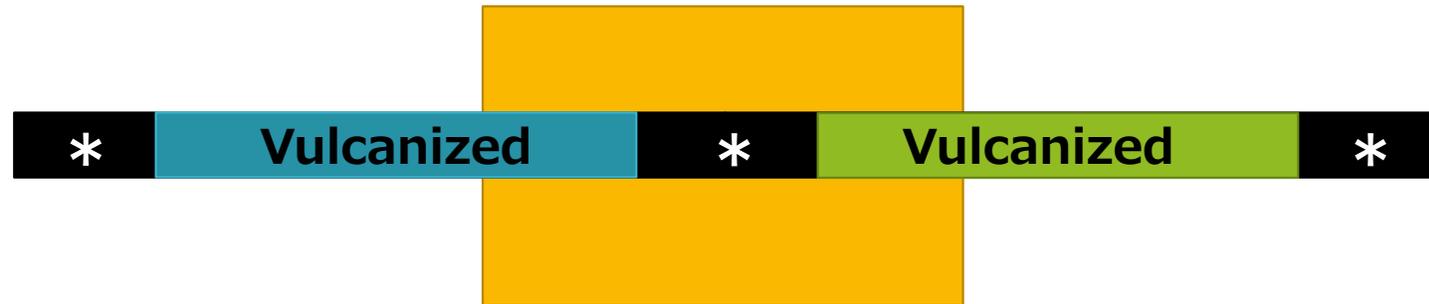
# Processing ①



1. Molded with unvulcanized parts left on both ends

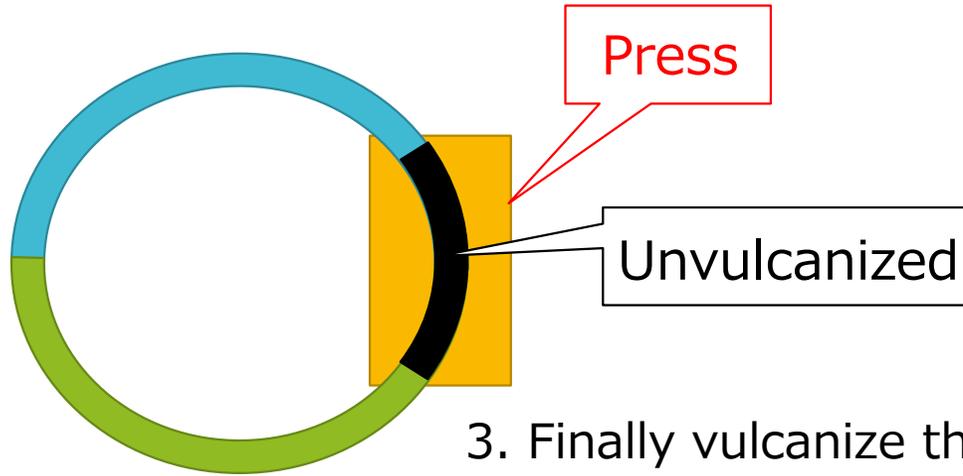
Vulcanized...Parts completed as rubber under temperature and pressure

\*Unvulcanized...Parts that have not been completed as rubber as raw materials

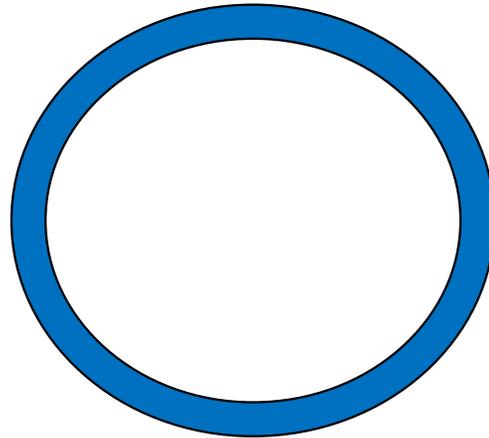


2. Press vulcanization between unvulcanized parts

## Processing ②

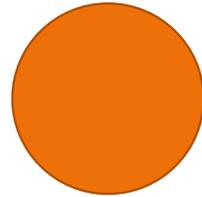


3. Finally vulcanize the unvulcanized parts on both ends



4. Finish !

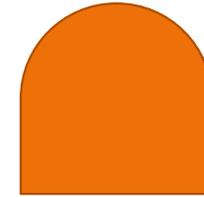
# Various cross-sections of large-diameter seals



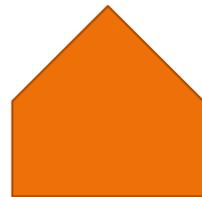
O-ring



Square-ring



Square-circle ring

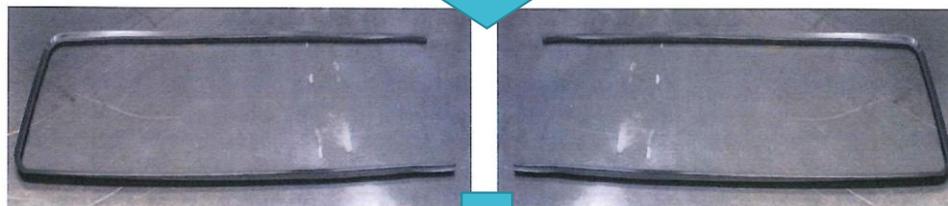
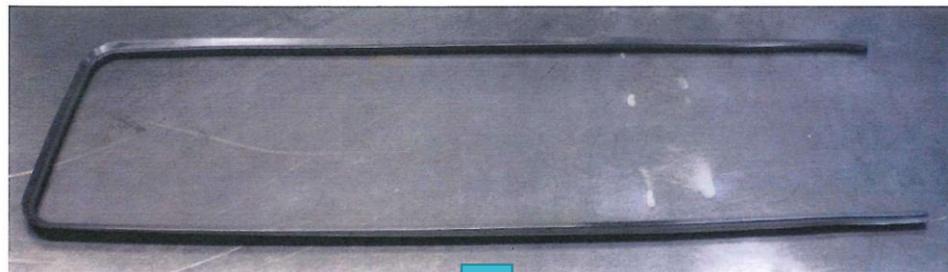


Square-angle ring



V-ring

# Example: For gate valve seals



Make parts in molds.  
Both sides are non-  
vulcanized.

One each for left & right

Both parts are placed in a  
mold and pressed.

Finished !

Gate valve seal  
1100 mm x 200 mm

Do you have  
any questions?

Please contact us freely!

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