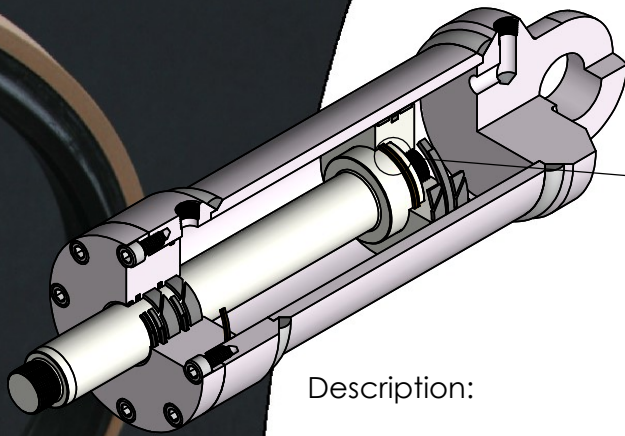
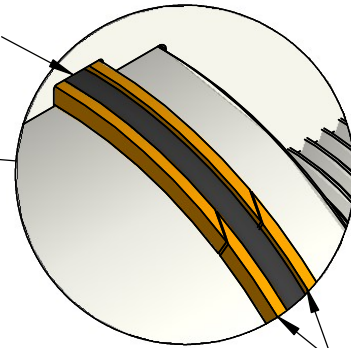




Elastomer
O-ring



T-LON® "28774"
Back-up Rings

Description:

The 28774 PTFE back-up rings are proven components used for sealing both low and high pressure systems. Any system pushing the pressure limits on an elastomer seal, 28774 back-up rings are an inexpensive option to increase seal pressure capabilities or increase radial extrusion gaps behind the seal.

The 28774 back-up rings come standard in T-LON® 01 (Virgin PTFE) but can be made from any filled T-LON® PTFE compound or plastic/metal to increase the pressure capabilities.

Consider 28774 back-up rings with elastomer o-rings under the following conditions:

- Pressure above 1000psi (7MPa)
- Radial Extrusion gap > .005" (.13mm)
- High Reciprocating Stroke Frequency
- High Temperatures
- Medium with Contamination
- Pressure Shock Loads (Fast Pressure Changes)

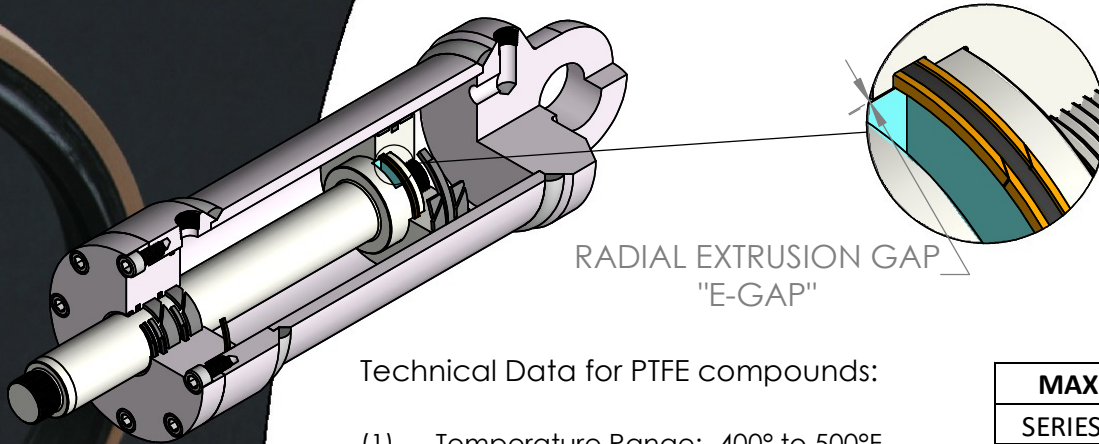
Advantages:

- Inexpensive option
- Easy to install
- Increase pressure rating of standard o-rings
- Available for cylinders up to 45" diameter

Applications:

