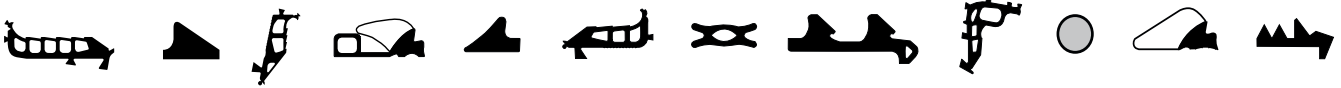
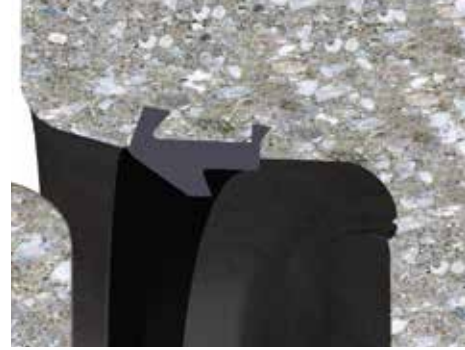


PRODUCT DATA SHEET
DS ANKER & DS BZ-R



DS ANKER and DS BZ-R are sealing rings made from elastomers with dense structure for concrete pipes and reinforced concrete pipes according to DIN EN 1916 and DIN V 1201. The seals are firmly embedded in the socket during manufacture of the pipe.

- DS ANKER and DS BZ-R are in accordance with the requirements of DIN EN 681-1 / DIN 4060 [88] (seals made from elastomers) and the FBS quality guideline.
- DS ANKER and DS BZ-R pipe connections fulfill, concerning durability, the criteria of DIN EN 1916, method 1-4.
- DS ANKER und DS BZ-R can be easily connected with the pipe:
Seal and formwork ring are mounted on the base ring. During concreting of the pipe, the sealing ring is anchored in the sleeve by two holding parts. The formwork ring is removed the next day and may be used 10 - 20 times.
- DS ANKER and DS BZ-R can be used for all pipe production machines with core vibration and radial pressure roller head.
- DS ANKER and DS BZ-R require special base rings which determine by their shape the seat of the seal.
- DS ANKER and DS BZ-R can be supplied for pipes DN 250 to DN 2000 in 5 specific cross sections.
- DS ANKER and DS BZ-R pipe connections resist high shearing forces.

**Tested and quality controlled
by MPA Berlin-Brandenburg.**

SPECIAL ADVANTAGES

- Consist out of a double anchored seal (DS ANKER or DS BZ-R) and a reusable form ring belonging to it.
- Form an integrated unit together with the pipe which allows quick and safe installation.
- The wedge shape of the seal body facilitates the pipe centering.

MATERIAL

The sealing rings are generally manufactured from styrene-butadiene rubber (SBR). The ANKER seals are produced at hardness 50 ± 5 IRHD; the BZ-R seals at a hardness of 40 ± 5 IRHD. The material resists the usual stresses caused by sewage. In case of content of light liquids (oil, petrol, fuels) in the sewage water it is recommended to use seals out of acryl-nitrile-butadiene-rubber (NBR), which has a higher resistance against light liquids.

QR 4060

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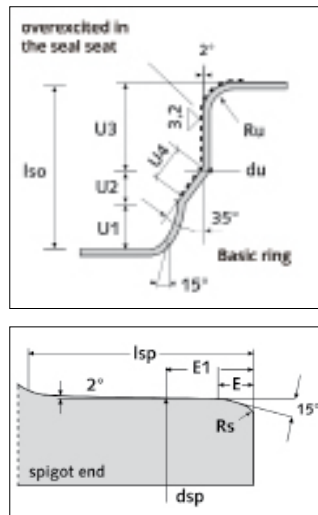


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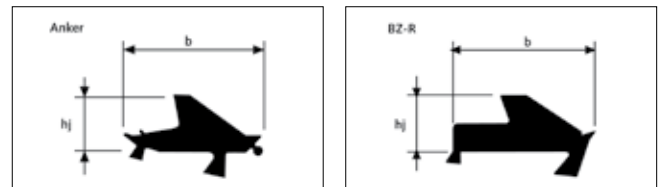
DS⁺
DICHTUNGSTECHNIK

PIPE REQUIREMENTS (all dimensions in mm)

- Reinforced concrete pipes must comply with the requirements of DIN EN 1916 and DIN V 1201.
- DS ANKER and DS BZ-R require finely dimensioned smooth pipe spigot ends. When producing the pipes inner and outer supporting rings must be used to ensure compliance with spigot end diameters dsp shown in the table.
- The seal seat and the socket diameter at the built-in seal must be checked regularly.



