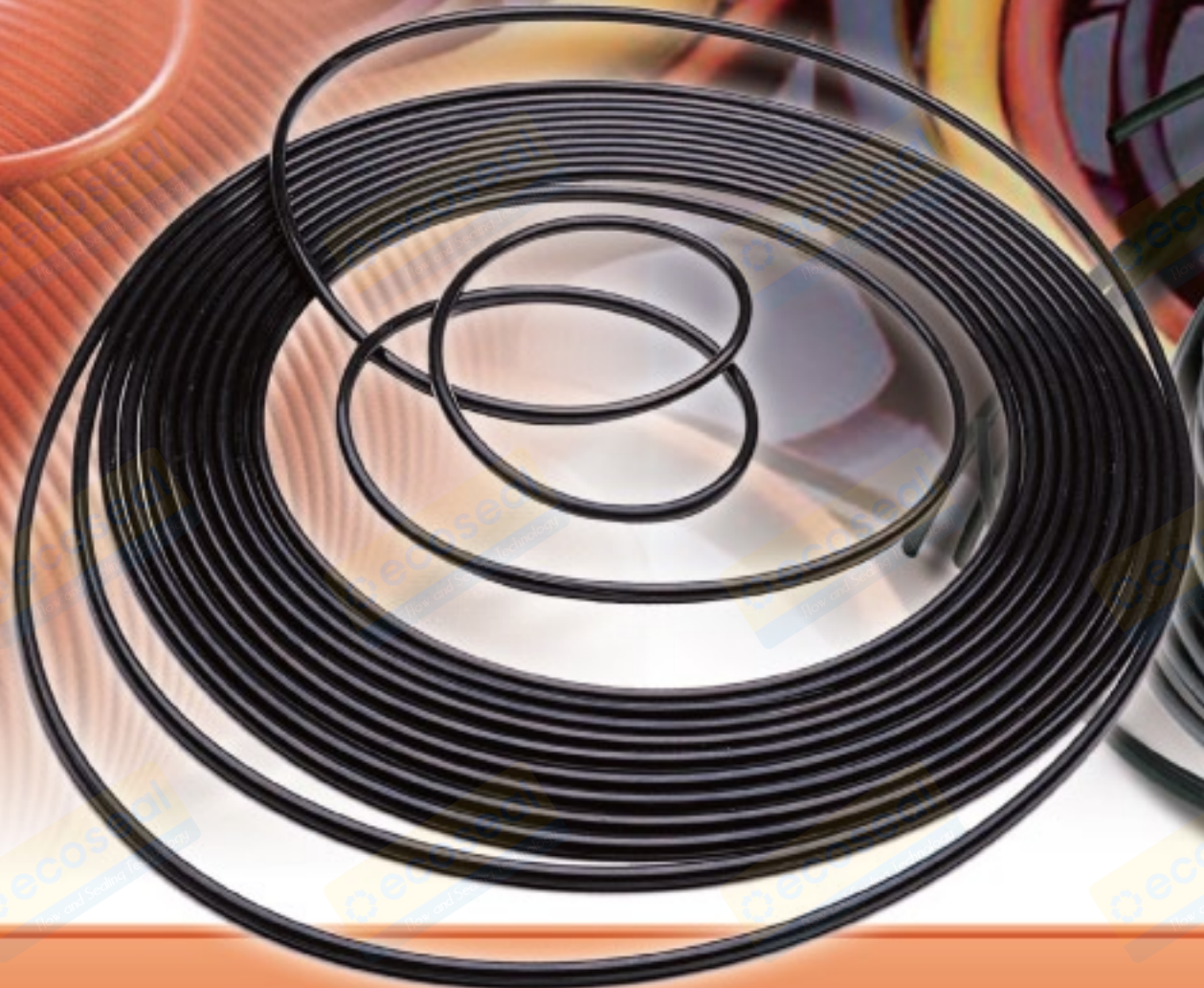
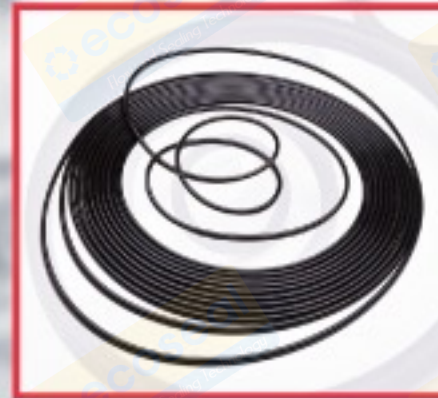
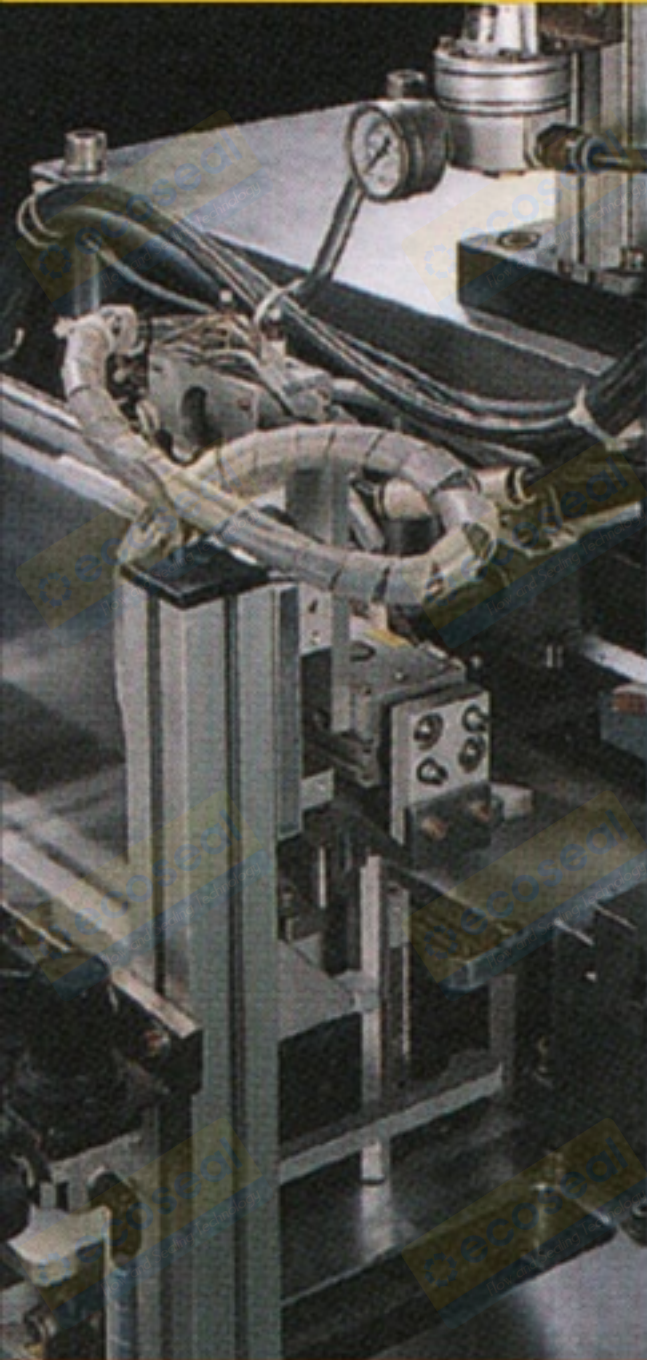
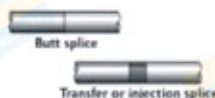