- Mobile Hydraulic Cylinders
- Pneumatic Piston Cylinders
- Agriculture Equipment
- Hydraulic Valves and Pumps
- Filling Machines
- Testing Machinery
- Any sealing application





RADIAL EXTRUSION GAP
"E-GAP"

Technical Data for PTFE compounds:

- (1) Temperature Range: -400° to 500°F
- (2) T-LON® seal compound determines allowable pressure
 - Pressure: Up to 5800 psi (Function of e-gap and T-LON® compound)
 - Surface Speed: Up to 6 ft/s

Most Common:

Virgin PTFE ("01")

- Most cost effective
- Most flexible for fitting into tight areas

BRONZE FILLED PTFE ("21" or "22")

- Highest Extrusion Resistance of PTFE Compounds (Higher bronze content increases extrusion/wear resistance; I.E. larger e-gap allowable)
- Low abrasion characteristics

Also Available for Extreme Pressures of 10,000 psi and above:

PEEK Compounds ("91" or "92")

Polyamide Compounds ("1N" or "6N")

ACETAL ("1D")

MAXIMUM E-GAP (Virgin PTFE)***			
SERIES	1,450 PSI	2,900 PSI	5,800
-000	0.008	0.004	0.0015
-100	0.008	0.004	0.0015
-200	0.008	0.004	0.0015
-300	0.010	0.005	0.0025
-400	0.015	0.008	0.0035

***USE PISTON WEAR RINGS SO E-GAP DOES NOT EXCEED TABLED VALUES

MAXIMUM E-GAP (Shore 70A O-rings) REFERENCE ONLY***			
O-Ring CS (in)	500 PSI	1,000 PSI	1,500 PSI
0.070	0.003	0.002	0.001
0.103	0.004	0.003	0.002
0.139	0.004	0.003	0.002
0.210	0.005	0.004	0.003
0.275	0.006	0.004	0.003

***IF THE APPLICATION DEMANDS HIGHER PRESSURES/E-GAPS, 28774 BACK-UP RINGS ARE RECOMMENDED.

ORDERING INFORMATION

28774 - -

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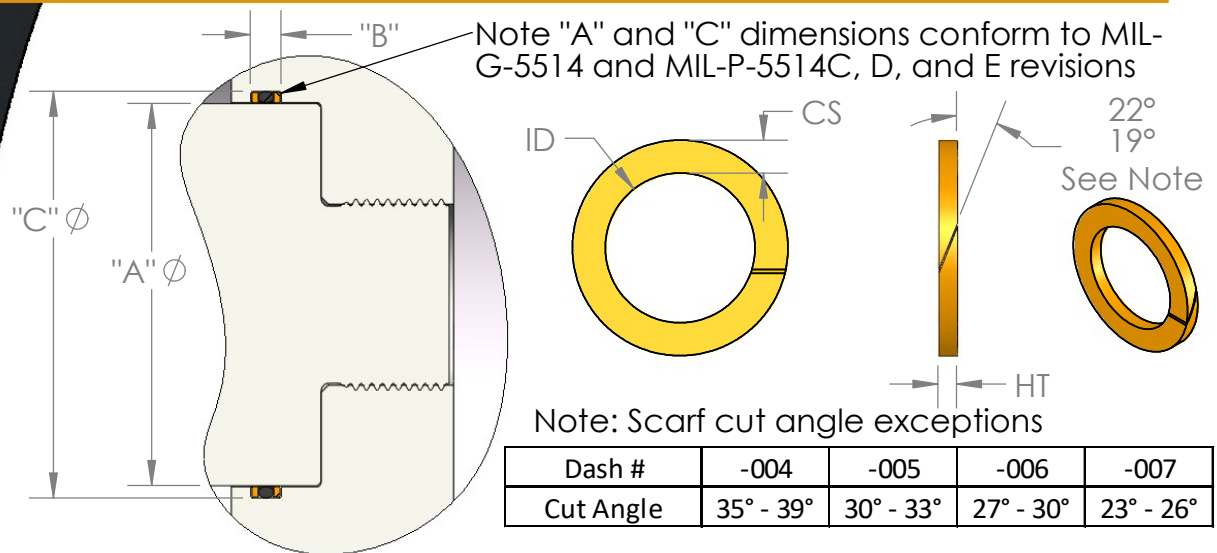
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"115" = 100 SERIES, -115 SIZE
"332" = 300 SERIES, -332 SIZE

