TRELLEBORG
SEALING SOLUTIONS

O-Rings

Tolerances acc. to ISO 3601-1:2008, class B

March 2009

Inch version

New dimensional tolerances for O-Rings acc. to ISO 3601-1:2008

Since 2008-11-18 the new dimensional tolerances acc. to ISO 3601-1:2008, class B apply for O-Rings from Trelleborg Sealing Solutions.

The tolerances for the cross section d_2 are listed in table 1. The tolerances for the inside diameters d_1 acc. to ISO 3601-1:2008, class B are calculated with the following formula:

$$\Delta d_1 = (d_1^{0.95} \times 0.009) + 0.11 \text{ [mm]}$$

This formula applies only for metric dimensions. It is necessary to calculate in millimeters and convert the results into inch. The tolerances for the inside diameters d_1 up to 49 inch are given in table 2.

Table 1 Cross section (d_2) tolerances acc. to the TSS standard TBS-00024, acc. to ISO 3601-1:2008, class B

Cross section d_2 (inch)	Tolerances ±
$d_2 \leq$ 0.031	on request
0.031 < $d_2 \leq$ 0.089	0.003
0.089 < $d_2 \leq$ 0. 177	0.004
0.177 < $d_2 \leq$ 0.248	0.005
0.248 < $d_2 \leq$ 0.331	0.006
0.331 < $d_2 \leq$ 0.394	0.008
0.394 < $d_2 \leq$ 0.472	0.010
$d_2 >$ 0.472	on request

Table 2 Tolerances for inside diameters d_1 acc. to the TSS standard TBS-00024, acc. to ISO 3601-1:2008, class B

Inside diameter d_1 (inch)	Tolerances ±
$d_1 \leq$ 0.138	0.005
0.138 < $d_1 \leq$ 0.265	0.006
0.265 < $d_1 \leq$ 0.395	0.007
0.395 < $d_1 \leq$ 0.527	0.008
0.527 < $d_1 \leq$ 0.661	0.009
0.661 < $d_1 \leq$ 0.796	0.010
0.796 < $d_1 \leq$ 0.933	0.011
0.933 < $d_1 \leq$ 1.070	0.012
1.070 < $d_1 \leq$ 1.209	0.013
1.209 < $d_1 \leq$ 1.348	0.014
1.348 < $d_1 \leq$ 1.488	0.015
1.488 < $d_1 \leq$ 1.628	0.016
1.628 < $d_1 \leq$ 1.769	0.017
1.769 < $d_1 \leq$ 1.911	0.018
1.911 < $d_1 \leq$ 2.053	0.019
2.053 < $d_1 \leq$ 2.196	0.020
2.196 < $d_1 \leq$ 2.339	0.021
2.339 < $d_1 \leq$ 2.483	0.022
2.483 < $d_1 \leq$ 2.627	0.023
2.627 < $d_1 \leq$ 2.772	0.024
2.772 < $d_1 \leq$ 2.917	0.025
2.917 < $d_1 \leq$ 3.062	0.026
3.062 < $d_1 \leq$ 3.207	0.027
3.207 < $d_1 \leq$ 3.353	0.028
3.353 < $d_1 \leq$ 3.500	0.029
3.500 < $d_1 \leq$ 3.646	0.030
3.646 < $d_1 \leq$ 3.793	0.031
3.793 < $d_1 \leq$ 3.940	0.032
3.940 < $d_1 \leq$ 4.087	0.033
4.087 < $d_1 \leq$ 4.235	0.034
4.235 < $d_1 \leq$ 4.383	0.035
4.383 < $d_1 \leq$ 4.531	0.036
4.531 < $d_1 \leq$ 4.680	0.037
4.680 < $d_1 \leq$ 4.828	0.038
4.828 < $d_1 \leq$ 4.977	0.039
4.977 < $d_1 \leq$ 5.126	0.040
5.126 < $d_1 \leq$ 5.275	0.041
5.275 < $d_1 \leq$ 5.425	0.042
5.425 < $d_1 \leq$ 5.575	0.043
5.575 < $d_1 \leq$ 5.725	0.044

