



Table 19: Surface finish

Type of load	Surface	Rt µm	Rz µm	Ra µm
Axial-static	Mating surface	≤ 10.0	≤ 6.3	≤ 1.6
	Groove surface (groove bottom, groove flanks)	≤ 16.0	≤ 6.3	≤ 1.6
Under pulsating pressures	Mating surface	≤ 6.3	≤ 6.3	≤ 0.8
	Groove surface (groove bottom, groove flanks)	≤ 10.0	≤ 6.3	≤ 1.6

TESTING DATA

Dualseal operated without leakage and was highly extrusion resistant under the test conditions given in Table 20.

Table 20: Dualseal test conditions

	High pressure test	Pressure pulsation test
Pressure	40/52 MPa	30 MPa
Temperature	+100 °C / +80 °C	+60 °C (max. tank temperature)
Media	Hydraulic oil HLP 46	Hydraulic oil HLP 46
Test duration	72 h	500,000 Pressure pulsations

DESIGN INSTRUCTIONS

Correct design can help to eliminate possible sources of damage and seal failure from the outset.

Lead-in chamfers

Because Dualseal are squeezed during installation, lead-in chamfers and rounded edges are necessary.

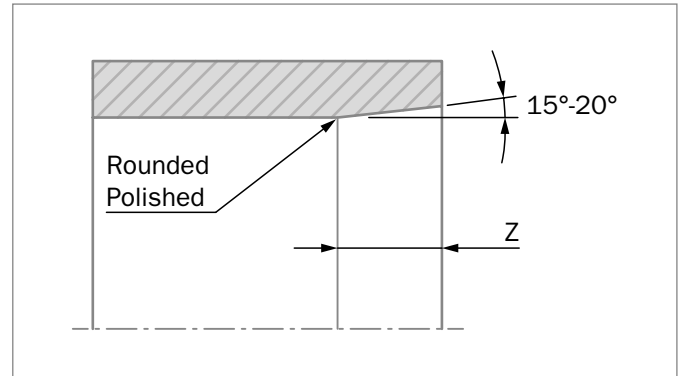


Figure 29: Lead-in chamfers

The minimum length of the lead-in chamfer is listed below as a function of groove depth:

- Z = 3 mm for groove depth < 2.7 mm
- Z = 5 mm for groove depth > 2.7 mm and ≤ 5.8 mm
- Z = 6 mm for groove depth > 5.8 mm

Radial Clearance

Cylinder bore/gland fit H8/g6 is recommended.

Due to the high extrusion resistance of Zurcon® materials, a larger radial clearance can be used, depending on the maximum pressure and temperature in the application.

MATERIALS

Zurcon® Polyurethane has high abrasion resistance, a low compression set, high extrusion resistance and a wide temperature range.

Zurcon® Z20 Standard Polyurethane 93 Shore A
 Temperature: -35 °C to +110 °C
 Colour: Turquoise

Zurcon® Z22 Premium Polyurethane 93 Shore A
 Temperature: -50 °C to +110 °C
 Colour: Dark petrol

Other premium Zurcon® material grades that are able to extend temperature range or increase hydrolysis resistance are available on request.