O-RING CORD





Introduction O-RING CORD



Unlike molded O-rings made in costly machined molds, toroidal, or spliced, sealing rings are made out of extruded elastomeric cord that is end-to-end glued, stapled or hot vulcanized to create a continuous ring. Tolerances for ID and thickness tend to be greater than for molded parts.

Typically, these seals are used in secondary static applications, such as large flanges, container cover gaskets, door seals in autoclaves and vacuum furnaces, and lid and face seals, where unusually large ID or cross section dimensions or a non-standard O-ring is required. Flat gaskets may also be fabricated using the vulcanizing and splicing method, typically with a dovetailed (keystoned) splice joint. And, a new application for spliced seals is as electromagnetic interference (EMI) spliced gaskets. They may also be used in prototyping or applications calling for a custom seal.

Spliced Seal Design Considerations

- Doubling, bending back, pinching or twisting are not recommended for testing splice strength.
- Splice strength is a factor of the type of elastomer and configuration of the extrusion.
- Butt splices are weaker than transfer and injection splices.
- An even pull applied perpendicular to the plane of the splice can be used to test a corner splice.
- In non-critical applications where vulcanization is not required (for example where the splice is used to set the position of a gasket), staples, adhesives or room temperature vulcanizing cements may be used.
- Length tolerances vary depending on the length between splices and type of splice. Class 1 and 2 tolerances are used for conventional splices, while Class 2 and 3 are applied to injection splices.