Inside diameter d_1 (inch)	Tolerances ±
5.725 < d_1 ≤ 5.875	0.045
5.875 < d_1 ≤ 6.025	0.046
6.025 < d_1 ≤ 6.176	0.047
6.176 < d_1 ≤ 6.326	0.048
6.326 < d_1 ≤ 6.477	0.049
6.477 < d_1 ≤ 6.628	0.050
6.628 < d_1 ≤ 6.779	0.051
6.779 < d_1 ≤ 6.931	0.052
6.931 < d_1 ≤ 7.082	0.053
7.082 < d_1 ≤ 7.234	0.054
7.234 < d_1 ≤ 7.386	0.055
7.386 < d_1 ≤ 7.538	0.056
7.538 < d_1 ≤ 7.690	0.057
7.690 < d_1 ≤ 7.842	0.058
7.842 < d_1 ≤ 7.995	0.059
7.995 < d_1 ≤ 8.147	0.060
8.147 < d_1 ≤ 8.300	0.061
8.300 < d_1 ≤ 8.453	0.062
8.453 < d_1 ≤ 8.606	0.063
8.606 < d_1 ≤ 8.759	0.064
8.759 < d_1 ≤ 8.913	0.065
8.913 < d_1 ≤ 9.066	0.066
9.066 < d_1 ≤ 9.220	0.067
9.220 < d_1 ≤ 9.373	0.068
9.373 < d_1 ≤ 9.527	0.069
9.527 < d_1 ≤ 9.681	0.070
9.681 < d_1 ≤ 9.835	0.071
9.835 < d_1 ≤ 9.990	0.072
9.990 < d_1 ≤ 10.144	0.073
10.144 < d_1 ≤ 10.298	0.074
10.298 < d_1 ≤ 10.453	0.075
10.453 < d_1 ≤ 10.607	0.076
10.607 < d_1 ≤ 10.762	0.077
10.762 < d_1 ≤ 10.917	0.078

Inside diameter d_1 (inch)	Tolerances ±
10.917 < d_1 ≤ 11.072	0.079
11.072 < d_1 ≤ 11.227	0.080
11.227 < d_1 ≤ 11.382	0.081
11.382 < d_1 ≤ 11.538	0.082
11.538 < d_1 ≤ 11.693	0.083
11.693 < d_1 ≤ 11.849	0.084
11.849 < d_1 ≤ 12.004	0.085
12.004 < d_1 ≤ 12.160	0.086
12.160 < d_1 ≤ 12.316	0.087
12.316 < d_1 ≤ 12.472	0.088
12.472 < d_1 ≤ 12.628	0.089
12.628 < d_1 ≤ 12.784	0.090
12.784 < d_1 ≤ 12.940	0.091
12.940 < d_1 ≤ 13.097	0.092
13.097 < d_1 ≤ 13.253	0.093
13.253 < d_1 ≤ 13.410	0.094
13.410 < d_1 ≤ 13.566	0.095
13.566 < d_1 ≤ 13.723	0.096
13.723 < d_1 ≤ 13.880	0.097
13.880 < d_1 ≤ 14.036	0.098
14.036 < d_1 ≤ 14.193	0.099
14.193 < d_1 ≤ 14.350	0.100
14.350 < d_1 ≤ 14.508	0.101
14.508 < d_1 ≤ 14.665	0.102
14.665 < d_1 ≤ 14.822	0.103
14.822 < d_1 ≤ 14.979	0.104
14.979 < d_1 ≤ 15.137	0.105
15.137 < d_1 ≤ 15.294	0.106
15.294 < d_1 ≤ 15.452	0.107
15.452 < d_1 ≤ 15.610	0.108
15.610 < d_1 ≤ 15.768	0.109
15.768 < d_1 ≤ 15.925	0.110
15.925 < d_1 ≤ 16.083	0.111
16.083 < d_1 ≤ 16.241	0.112

Inside diameter d_1 (inch)	Tolerances ±
16.241 < d_1 ≤ 16.399	0.113
16.399 < d_1 ≤ 16.558	0.114
16.558 < d_1 ≤ 16.716	0.115
16.716 < d_1 ≤ 16.874	0.116
16.874 < d_1 ≤ 17.033	0.117
17.033 < d_1 ≤ 17.191	0.118
17.191 < d_1 ≤ 17.350	0.119
17.350 < d_1 ≤ 17.508	0.120
17.508 < d_1 ≤ 17.667	0.121
17.667 < d_1 ≤ 17.826	0.122
17.826 < d_1 ≤ 17.984	0.123
17.984 < d_1 ≤ 18.143	0.124
18.143 < d_1 ≤ 18.302	0.125
18.302 < d_1 ≤ 18.461	0.126
18.461 < d_1 ≤ 18.620	0.127
18.620 < d_1 ≤ 18.780	0.128
18.780 < d_1 ≤ 18.939	0.129
18.939 < d_1 ≤ 19.098	0.130
19.098 < d_1 ≤ 19.258	0.131
19.258 < d_1 ≤ 19.417	0.132
19.417 < d_1 ≤ 19.576	0.133
19.576 < d_1 ≤ 19.736	0.134
19.736 < d_1 ≤ 19.896	0.135
19.896 < d_1 ≤ 20.055	0.136
20.055 < d_1 ≤ 20.215	0.137
20.215 < d_1 ≤ 20.375	0.138
20.375 < d_1 ≤ 20.535	0.139
20.535 < d_1 ≤ 20.695	0.140
20.695 < d_1 ≤ 20.855	0.141
20.855 < d_1 ≤ 21.015	0.142
21.015 < d_1 ≤ 21.175	0.143
21.175 < d_1 ≤ 21.335	0.144
21.335 < d_1 ≤ 21.495	0.145
21.495 < d_1 ≤ 21.656	0.146