"01" = VIRGIN PTFE
"09" = 25% GLASS PTFE
"22" = 60% BRONZE PTFE

T-LON® "28774" Series Split Back-up Ring



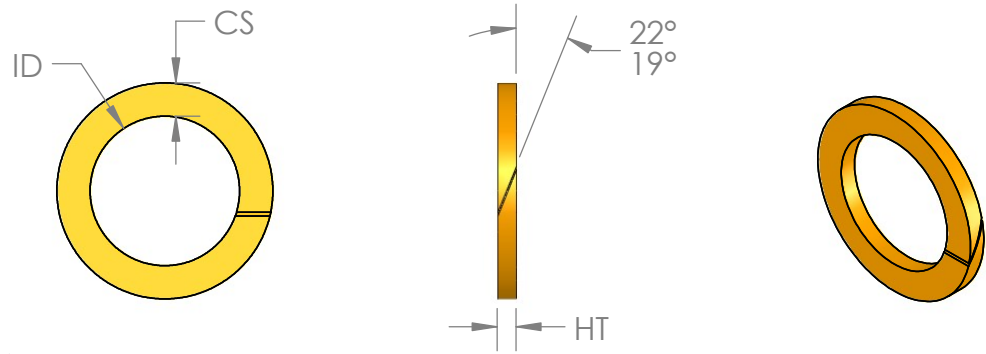
Reference Groove Dimensions for O-rings with "28774" back-up rings

AS568 O-ring Dash #	Gland Width "B" No Backup Ring		Gland Width "B" One Backup Ring		Gland Width "B" Two Backup Rings	
	Min	Max	Min	Max	Min	Max
-004 to -009	0.098	0.103	0.154	0.164	0.210	0.220
-010 to -028	0.094	0.099	0.150	0.160	0.207	0.217
-110 to -149	0.141	0.151	0.183	0.193	0.245	0.255
-210 to -247	0.188	0.198	0.235	0.245	0.304	0.314
-325 to -349	0.281	0.291	0.334	0.344	0.424	0.434
-424 to -460	0.375	0.385	0.475	0.485	0.579	0.589

T-LON® "28774" Series Split Back-up Ring Sizes (More Available Upon Request)

Backup Ring Dash Size	OD Ref.	ID		CS ±.002	HT ±.003
		Nominal	Tolerance		
-004	0.215	0.109	+.001/- .005	0.053	0.049
-005	0.230	0.124	+.001/- .005	0.053	0.049
-006	0.246	0.140	+.001/- .005	0.053	0.049
-007	0.277	0.171	+.001/- .005	0.053	0.049
-008	0.308	0.202	+.001/- .005	0.053	0.049
-009	0.340	0.234	+.001/- .005	0.053	0.049
-010	0.371	0.265	+.001/- .005	0.053	0.049
-011	0.433	0.327	+.001/- .005	0.053	0.049
-012	0.496	0.390	+.001/- .005	0.053	0.049
-013	0.561	0.455	+.001/- .005	0.053	0.049
-014	0.624	0.518	+.001/- .005	0.053	0.049
-015	0.686	0.580	+.001/- .005	0.053	0.049
-016	0.749	0.643	+.001/- .005	0.053	0.049
-017	0.811	0.705	+.001/- .005	0.053	0.049
-018	0.874	0.768	+.001/- .005	0.053	0.049
-019	0.936	0.830	+.001/- .005	0.053	0.049
-020	1.004	0.898	+.001/- .005	0.053	0.049
-021	1.066	0.960	+.001/- .005	0.053	0.049
-022	1.129	1.023	+.001/- .005	0.053	0.049
-023	1.191	1.085	+.001/- .005	0.053	0.049
-024	1.254	1.148	+.001/- .005	0.053	0.049
-025	1.316	1.210	+.001/- .005	0.053	0.049
-026	1.379	1.273	+.001/- .005	0.053	0.049
-027	1.441	1.335	+.001/- .005	0.053	0.049
-028	1.504	1.398	+.001/- .005	0.053	0.049
-110	0.562	0.390	+.001 / - .005	0.086	0.049
-111	0.624	0.452	+.001 / - .005	0.086	0.049
-112	0.687	0.515	+.001 / - .005	0.086	0.049
-113	0.749	0.577	+.001 / - .005	0.086	0.049
-114	0.812	0.640	+.001 / - .005	0.086	0.049
-115	0.874	0.702	+.001 / - .005	0.086	0.049
-116	0.937	0.765	+.001 / - .005	0.086	0.049
-117	1.004	0.832	+.001 / - .005	0.086	0.049
-118	1.067	0.895	+.001 / - .005	0.086	0.049
-119	1.129	0.957	+.001 / - .005	0.086	0.049
-120	1.192	1.020	+.001 / - .005	0.086	0.049

