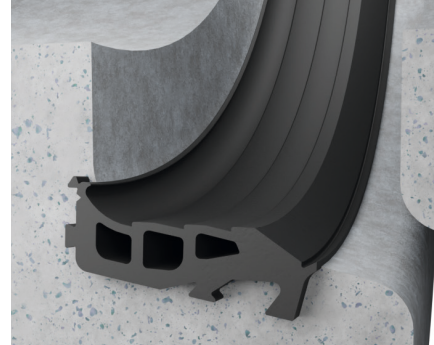


PRODUCT DATA SHEET DS BL-R



DS BL-R is a sealing ring made from elastomers with dense structure for the DS BL-R plug-in socket, a connection for concrete pipes and reinforced concrete pipes according to DIN EN 1916 and DIN V 1201, whereby the seal is firmly embedded in the socket during manufacture of the pipe.

- DS BL-R is in accordance with the requirements of DIN EN 681-1 / DIN 4060 (seals made from elastomers) and the FBS quality guideline.
- DS BL-R pipe connections fulfill the criteria of DIN EN 1916, method 1-4.
- DS BL-R can be easily connected with the pipe. It is mounted on the base ring and is anchored during manufacture of the pipe in the pipe socket. After removal of the base ring the DS BL-R socket is ready for installation.
- DS BL-R can be used for all pipe production machines with core vibration and radial pressure roller head.
- DS BL-R requires special base rings, which determine, by their shape, the seat of the seal.
- DS BL-R can be supplied for pipes DN 150 to DN 2600 in 6 specific cross sections.
- DS BL-R lines the inner wall of the socket up to the socket face. Lining the entire socket space prevents deposits of dirt and water (ice formation) behind the seal. Removal of a protective strip is not required.
- DS BL-R pipe connections resist high shearing forces.

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

SPECIAL ADVANTAGES

- forms an integrated unit together with the pipe, which enables a quick and safe laying.
- the wedge shape of the seal body eases the pipe centering.
- thanks to the fully lined sleeve, the pipe connection offers an optimum sealing unit.

MATERIAL

DS BL-R is produced from styrene-butadiene rubber (SBR) or from ethylene propylene rubber (EPDM), hardness 50 \pm 5 IHRD. The material resists the usual stresses caused by sewage.

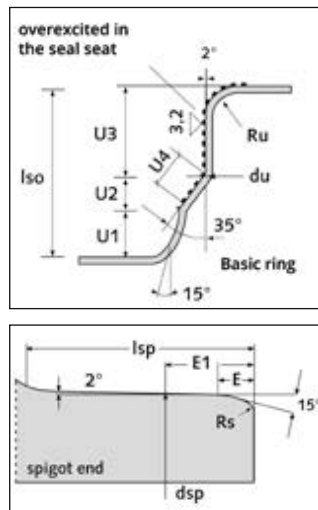
Further materials on request.

QR 4060



PIPE REQUIREMENTS (all dimensions in mm)

- DS BL-R pipe connections must fulfil the criteria of DIN EN 1916 and DIN V 1201.
- DS BL-R requires 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 sleeve diameter at the built-in seal must be checked regularly.



BASE RING

DN	Iso	U1	U2	U3 -0/+0,5	U4 min	Ru	du		Tolerance du
							Concrete	Reinforced	
150	60	16,6	10,9	32,5	13	10	199,4	213,4	-0/+0,5
200	-	-	-	-	-	-	257,4	263,4	-
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

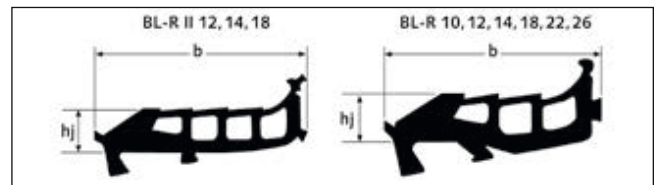
DN	E	Rs	lsp	E1	dsp		Tolerance dsp recom. (extreme value*)
					Concrete	Reinforced	
150	12,5	8	65	28	206	220	-0,5/+1,0 (-1,2/+1,7)
200	-	-	-	-	264	270	-
250	17	13	85	39	324	350	-0,7/+1,2 (-1,5/+2,0)
300	-	-	-	-	386	404	-
400	20	13	90	43	496	505,3	-0,9/+1,4 (-1,9/+2,4)
500	-	-	95	-	610	-	-
600	-	-	-	-	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	variable	-	-1,8/+1,8 (-3,6/+3,6)
2000	30	18	150	69	variable	-	-1,8/+1,8 (-3,6/+3,6)

Larger DN on request.

- Recommended concrete tolerance: sealing ring deformation 30% to 40%
- Limit of concrete tolerance: sealing ring deformation 26,5% to 43,5% *)

*) With milled spigot ends recommended deformation is equal to limit of concrete tolerance

SOCKET END DIMENSIONS (all dimensions in mm)



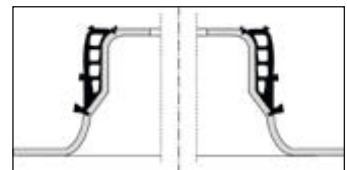
DN	Profile type	b	hj **)	W *)
150-200	BL-R 10	47,9	10 -0,4 / +0,6	6,7
250-300	BL-R 12	61,7	12 -0,4 / +0,8	7,8
400-600	BL-R 14	70,2	14 -0,4 / +0,8	9,1
700-1200	BL-R 18	80,6	18 -0,4 / +0,8	11,7
1300-1500	BL-R 22	101,4	22 -0,4 / +1,2	14,3
1600-2000	BL-R 26	119,4	26 -0,4 / +1,2	16,9

*) socket gap width: gap between spigot end and socket in the main sealing area.

**) $h_{j\text{eff}}: h_j / \sqrt{1,04}$

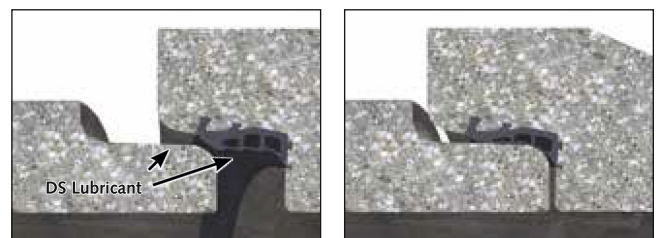
PRODUCTION OF PLUG-IN SOCKET PIPES DS BL-R

- Mount DS BL-R on the cleaned and lightly oiled base ring. Ensure correct seating and even pre-stretching of the sealing ring.
- Before putting on the 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.
- Pull base ring centrally, remove supporting rings.
- After the concrete has fully cured, the BL-R plug-in socket pipe is ready for installation.



PIPE LAYING TIPS

The DS BL-R 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 DWA-A 139.



- Clean socket and spigot end.
- Cover thoroughly the spigot end with DS lubricant. The additional smearing of the sealing ring is recommended, as this will help to minimize the mounting forces.
- Move spigot end centrally into socket and pull pipes together.

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DS
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