Inside diameter d_1 (inch)	Tolerances ±
21.656 < d_1 ≤ 21.816	0.147
21.816 < d_1 ≤ 21.977	0.148
21.977 < d_1 ≤ 22.137	0.149
22.137 < d_1 ≤ 22.298	0.150
22.298 < d_1 ≤ 22.458	0.151
22.458 < d_1 ≤ 22.619	0.152
22.619 < d_1 ≤ 22.780	0.153
22.780 < d_1 ≤ 22.940	0.154
22.940 < d_1 ≤ 23.101	0.155
23.101 < d_1 ≤ 23.262	0.156
23.262 < d_1 ≤ 23.423	0.157
23.423 < d_1 ≤ 23.584	0.158
23.584 < d_1 ≤ 23.745	0.159
23.745 < d_1 ≤ 23.906	0.160
23.906 < d_1 ≤ 24.067	0.161
24.067 < d_1 ≤ 24.229	0.162
24.229 < d_1 ≤ 24.390	0.163
24.390 < d_1 ≤ 24.551	0.164
24.551 < d_1 ≤ 24.713	0.165
24.713 < d_1 ≤ 24.874	0.166
24.874 < d_1 ≤ 25.036	0.167
25.036 < d_1 ≤ 25.197	0.168
25.197 < d_1 ≤ 25.359	0.169
25.359 < d_1 ≤ 25.520	0.170
25.520 < d_1 ≤ 25.682	0.171
25.682 < d_1 ≤ 25.844	0.172
25.844 < d_1 ≤ 26.006	0.173
26.006 < d_1 ≤ 26.167	0.174
26.167 < d_1 ≤ 26.329	0.175
26.329 < d_1 ≤ 26.491	0.176
26.491 < d_1 ≤ 26.653	0.177
26.653 < d_1 ≤ 26.815	0.178
26.815 < d_1 ≤ 26.977	0.179
26.977 < d_1 ≤ 27.140	0.180

Inside diameter d_1 (inch)	Tolerances ±
27.140 < d_1 ≤ 27.302	0.181
27.302 < d_1 ≤ 27.464	0.182
27.464 < d_1 ≤ 27.626	0.183
27.626 < d_1 ≤ 27.789	0.184
27.789 < d_1 ≤ 27.951	0.185
27.951 < d_1 ≤ 28.113	0.186
28.113 < d_1 ≤ 28.276	0.187
28.276 < d_1 ≤ 28.438	0.188
28.438 < d_1 ≤ 28.601	0.189
28.601 < d_1 ≤ 28.764	0.190
28.764 < d_1 ≤ 28.926	0.191
28.926 < d_1 ≤ 29.089	0.192
29.089 < d_1 ≤ 29.252	0.193
29.252 < d_1 ≤ 29.414	0.194
29.414 < d_1 ≤ 29.577	0.195
29.577 < d_1 ≤ 29.740	0.196
29.740 < d_1 ≤ 29.903	0.197
29.903 < d_1 ≤ 30.066	0.198
30.066 < d_1 ≤ 30.229	0.199
30.229 < d_1 ≤ 30.392	0.200
30.392 < d_1 ≤ 30.555	0.201
30.555 < d_1 ≤ 30.718	0.202
30.718 < d_1 ≤ 30.882	0.203
30.882 < d_1 ≤ 31.045	0.204
31.045 < d_1 ≤ 31.208	0.205
31.208 < d_1 ≤ 31.371	0.206
31.371 < d_1 ≤ 31.535	0.207
31.535 < d_1 ≤ 31.698	0.208
31.698 < d_1 ≤ 31.862	0.209
31.862 < d_1 ≤ 32.025	0.210
32.025 < d_1 ≤ 32.189	0.211
32.189 < d_1 ≤ 32.352	0.212
32.352 < d_1 ≤ 32.516	0.213
32.516 < d_1 ≤ 32.680	0.214