Spliced Seal Cross-Sections

Actual Cross-Section (inch)	Tolerance (inch)	Actual Cross-Section (mm)	Tolerance (mm)
0.070	±.005	1.78	±0.13
0.093	±.005	2.36	±0.13
0.103	±.005	2.62	±0.13
0.125	±.005	3.18	±0.13
0.139	±.007	3.53	±0.18
0.187	±.007	4.75	±0.18
0.210	±.007	5.33	±0.18
0.250	±.008	6.35	±0.20
0.275	±.008	6.99	±0.20
0.313	±.010	7.95	±0.25
0.375	±.010	9.53	±0.25
0.437	±.010	11.10	±0.25
0.500	±.012	12.70	±0.30
0.562	±.012	14.27	±0.30
0.625	±.012	15.88	±0.30
0.750	±.016	19.05	±0.41
0.875	±.020	22.23	±0.51
1.000	±.020	25.40	±0.51

Spliced Seal Length Tolerances

RMA Class Drawing Designations	1 Precision S1	2 Commercial S2	3 Non-Critical S3
INCHES			
Above	Included		
0	10	±.125	±.250
10	16	±.160	±.280
16	25	±.200	±.315
25	40	±.250	±.355
40	63	±.315	±.400
63	100	±.400	±.450
100	over	±.500	±.530
MM			
Above	Included		
0	250	±3.15	±6.30
250	400	±4.00	±7.10
400	630	±5.00	±8.00
630	1000	±6.30	±9.00
1000	1600	±8.00	±10.00
1600	2500	±10.00	±11.20
2500	over	±12.50	±16.00

Rubber Cord Cross-Sections

Rubber Cord NB 70 Shore (mm)		Rubber cord FP 70 Shore (mm)	
Size	± Tolerance	Size	± Tolerance
1.78	0.20		
2.00	0.20	2.00	0.20
2.40	0.25	2.40	0.20
2.50	0.25	2.50	0.20
2.62	0.25	2.62	0.25
3.00	0.25	3.00	0.25
3.20	0.35	3.20	0.30
3.50	0.35	3.50	0.30
3.53	0.35	3.53	0.30
4.00	0.35	4.00	0.30
4.50	0.40	4.50	0.30
5.00	0.40	5.00	0.30
5.33	0.40	5.33	0.30
5.50	0.40	5.50	0.30
5.70	0.40	5.70	0.30
6.00	0.40	6.00	0.30
6.35	0.55	6.35	0.40
6.50	0.55	6.50	0.40
6.99	0.55	6.99	0.40
7.00	0.55	7.00	0.40
7.50	0.55	7.50	0.40
8.00	0.55	8.00	0.40
8.40	0.55	8.40	0.40
8.50	0.55	8.50	0.40
9.00	0.55	9.00	0.40
10.00	0.55	10.00	0.40
11.00	0.65	11.00	0.50
12.00	0.65	12.00	0.50
13.00	0.65	13.00	0.50
14.00	0.65	14.00	0.50
15.00	0.65	15.00	0.50
16.00	0.65	16.00	0.50
18.00	0.85	18.00	1.00
20.00	0.85	20.00	1.00
22.00	0.85	22.00	1.00
25.00	1.00	25.00	1.00
30.00	1.00	30.00	1.30

Rubber Cord Length Tolerances

RMA Class Drawing Designations	1 Precision S1	2 Commercial S2	3 Non-Critical S3
ID. Millimeters			
Above - Up to			
0 - 79.6	±1.0	±2.0	±2.3
79.6 - 127.3	±1.3	±2.3	±2.6
127.3 - 200.5	±1.6	±2.6	±2.9
200.5 - 318.3	±2.0	±2.9	±3.2
318.3 - 509.3	±2.6	±3.2	±3.6
509.3 - 795.8	±3.2	±3.6	±3.9
795.8 - over	±4.0	±4.0	±5.1
ID. Inches			
Above - Up to			
0 - 3.18	±.040	±.080	±.090
3.18 - 5.09	±.050	±.090	±.100
5.09 - 7.96	±.060	±.100	±.110
7.96 - 12.73	±.080	±.110	±.130
12.73 - 20.05	±.100	±.130	±.140
20.05 - 31.83	±.130	±.140	±.160
31.83 - over	±.160	±.160	±.170

