

# WEAR RINGS

## BECA

### 006 Rod



#### DESCRIPTION

The BECA 006 profile is a machined guide ring with a 30° angle cut as standard made from filled PTFE or PE-UHMW, depending on the type of application. Embossed rings are also offered. The embossing is a set of lubricant pockets, which improves the friction. Other types of cuts can be made.

#### ADVANTAGES

- Substantial and improved lubrication conditions through the tear structures
- Very good friction coefficient; no stick-slip effect
- Good wear resistance; very long life
- Increased absorption of foreign particles
- Good vibration absorption
- No water absorption for the PE-UHMW

#### APPLICATIONS

- Agriculture
- Food & Beverage
- Shock absorbers
- Maintenance
- Dry applications
- Injection presses
- Pneumatics
- Presses
- Robotics
- Standard cylinders

#### MATERIALS

- Bronze-filled PTFE
- Carbon-filled PTFE
- PE-UHMW

Other grades of materials are available. Please contact our experts.

#### TECHNICAL DATA

<b>Temperature</b>	PTFE: -60°C / +150°C PE-UHMW: -60°C / +80°C
<b>Speed</b>	PTFE: 15 m/s PE-UHMW: 2 m/s
<b>Media</b>	Mineral hydraulic oils Biocompatible fluids Water Air Others (contact our experts)
<b>Max. compression resistance</b>	30 to 35 N/mm <sup>2</sup>
<b>Radial loads in dynamic applications</b>	Filled PTFE: 15 N/mm <sup>2</sup> at 25°C 12 N/mm <sup>2</sup> at 80°C 8 N/mm <sup>2</sup> at 120°C PE-UHMW: 25 N/mm <sup>2</sup> at 25°C 10 N/mm <sup>2</sup> at 80°C

The figures above indicate the maximum values and may not be cumulated. They may be developed, depending on the materials used.

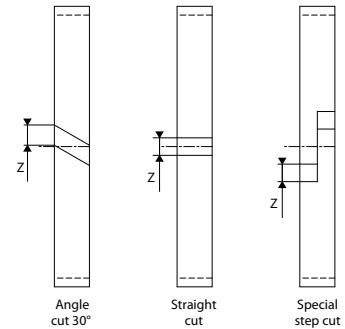
#### WEAR RING HEIGHT DIMENSIONING

$$H = (F \times f) / (\varnothing d1 \times Cr)$$

where:

- H = Min. height of guide (mm)
- F = Max. radial force (N)
- f = Safety coefficient (we recommend 2)
- ∅d1 = Rod diameter (mm)
- Cr = Permissible radial load in dynamic applications (N/mm<sup>2</sup>)

#### TYPES OF CUT



#### EXTRUSION GAPS

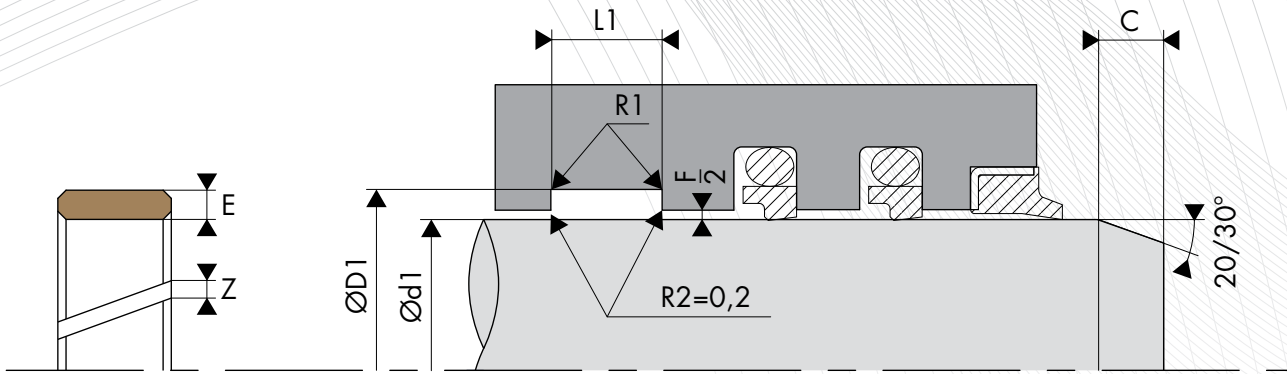
Rod diameter ∅d1	Min. radial gap F/2 min	Max. radial gap F/2 min
8.0 - 20.0	0.20	0.30
21.0 - 100.0	0.25	0.40
101.0 - 250.0	0.30	0.60
251.0 - 500.0	0.40	0.80
501.0 - 1000.0	0.50	1.10
> 1000.0	0.50	1.20