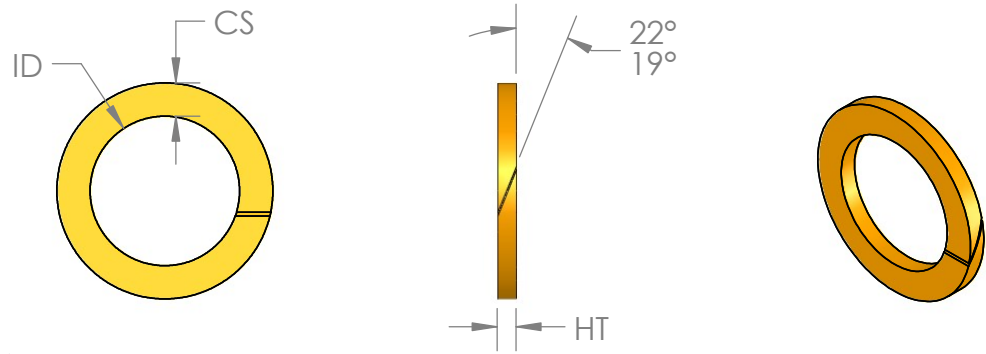
T-LON® "28774" Series Split Back-up Ring



T-LON® "28774" Series Split Back-up Ring Sizes (More Available Upon Request)