Installation Recommendation Dualseal

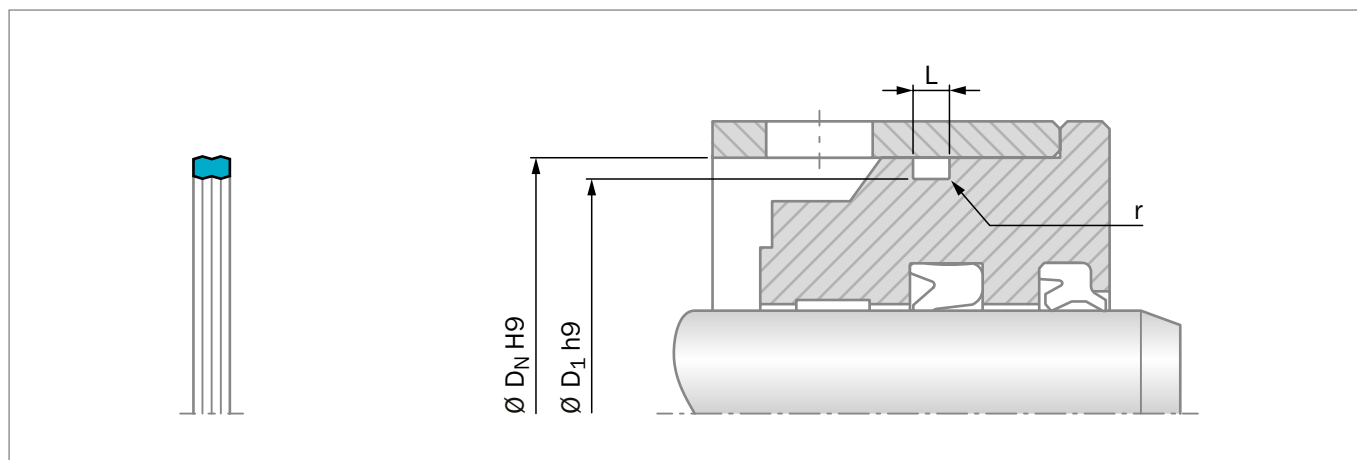


Figure 30: Installation drawing

Table 21: Installation Dimensions / TSS Part Numbers

Bore Dia.	Groove Dia.	Groove Width	Groove Radius	TSS Part No.	Bore Dia.	Groove Dia.	Groove Width	Groove Radius	TSS Part No.
D_N H8	D_1 H9	L +0.2	R +0.1		D_N H8	D_1 H9	L +0.2	R +0.1	
10.0	7.6	3.6	0.3	DU0000100	21.5	18.1	4.4	0.3	DU0000215
11.0	8.6	2.6	0.3	DU0000110	22.0	19.6	3.6	0.3	DU0000220
12.0	9.6	2.2	0.3	DU0100120	23.0	20.6	3.6	0.3	DU0000230
12.0	9.6	3.6	0.3	DU0000120	23.0	19.6	4.4	0.3	DU0100230
14.0	10.9	2.5	0.3	DU0000141	24.0	21.6	3.6	0.3	DU0100240
15.0	12.6	3.6	0.3	DU0000150	24.0	20.0	4.8	0.3	DU0000240
15.5	13.1	3.6	0.3	DU0000155	26.0	22.0	4.4	0.3	DU0000260
16.0	13.6	3.6	0.3	DU0000160	26.8	22.0	5.4	0.3	DU0000268
16.6	12.0	3.1	0.3	DU0000166	28.0	23.4	6.0	0.3	DU0100280
17.0	14.6	2.6	0.3	DU0000170	28.0	23.0	5.3	0.3	DU0000280
17.0	14.6	3.4	0.3	DU0100170	28.6	25.6	3.6	0.3	DU0000286
17.5	15.1	3.4	0.3	DU0100175	30.0	25.1	4.4	0.3	DU0000300
18.0	15.6	3.6	0.3	DU0000180	31.0	26.4	5.0	0.3	DU0000310
18.0	14.0	5.8	0.3	DU0100180	32.0	27.4	5.4	0.3	DU0000320
19.0	16.6	2.6	0.3	DU0200190	34.0	31.1	3.6	0.3	DU0100340
19.0	16.6	3.6	0.3	DU0300190	34.0	28.4	5.3	0.3	DU0000340
19.0	15.8	3.6	0.3	DU0400190	35.0	30.4	5.0	0.3	DU0000350
19.0	15.6	3.6	0.3	DU0000190	35.5	30.9	5.0	0.3	DU0000355
19.0	15.6	4.4	0.3	DU0100190	36.0	32.0	6.2	0.3	DU0000360
20.0	17.6	3.6	0.3	DU0400200	38.0	35.2	4.8	0.3	DU0100380
20.0	16.6	4.4	0.3	DU0100200	38.0	32.4	5.3	0.3	DU0000380
20.0	16.0	5.8	0.3	DU0000200	38.6	34.0	4.0	0.3	DU0000386
21.0	18.6	3.6	0.3	DU0100210	40.0	35.4	5.4	0.3	DU0100400
21.0	17.6	4.4	0.3	DU0000210	40.0	35.2	5.4	0.3	DU0000400