#### SURFACE ROUGHNESS

Roughness	Dynamic surface area	Static surface area	Groove flanks
Ra	0.05 - 0.2 µm	≤1.6 µm	≤3.2 µm
Rz	0.4 - 1.6 µm	≤6.3 µm	≤10.0 µm
Rmax	0.63 - 2.5 µm	≤10.0 µm	≤16.0 µm

#### RADIUS

Rod diameter ∅d1	Radius R1
≤ 250.0	0.20
> 250.0	0.40



### INSTALLATION DIMENSIONS

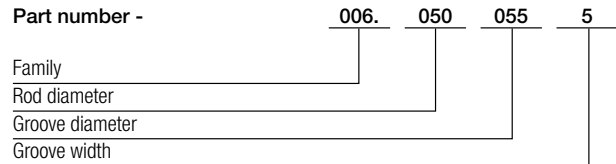
ISO 10766	Rod diameter Ød1 f8/h9	Groove diameter ØD1 H8	Groove width L1 0/+0.20	Seal thickness E	Gap Z +/-0.50
*	8.0 - 20.0	d1 + 3.10	2.50	1.55	1.00
*	10.0 - 50.0	d1 + 3.10	4.00	1.55	1.00
*	15.0 - 140.0	d1 + 5.00	5.60	2.50	1.25
*	20.0 - 220.0	d1 + 5.00	9.70	2.50	1.25
*	80.0 - 400.0	d1 + 5.00	15.00	2.50	1.25
*	200.0 - 999.9	d1 + 5.00	25.00	2.50	1.25
*	280.0 - 999.9	d1 + 8.00	25.00	4.00	2.00

Other dimensions are possible, not taking ISO 10766 into consideration. Please contact our experts

### EXAMPLE OF CODIFICATION

#### STANDARD CODIFICATION

**Material** \_\_\_\_\_ : Bronze-filled PTFE  
**Rod diameter** \_\_\_\_\_ : d1 = 50.00 mm  
**Groove diameter** \_\_\_\_\_ : D1 = 55.00 mm  
**Groove width** \_\_\_\_\_ : L1 = 5.60 mm  
**Part number** \_\_\_\_\_ : 006.0500555



\* The codes that define the materials are set out in the materials table.