Backup Ring Dash Size	OD Ref.	ID		CS ±.002	HT ±.003
		Nominal	Tolerance		
-121	1.254	1.082	+0.001 / -.005	0.086	0.049
-122	1.317	1.145	+0.001 / -.005	0.086	0.049
-123	1.379	1.207	+0.001 / -.005	0.086	0.049
-124	1.442	1.270	+0.001 / -.005	0.086	0.049
-125	1.504	1.332	+0.001 / -.005	0.086	0.049
-126	1.569	1.397	+0.001 / -.005	0.086	0.049
-127	1.631	1.459	+0.001 / -.005	0.086	0.049
-128	1.694	1.522	+0.001 / -.005	0.086	0.049
-129	1.756	1.584	+0.001 / -.005	0.086	0.049
-130	1.819	1.647	+0.001 / -.005	0.086	0.049
-131	1.881	1.709	+0.001 / -.005	0.086	0.049
-132	1.944	1.772	+0.001 / -.005	0.086	0.049
-133	2.006	1.834	+0.001 / -.005	0.086	0.049
-134	2.069	1.897	+0.001 / -.005	0.086	0.049
-135	2.131	1.959	+0.001 / -.005	0.086	0.049
-136	2.194	2.022	+0.001 / -.005	0.086	0.049
-137	2.256	2.084	+0.001 / -.005	0.086	0.049
-138	2.319	2.147	+0.001 / -.005	0.086	0.049
-139	2.381	2.209	+0.001 / -.005	0.086	0.049
-140	2.430	2.258	+0.001 / -.005	0.086	0.049
-141	2.492	2.320	+0.001 / -.005	0.086	0.049
-142	2.555	2.383	+0.001 / -.005	0.086	0.049
-143	2.617	2.445	+0.001 / -.005	0.086	0.049
-144	2.680	2.508	+0.001 / -.005	0.086	0.049
-145	2.742	2.570	+0.001 / -.005	0.086	0.049
-146	2.805	2.633	+0.001 / -.005	0.086	0.049
-147	2.857	2.685	+0.001 / -.005	0.086	0.049
-148	2.930	2.758	+0.001 / -.005	0.086	0.049
-149	2.992	2.820	+0.001 / -.005	0.086	0.049
-210	1.004	0.766	+0.001 / -.005	0.119	0.049
-211	1.066	0.828	+0.001 / -.005	0.119	0.049
-212	1.129	0.891	+0.001 / -.005	0.119	0.049
-213	1.191	0.953	+0.001 / -.005	0.119	0.049
-214	1.254	1.016	+0.001 / -.005	0.119	0.049
-215	1.316	1.078	+0.001 / -.005	0.119	0.049
-216	1.379	1.141	+0.001 / -.005	0.119	0.049
-217	1.441	1.203	+0.001 / -.005	0.119	0.049
-218	1.504	1.266	+0.001 / -.005	0.119	0.049
-219	1.572	1.334	+0.001 / -.005	0.119	0.049
-220	1.635	1.397	+0.001 / -.005	0.119	0.049
-221	1.697	1.459	+0.001 / -.005	0.119	0.049
-222	1.760	1.522	+0.001 / -.005	0.119	0.049
-223	1.885	1.647	+0.001 / -.005	0.119	0.049
-224	2.010	1.772	+0.001 / -.005	0.119	0.049
-225	2.135	1.897	+0.001 / -.005	0.119	0.049
-226	2.260	2.022	+0.001 / -.005	0.119	0.049
-227	2.385	2.147	+0.001 / -.005	0.119	0.049
-228	2.510	2.272	+0.001 / -.005	0.119	0.049
-229	2.635	2.397	+0.001 / -.005	0.119	0.049
-230	2.760	2.522	+0.001 / -.005	0.119	0.049
-231	2.869	2.631	+0.001 / -.005	0.119	0.049
-232	2.994	2.756	+0.001 / -.005	0.119	0.049
-233	3.119	2.881	+0.001 / -.005	0.119	0.049
-234	3.244	3.006	+0.001 / -.005	0.119	0.049
-235	3.369	3.131	+0.001 / -.005	0.119	0.049
-236	3.494	3.256	+0.001 / -.005	0.119	0.049
-237	3.619	3.381	+0.001 / -.005	0.119	0.049
-238	3.744	3.506	+0.001 / -.005	0.119	0.049
-239	3.869	3.631	+0.001 / -.005	0.119	0.049
-240	3.994	3.756	+0.001 / -.005	0.119	0.049
-241	4.119	3.881	+0.001 / -.007	0.119	0.049
-242	4.244	4.006	+0.001 / -.007	0.119	0.049
-243	4.369	4.131	+0.001 / -.007	0.119	0.049
-244	4.494	4.256	+0.001 / -.007	0.119	0.049
-245	4.619	4.381	+0.001 / -.007	0.119	0.049
-246	4.744	4.506	+0.001 / -.007	0.119	0.049
-247	4.869	4.631	+0.001 / -.007	0.119	0.049

T-LON® "28774" Series Split Back-up Ring



T-LON® "28774" Series Split Back-up Ring Sizes (More Available Upon Request)