Bore Dia.	Groove Dia.	Groove Width	Groove Radius	TSS Part No.	Bore Dia.	Groove Dia.	Groove Width	Groove Radius	TSS Part No.
D _N H8	D ₁ H9	L +0.2	R +0.1		D _N H8	D ₁ H9	L +0.2	R +0.1	
42.0	36.4	4.8	0.3	DU0000420	80.0	75.4	5.4	0.3	DU0500800
43.4	37.8	6.2	0.3	DU0000434	80.0	74.4	5.3	0.3	DU0300800
45.0	40.0	5.4	0.3	DU0000450	80.0	74.3	5.3	0.3	DU0900800
45.6	41.0	4.0	0.3	DU0000456	80.0	73.8	6.9	0.3	DU0200800
48.0	44.4	4.5	0.3	DU0100480	80.0	73.6	6.4	0.3	DU0100800
50.0	45.4	3.9	0.3	DU0400500	80.0	70.8	9.0	0.6	DU0400800
50.0	45.4	5.4	0.3	DU0200500	80.6	76.0	4.0	0.3	DU0000806
50.0	44.6	6.2	0.3	DU0100500	85.0	79.4	5.3	0.3	DU0000850
50.0	44.4	5.3	0.3	DU0600500	85.1	80.5	3.9	0.3	DU0000851
50.0	44.3	5.3	0.3	DU0700500	86.4	80.0	5.5	0.3	DU0000864
50.0	43.8	5.6	0.3	DU0300500	90.0	84.4	4.8	0.3	DU0200900
52.0	47.9	3.6	0.3	DU0000520	90.0	83.0	6.5	0.3	DU0100900
55.0	51.0	3.6	0.3	DU0200550	90.0	81.4	9.0	0.6	DU0000900
55.0	49.9	5.3	0.3	DU0100550	93.0	87.4	5.3	0.3	DU0000930
55.0	49.6	6.2	0.3	DU0000550	94.0	89.5	3.8	0.3	DU0000940
57.0	52.2	4.1	0.3	DU0000570	95.0	89.4	6.2	0.3	DU0000950
60.0	55.0	5.3	0.3	DU0400600	100.0	94.3	5.3	0.3	DU0401000
60.0	54.6	6.2	0.3	DU0200600	100.0	93.8	6.9	0.3	DU0301000
60.0	54.4	5.8	0.3	DU0100600	100.0	91.6	8.6	0.3	DU0201000
63.0	58.4	5.4	0.3	DU0400630	100.0	91.4	9.0	0.6	DU0101000
63.0	57.6	6.2	0.3	DU0300630	100.0	90.8	9.7	0.6	DU0001000
63.0	57.4	4.8	0.3	DU0200630	101.0	96.0	5.0	0.3	DU0001010
63.0	57.3	5.3	0.3	DU0500630	101.0	94.6	6.7	0.3	DU0201010
63.0	56.6	6.4	0.3	DU0100630	102.0	95.8	6.2	0.3	DU0001020
65.0	60.4	5.0	0.3	DU0200650	104.0	99.5	3.8	0.3	DU0001040
65.0	59.6	6.2	0.3	DU0100650	108.0	98.9	7.2	0.6	DU0000988
65.0	59.4	5.0	0.3	DU0000650	110.0	104.5	4.5	0.3	DU0201100
68.0	62.7	5.0	0.3	DU0000680	110.0	101.4	9.0	0.6	DU0001100
69.6	65.0	3.9	0.3	DU0000696	111.4	105.0	5.5	0.3	DU0001114
70.0	65.0	5.0	0.3	DU0100700	112.0	105.8	6.2	0.3	DU0001120
70.0	64.6	6.2	0.3	DU0000700	113.0	107.4	5.3	0.3	DU0001130
70.0	61.3	8.0	0.6	DU0200700	115.0	107.0	6.5	0.3	DU0101150
72.0	66.4	5.0	0.3	DU0000720	115.0	106.6	8.6	0.3	DU0001150
72.6	68.0	3.8	0.3	DU0000726	117.0	108.4	9.0	0.6	DU0001170
73.5	70.0	5.0	0.3	DU0000735	120.0	113.0	6.0	0.3	DU0001200
74.6	70.0	3.8	0.3	DU0000746	120.0	111.6	8.6	0.3	DU0201200
75.0	69.6	6.2	0.3	DU0100750	125.0	119.8	6.8	0.3	DU0401250
75.0	69.4	5.3	0.3	DU0000750	125.0	119.3	5.3	0.3	DU0301250
76.4	70.0	5.5	0.3	DU0000764	125.0	116.6	8.6	0.3	DU0201250
77.0	70.8	6.2	0.3	DU0000770	125.0	116.4	9.0	0.6	DU0101250
78.0	73.0	5.0	0.3	DU0000780	125.0	115.8	9.7	0.6	DU0001250
80.0	76.0	3.6	0.3	DU0600800	127.7	122.0	5.4	0.3	DU0001277