 DIMENSIONS

Part number	Rod diameter Ød1 f8/h9	Groove diameter ØD1 H8	Groove width L1 0/+0.20	Seal thickness E
006.0081114	8.00	11.10	4.00	1.55
006.0101314	10.00	13.10	4.00	1.55
<b>006.0121514</b>	<b>12.00</b>	<b>15.10</b>	<b>4.00</b>	<b>1.55</b>
<b>006.0141714</b>	<b>14.00</b>	<b>17.10</b>	<b>4.00</b>	<b>1.55</b>
006.0151814	15.00	18.10	4.00	1.55
<b>006.0161914</b>	<b>16.00</b>	<b>19.10</b>	<b>4.00</b>	<b>1.55</b>
<b>006.0182114</b>	<b>18.00</b>	<b>21.10</b>	<b>4.00</b>	<b>1.55</b>
<b>006.0202314</b>	<b>20.00</b>	<b>23.10</b>	<b>4.00</b>	<b>1.55</b>
<b>006.0222514</b>	<b>22.00</b>	<b>25.10</b>	<b>4.00</b>	<b>1.55</b>
<b>006.0252814</b>	<b>25.00</b>	<b>28.10</b>	<b>4.00</b>	<b>1.55</b>
<b>006.0250305</b>	<b>25.00</b>	<b>30.00</b>	<b>5.60</b>	<b>2.50</b>
006.0273014	27.00	30.10	4.00	1.55
006.0270325	27.00	32.00	5.60	2.50
<b>006.0283114</b>	<b>28.00</b>	<b>31.10</b>	<b>4.00</b>	<b>1.55</b>
<b>006.0280335</b>	<b>28.00</b>	<b>33.00</b>	<b>5.60</b>	<b>2.50</b>
006.0303314	30.00	33.10	4.00	1.55
006.0300355	30.00	35.00	5.60	2.50
006.0300359	30.00	35.00	9.70	2.50
006.0323514	32.00	35.10	4.00	1.55
<b>006.0320375</b>	<b>32.00</b>	<b>37.00</b>	<b>5.60</b>	<b>2.50</b>
<b>006.0320379</b>	<b>32.00</b>	<b>37.00</b>	<b>9.70</b>	<b>2.50</b>
006.0333614	33.00	36.10	4.00	1.55
006.0330385	33.00	38.00	5.60	2.50
006.0330389	33.00	38.00	9.70	2.50
006.0353814	35.00	38.10	4.00	1.55
006.0350405	35.00	40.00	5.60	2.50
006.0350409	35.00	40.00	9.70	2.50
006.0363914	36.00	39.10	4.00	1.55
<b>006.0360415</b>	<b>36.00</b>	<b>41.00</b>	<b>5.60</b>	<b>2.50</b>
<b>006.0360419</b>	<b>36.00</b>	<b>41.00</b>	<b>9.70</b>	<b>2.50</b>
006.0374014	37.00	40.10	4.00	1.55
006.0370425	37.00	42.00	5.60	2.50
006.0370429	37.00	42.00	9.70	2.50
006.0384114	38.00	41.10	4.00	1.55
006.0380435	38.00	43.00	5.60	2.50
006.0380439	38.00	43.00	9.70	2.50
006.0404314	40.00	43.10	4.00	1.55
<b>006.0400455</b>	<b>40.00</b>	<b>45.00</b>	<b>5.60</b>	<b>2.50</b>
<b>006.0400459</b>	<b>40.00</b>	<b>45.00</b>	<b>9.70</b>	<b>2.50</b>
006.0414414	41.00	44.10	4.00	1.55
006.0410465	41.00	46.00	5.60	2.50
006.0410469	41.00	46.00	9.70	2.50
006.0424514	42.00	45.10	4.00	1.55
006.0420475	42.00	47.00	5.60	2.50
006.0420479	42.00	47.00	9.70	2.50
006.0454814	45.00	48.10	4.00	1.55
<b>006.0450505</b>	<b>45.00</b>	<b>50.00</b>	<b>5.60</b>	<b>2.50</b>
<b>006.0450509</b>	<b>45.00</b>	<b>50.00</b>	<b>9.70</b>	<b>2.50</b>
006.0485114	48.00	51.10	4.00	1.55
006.0480535	48.00	53.00	5.60	2.50
006.0480539	48.00	53.00	9.70	2.50
006.0505314	50.00	53.10	4.00	1.55
<b>006.0500555</b>	<b>50.00</b>	<b>55.00</b>	<b>5.60</b>	<b>2.50</b>
<b>006.0500559</b>	<b>50.00</b>	<b>55.00</b>	<b>9.70</b>	<b>2.50</b>
006.0520575	52.00	57.00	5.60	2.50
006.0520579	52.00	57.00	9.70	2.50
006.0550605	55.00	60.00	5.60	2.50
006.0550609	55.00	60.00	9.70	2.50
006.0580635	58.00	63.00	5.60	2.50
006.0580639	58.00	63.00	9.70	2.50
006.0600655	60.00	65.00	5.60	2.50
006.0600659	60.00	65.00	9.70	2.50