Inside diameter d_1 (inch)	Tolerances ±
32.680 < d_1 ≤ 32.843	0.215
32.843 < d_1 ≤ 33.007	0.216
33.007 < d_1 ≤ 33.171	0.217
33.171 < d_1 ≤ 33.335	0.218
33.335 < d_1 ≤ 33.498	0.219
33.498 < d_1 ≤ 33.662	0.220
33.662 < d_1 ≤ 33.826	0.221
33.826 < d_1 ≤ 33.990	0.222
33.990 < d_1 ≤ 34.154	0.223
34.154 < d_1 ≤ 34.318	0.224
34.318 < d_1 ≤ 34.482	0.225
34.482 < d_1 ≤ 34.647	0.226
34.647 < d_1 ≤ 34.811	0.227
34.811 < d_1 ≤ 34.975	0.228
34.975 < d_1 ≤ 35.139	0.229
35.139 < d_1 ≤ 35.304	0.230
35.304 < d_1 ≤ 35.468	0.231
35.468 < d_1 ≤ 35.632	0.232
35.632 < d_1 ≤ 35.797	0.233
35.797 < d_1 ≤ 35.961	0.234
35.961 < d_1 ≤ 36.126	0.235
36.126 < d_1 ≤ 36.290	0.236
36.290 < d_1 ≤ 36.455	0.237
36.455 < d_1 ≤ 36.619	0.238
36.619 < d_1 ≤ 36.784	0.239
36.784 < d_1 ≤ 36.949	0.240
36.949 < d_1 ≤ 37.113	0.241
37.113 < d_1 ≤ 37.278	0.242
37.278 < d_1 ≤ 37.443	0.243
37.443 < d_1 ≤ 37.608	0.244
37.608 < d_1 ≤ 37.772	0.245
37.772 < d_1 ≤ 37.937	0.246
37.937 < d_1 ≤ 38.102	0.247
38.102 < d_1 ≤ 38.267	0.248

Inside diameter d_1 (inch)					Tolerances ±
38.267	<	d_1	≤	38.432	0.249
38.432	<	d_1	≤	38.597	0.250
38.597	<	d_1	≤	38.762	0.251
38.762	<	d_1	≤	38.927	0.252
38.927	<	d_1	≤	39.092	0.253
39.092	<	d_1	≤	39.258	0.254
39.258	<	d_1	≤	39.423	0.255
39.423	<	d_1	≤	39.588	0.256
39.588	<	d_1	≤	39.753	0.257
39.753	<	d_1	≤	39.919	0.258
39.919	<	d_1	≤	40.084	0.259
40.084	<	d_1	≤	40.249	0.260
40.249	<	d_1	≤	40.415	0.261
40.415	<	d_1	≤	40.580	0.262
40.580	<	d_1	≤	40.746	0.263
40.746	<	d_1	≤	40.911	0.264
40.911	<	d_1	≤	41.077	0.265
41.077	<	d_1	≤	41.242	0.266
41.242	<	d_1	≤	41.408	0.267
41.408	<	d_1	≤	41.574	0.268
41.574	<	d_1	≤	41.739	0.269
41.739	<	d_1	≤	41.905	0.270
41.905	<	d_1	≤	42.071	0.271
42.071	<	d_1	≤	42.236	0.272
42.236	<	d_1	≤	42.402	0.273
42.402	<	d_1	≤	42.568	0.274
42.568	<	d_1	≤	42.734	0.275
42.734	<	d_1	≤	42.900	0.276
42.900	<	d_1	≤	43.066	0.277
43.066	<	d_1	≤	43.232	0.278
43.232	<	d_1	≤	43.398	0.279
43.398	<	d_1	≤	43.564	0.280
43.564	<	d_1	≤	43.730	0.281
43.730	<	d_1	≤	43.896	0.282

Inside diameter d_1 (inch)					Tolerances ±
43.896	<	d_1	≤	44.062	0.283
44.062	<	d_1	≤	44.228	0.284
44.228	<	d_1	≤	44.394	0.285
44.394	<	d_1	≤	44.561	0.286
44.561	<	d_1	≤	44.727	0.287
44.727	<	d_1	≤	44.893	0.288
44.893	<	d_1	≤	45.060	0.289
45.060	<	d_1	≤	45.226	0.290
45.226	<	d_1	≤	45.392	0.291
45.392	<	d_1	≤	45.559	0.292
45.559	<	d_1	≤	45.725	0.293
45.725	<	d_1	≤	45.892	0.294
45.892	<	d_1	≤	46.058	0.295
46.058	<	d_1	≤	46.225	0.296
46.225	<	d_1	≤	46.391	0.297
46.391	<	d_1	≤	46.558	0.298
46.558	<	d_1	≤	46.724	0.299
46.724	<	d_1	≤	46.891	0.300
46.891	<	d_1	≤	47.058	0.301
47.058	<	d_1	≤	47.224	0.302
47.224	<	d_1	≤	47.391	0.303
47.391	<	d_1	≤	47.558	0.304
47.558	<	d_1	≤	47.725	0.305
47.725	<	d_1	≤	47.891	0.306
47.891	<	d_1	≤	48.058	0.307
48.058	<	d_1	≤	48.225	0.308
48.225	<	d_1	≤	48.392	0.309
48.392	<	d_1	≤	48.559	0.310
48.559	<	d_1	≤	48.726	0.311
48.726	<	d_1	≤	48.893	0.312
48.893	<	d_1	≤	49.000	0.313
		d_1	>	49.000	acc. to formula