Bore Dia.	Groove Dia.	Groove Width	Groove Radius	TSS Part No.	Bore Dia.	Groove Dia.	Groove Width	Groove Radius	TSS Part No.
D_N H8	D_1 H9	L +0.2	R +0.1		D_N H8	D_1 H9	L +0.2	R +0.1	
128.0	119.6	8.6	0.3	DU0101280	165.0	155.8	9.7	0.6	DU0201650
133.0	124.6	8.6	0.3	DU0001330	170.0	160.8	9.7	0.6	DU0101700
133.4	125.0	7.0	0.3	DU0001334	170.0	158.4	12.3	0.6	DU0001700
137.0	128.6	8.6	0.3	DU0101370	180.0	171.6	8.6	0.3	DU0101800
140.0	134.6	8.6	0.3	DU0101400	180.0	168.4	12.3	0.6	DU0001800
140.0	130.8	9.7	0.6	DU0201400	188.2	180.0	7.0	0.3	DU0001882
140.0	128.4	12.3	0.6	DU0001400	188.6	180.0	9.0	0.6	DU0001886
148.4	140.0	7.0	0.3	DU0001484	190.0	178.4	12.3	0.6	DU0001900
150.0	141.6	8.6	0.3	DU0101500	200.0	194.3	5.3	0.3	DU0302000
150.0	140.8	9.7	0.6	DU0201500	200.0	191.6	8.6	0.3	DU0102000
150.0	138.4	12.3	0.6	DU0001500	200.0	188.4	12.3	0.6	DU0002000
158.4	150.0	7.0	0.3	DU0001584	208.6	200.0	9.0	0.6	DU0002086
160.0	154.3	5.3	0.3	DU0201600	225.0	213.0	10.9	0.6	DU0002250
160.0	150.8	9.7	0.6	DU0101600	228.6	220.0	9.0	0.6	DU0102286
160.0	148.4	12.3	0.6	DU0001600	250.0	238.0	10.9	0.6	DU0002500
165.0	156.6	8.6	0.3	DU0101650					

Other sizes available on request.

This table shows the possible range of available Dualseal dimensions. Not all sizes will always be available in stock. Contact your local Customer Solution Center for recommendations specific to your application.