Part number	Rod diameter Ød1 f8/h9	Groove diameter ØD1 H8	Groove width L1 0/+0.20	Seal thickness E
006.0610665	61.00	66.00	5.60	2.50
006.0610669	61.00	66.00	9.70	2.50
<b>006.0630685</b>	<b>63.00</b>	<b>68.00</b>	<b>5.60</b>	<b>2.50</b>
<b>006.0630689</b>	<b>63.00</b>	<b>68.00</b>	<b>9.70</b>	<b>2.50</b>
006.0650705	65.00	70.00	5.60	2.50
006.0650709	65.00	70.00	9.70	2.50
006.0680735	68.00	73.00	5.60	2.50
006.0680739	68.00	73.00	9.70	2.50
<b>006.0700755</b>	<b>70.00</b>	<b>75.00</b>	<b>5.60</b>	<b>2.50</b>
<b>006.0700759</b>	<b>70.00</b>	<b>75.00</b>	<b>9.70</b>	<b>2.50</b>
006.0720779	72.00	77.00	9.70	2.50
006.0750809	75.00	80.00	9.70	2.50
006.0780839	78.00	83.00	9.70	2.50
<b>006.0800859</b>	<b>80.00</b>	<b>85.00</b>	<b>9.70</b>	<b>2.50</b>
<b>006.0800851</b>	<b>80.00</b>	<b>85.00</b>	<b>15.00</b>	<b>2.50</b>
006.0850909	85.00	90.00	9.70	2.50
006.0850901	85.00	90.00	15.00	2.50
<b>006.0900959</b>	<b>90.00</b>	<b>95.00</b>	<b>9.70</b>	<b>2.50</b>
<b>006.0900951</b>	<b>90.00</b>	<b>95.00</b>	<b>15.00</b>	<b>2.50</b>
006.0951009	95.00	100.00	9.70	2.50
006.0951001	95.00	100.00	15.00	2.50
<b>006.1001059</b>	<b>100.00</b>	<b>105.00</b>	<b>9.70</b>	<b>2.50</b>
<b>006.1001051</b>	<b>100.00</b>	<b>105.00</b>	<b>15.00</b>	<b>2.50</b>
006.1051109	105.00	110.00	9.70	2.50
006.1051101	105.00	110.00	15.00	2.50
<b>006.1101159</b>	<b>110.00</b>	<b>115.00</b>	<b>9.70</b>	<b>2.50</b>
<b>006.1101151</b>	<b>110.00</b>	<b>115.00</b>	<b>15.00</b>	<b>2.50</b>
006.1151209	115.00	120.00	9.70	2.50
006.1151201	115.00	120.00	15.00	2.50
006.1201259	120.00	125.00	9.70	2.50
006.1201251	120.00	125.00	15.00	2.50
<b>006.1251309</b>	<b>125.00</b>	<b>130.00</b>	<b>9.70</b>	<b>2.50</b>
<b>006.1251301</b>	<b>125.00</b>	<b>130.00</b>	<b>15.00</b>	<b>2.50</b>
006.1301359	130.00	135.00	9.70	2.50
006.1301351	130.00	135.00	15.00	2.50
006.1351409	135.00	140.00	9.70	2.50
006.1351401	135.00	140.00	15.00	2.50
<b>006.1401459</b>	<b>140.00</b>	<b>145.00</b>	<b>9.70</b>	<b>2.50</b>
<b>006.1401451</b>	<b>140.00</b>	<b>145.00</b>	<b>15.00</b>	<b>2.50</b>
006.1451509	145.00	150.00	9.70	2.50
006.1451501	145.00	150.00	15.00	2.50
006.1501559	150.00	155.00	9.70	2.50
006.1501551	150.00	155.00	15.00	2.50
006.1551609	155.00	160.00	9.70	2.50
006.1551601	155.00	160.00	15.00	2.50
<b>006.1601659</b>	<b>160.00</b>	<b>165.00</b>	<b>9.70</b>	<b>2.50</b>
<b>006.1601651</b>	<b>160.00</b>	<b>165.00</b>	<b>15.00</b>	<b>2.50</b>
006.1651709	165.00	170.00	9.70	2.50
006.1651701	165.00	170.00	15.00	2.50
006.1701759	170.00	175.00	9.70	2.50
006.1701751	170.00	175.00	15.00	2.50
006.1751809	175.00	180.00	9.70	2.50
006.1751801	175.00	180.00	15.00	2.50
<b>006.1801859</b>	<b>180.00</b>	<b>185.00</b>	<b>9.70</b>	<b>2.50</b>
<b>006.1801851</b>	<b>180.00</b>	<b>185.00</b>	<b>15.00</b>	<b>2.50</b>
006.1851909	185.00	190.00	9.70	2.50
006.1851901	185.00	190.00	15.00	2.50
006.1901959	190.00	195.00	9.70	2.50
006.1901951	190.00	195.00	15.00	2.50
006.1952009	195.00	200.00	9.70	2.50
006.1952001	195.00	200.00	15.00	2.50
006.2002059	200.00	205.00	9.70	2.50