DIMENSIONING OF THE SEALING RING (all dimensions in mm)

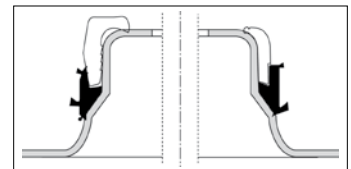


DN	Profile type		b		hj **)	w *)
	DS ANKER	DS BZ-R				
250-300	ANKER 12	BZ-R 12	31,2	29,0	12	7,8
400-600	ANKER 14	BZ-R 14	37,1	33,2	14	9,1
700-1200	ANKER 18	BZ-R 18	43,1	45,7	18	11,7
1300-1500	ANKER 22	BZ-R 22	52,7	50,4	22	14,3
1600-2000	ANKER 26	BZ-R 26	62,2	59,3	26	16,9

*) Socket gap width: gap between spigot end and socket in the main sealing area.
 **) $h_{j_{eff}}: h_j / \sqrt{1,04}$

PRODUCTION OF PIPES WITH DS ANKER OR DS BZ-R SEALING RING

- Mount the sealing ring and the cleaned form ring on the cleaned and lightly oiled base ring. Ensure correct seating and even pre-stretching of the sealing rings.
- Before mounting, ensure that the socket is completely filled with concrete. Then produce concrete pipe in normal manner.
- After removal of the pipe mould, place inner and outer supporting rings on the spigot end and leave them there until concrete has cured.
- On the next day pull base ring centrally and remove supporting rings. After the concrete has fully cured the pipe is ready for installation.



BASE RING

DN	Iso	U1	U2	U3 -0/+0,5	U4 min	Ru	du		Toleranz du
							Beton	Stahlbeton	
250	80	22,6	13,9	43,5	16	13	315,6	341,6	-0/+0,5
300	-	-	-	-	-	-	377,6	395,6	-
400	85	20	16	49	18	13	486,2	495,5	-0/+0,5
500	90	25	-	-	-	-	600,2		-
600	-	-	-	-	-	-	716,2		-
700	100	22,6	23	54,4	26	15	831,4		-0,4/+0,8
800	-	-	-	-	-	-	949,4		-
900	-	-	-	-	-	-	1067,4		-
1000	-	-	-	-	-	-	1185,4		-
1100	-	-	-	-	-	-	1303,4		-
1200	-	-	-	-	-	-	1421,4		-
1300	125	30	28	67	32	17	1536,6		-0,7/+0,7
1400	-	-	-	-	-	-	1654,6		-
1500	-	-	-	-	-	-	1772,6		-
1600	145	30	35	80	41	19	dsp+2w-2hj		-0,8/+0,8
2000	145	30	35	80	41	19	dsp+2w-2hj		-0,8/+0,8

SPIGOT END DIMENSIONS

DN	E	Rs	lsp	E1	dsp		Tolerance dsp Recom. (extreme value*)
					Concrete	Reinforced	
250	17	13	85	39	324	350	-0,7/+1,2 (-1,5/+2,0)
300	-	-	-	-	386	404	-
400	20	13	90	43	496	505,3	-0,9/+1,4 (-1,9/+2,4)
500	-	-	95	-	610		-
600	-	-	-	-	726		-
700	20	15	105	47	844		-1,0/+1,4 (-2,2/+2,6)
800	-	-	-	-	962		-
900	-	-	-	-	1080		-
1000	-	-	-	-	1198		-
1100	-	-	-	-	1316		-
1200	-	-	-	-	1434		-
1300	25	16	130	58	1552		-1,5/+1,5 (-3,0/+3,0)
1400	-	-	-	-	1670		-
1500	-	-	-	-	1788		-
1600	30	18	150	69	variabel		-1,8/+1,8 (-3,6/+3,6)
2000	30	18	150	69	variabel		-1,8/+1,8 (-3,6/+3,6)

Larger DN on request

- Recom. concrete tolerance: sealing ring deformation 30% to 40%,
- Extreme sealing ring deformation due to concrete tolerances 26.5% to 43.5% *)

PIPE INSTALLATION TIPS

Pipe connections can be installed without any problems using normal construction site equipment. When laying the pipes observe DIN EN 1610 and ATV-work sheet A 139.



- Clean socket and spigot end.
- Cover thoroughly the spigot end with DS lubricant. The additional use of lubricant on the seal is recommended as this reduces the mounting forces.
- Move spigot end centrally into socket and pull pipes together.

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