Backup Ring Dash Size	OD REF	ID		CS ±.002	HT ±.005	Backup Ring Dash Size	OD REF	ID		CS ±.002	HT ±.005
		Nominal	Tolerance					Nominal	Tolerance		
-325	1.879	1.513	+.001/- .005	0.183	0.070	-430	5.648	5.176	+.001/- .009	0.236	0.105
-326	2.004	1.638	+.001/- .005	0.183	0.070	-431	5.773	5.301	+.001/- .009	0.236	0.105
-327	2.129	1.763	+.001/- .005	0.183	0.070	-432	5.898	5.426	+.001/- .009	0.236	0.105
-328	2.254	1.888	+.001/- .005	0.183	0.070	-433	6.023	5.551	+.001/- .011	0.236	0.105
-329	2.379	2.013	+.001/- .005	0.183	0.070	-434	6.148	5.676	+.001/- .011	0.236	0.105
-330	2.504	2.138	+.001/- .005	0.183	0.070	-435	6.273	5.801	+.001/- .011	0.236	0.105
-331	2.634	2.268	+.001/- .005	0.183	0.070	-436	6.398	5.926	+.001/- .011	0.236	0.105
-332	2.759	2.393	+.001/- .005	0.183	0.070	-437	6.523	6.051	+.001/- .011	0.236	0.105
-333	2.884	2.518	+.001/- .005	0.183	0.070	-438	6.746	6.274	+.001/- .011	0.236	0.105
-334	3.009	2.643	+.001/- .005	0.183	0.070	-439	6.996	6.524	+.001/- .011	0.236	0.105
-335	3.134	2.768	+.001/- .005	0.183	0.070	-440	7.246	6.774	+.001/- .013	0.236	0.105
-336	3.259	2.893	+.001/- .005	0.183	0.070	-441	7.496	7.024	+.001/- .013	0.236	0.105
-337	3.384	3.018	+.001/- .005	0.183	0.070	-442	7.746	7.274	+.001/- .013	0.236	0.105
-338	3.509	3.143	+.001/- .005	0.183	0.070	-443	7.996	7.524	+.001/- .013	0.236	0.105
-339	3.639	3.273	+.001/- .005	0.183	0.070	-444	8.246	7.774	+.001/- .015	0.236	0.105
-340	3.764	3.398	+.001/- .005	0.183	0.070	-445	8.496	8.024	+.001/- .015	0.236	0.105
-341	3.889	3.523	+.001/- .005	0.183	0.070	-446	8.996	8.524	+.001/- .015	0.236	0.105
-342	4.014	3.648	+.001/- .007	0.183	0.070	-447	9.496	9.024	+.001/- .017	0.236	0.105
-343	4.139	3.773	+.001/- .007	0.183	0.070	-448	9.996	9.524	+.001/- .017	0.236	0.105
-344	4.264	3.898	+.001/- .007	0.183	0.070	-449	10.496	10.024	+.001/- .019	0.236	0.105
-345	4.394	4.028	+.001/- .007	0.183	0.070	-450	10.996	10.524	+.001/- .019	0.236	0.105
-346	4.519	4.153	+.001/- .007	0.183	0.070	-451	11.496	11.024	+.001/- .021	0.236	0.105
-347	4.644	4.278	+.001/- .007	0.183	0.070	-452	11.996	11.524	+.001/- .021	0.236	0.105
-348	4.769	4.403	+.001/- .007	0.183	0.070	-453	12.496	12.024	+.001/- .023	0.236	0.105
-349	4.894	4.528	+.001/- .007	0.183	0.070	-454	12.996	12.524	+.001/- .023	0.236	0.105
-424	4.898	4.426	+.001/- .007	0.236	0.105	-455	13.496	13.024	+.001/- .025	0.236	0.105
-425	5.023	4.551	+.001/- .009	0.236	0.105	-456	13.996	13.524	+.001/- .025	0.236	0.105
-426	5.148	4.676	+.001/- .009	0.236	0.105	-457	14.496	14.024	+.001/- .027	0.236	0.105
-427	5.273	4.801	+.001/- .009	0.236	0.105	-458	14.996	14.524	+.001/- .027	0.236	0.105
-428	5.398	4.926	+.001/- .009	0.236	0.105	-459	15.496	15.024	+.001/- .029	0.236	0.105
-429	5.523	5.051	+.001/- .009	0.236	0.105	-460	15.996	15.524	+.001/- .029	0.236	0.105