Part number	Rod diameter Ød1 f8/h9	Groove diameter ØD1 H8	Groove width L1 0/+0.20	Seal thickness E
<b>006.2002051</b>	<b>200.00</b>	<b>205.00</b>	<b>15.00</b>	<b>2.50</b>
<b>006.2002052</b>	<b>200.00</b>	<b>205.00</b>	<b>25.00</b>	<b>2.50</b>
006.2052101	205.00	210.00	15.00	2.50
006.2052102	205.00	210.00	25.00	2.50
006.2102151	210.00	215.00	15.00	2.50
006.2102152	210.00	215.00	25.00	2.50
006.2152201	215.00	220.00	15.00	2.50
006.2152202	215.00	220.00	25.00	2.50
<b>006.2202251</b>	<b>220.00</b>	<b>225.00</b>	<b>15.00</b>	<b>2.50</b>
<b>006.2202252</b>	<b>220.00</b>	<b>225.00</b>	<b>25.00</b>	<b>2.50</b>
006.2252301	225.00	230.00	15.00	2.50
006.2252302	225.00	230.00	25.00	2.50
006.2302351	230.00	235.00	15.00	2.50
006.2302352	230.00	235.00	25.00	2.50
006.2352401	235.00	240.00	15.00	2.50
006.2352402	235.00	240.00	25.00	2.50
006.2402451	240.00	245.00	15.00	2.50
006.2402452	240.00	245.00	25.00	2.50
006.2452501	245.00	250.00	15.00	2.50
006.2452502	245.00	250.00	25.00	2.50
<b>006.2502551</b>	<b>250.00</b>	<b>255.00</b>	<b>15.00</b>	<b>2.50</b>
<b>006.2502552</b>	<b>250.00</b>	<b>255.00</b>	<b>25.00</b>	<b>2.50</b>
006.2552601	255.00	260.00	15.00	2.50
006.2552602	255.00	260.00	25.00	2.50
006.2602651	260.00	265.00	15.00	2.50
006.2602652	260.00	265.00	25.00	2.50
006.2652701	265.00	270.00	15.00	2.50
006.2652702	265.00	270.00	25.00	2.50
006.2702751	270.00	275.00	15.00	2.50
006.2702752	270.00	275.00	25.00	2.50
006.2752801	275.00	280.00	15.00	2.50
006.2752802	275.00	280.00	25.00	2.50

Part number	Rod diameter Ød1 f8/h9	Groove diameter ØD1 H8	Groove width L1 0/+0.20	Seal thickness E
<b>006.2802851</b>	<b>280.00</b>	<b>285.00</b>	<b>15.00</b>	<b>2.50</b>
<b>006.2802852</b>	<b>280.00</b>	<b>285.00</b>	<b>25.00</b>	<b>2.50</b>
006.2852901	285.00	290.00	15.00	2.50
006.2852902	285.00	290.00	25.00	2.50
006.2902951	290.00	295.00	15.00	2.50
006.2902952	290.00	295.00	25.00	2.50
006.2953001	295.00	300.00	15.00	2.50
006.2953002	295.00	300.00	25.00	2.50
006.3003051	300.00	305.00	15.00	2.50
006.3003052	300.00	305.00	25.00	2.50
006.3053101	305.00	310.00	15.00	2.50
006.3053102	305.00	310.00	25.00	2.50
006.3103151	310.00	315.00	15.00	2.50
006.3103152	310.00	315.00	25.00	2.50
006.3153201	315.00	320.00	15.00	2.50
006.3153202	315.00	320.00	25.00	2.50
<b>006.3203251</b>	<b>320.00</b>	<b>325.00</b>	<b>15.00</b>	<b>2.50</b>
<b>006.3203252</b>	<b>320.00</b>	<b>325.00</b>	<b>25.00</b>	<b>2.50</b>
006.3253301	325.00	330.00	15.00	2.50
006.3253302	325.00	330.00	25.00	2.50
006.3303351	330.00	335.00	15.00	2.50
006.3303352	330.00	335.00	25.00	2.50
006.3353401	335.00	340.00	15.00	2.50
006.3353402	335.00	340.00	25.00	2.50
006.3403451	340.00	345.00	15.00	2.50
006.3403452	340.00	345.00	25.00	2.50
006.3453501	345.00	350.00	15.00	2.50
006.3453502	345.00	350.00	25.00	2.50
006.3503551	350.00	355.00	15.00	2.50
006.3503552	350.00	355.00	25.00	2.50
<b>006.3603651</b>	<b>360.00</b>	<b>365.00</b>	<b>15.00</b>	<b>2.50</b>
<b>006.3603652</b>	<b>360.00</b>	<b>365.00</b>	<b>25.00</b>	<b>2.50</b>

The figures highlighted in bold correspond to the dimensions for standard ISO 10766, with the rod diameters in line with standard ISO 3320. Other intermediate sizes can be provided.