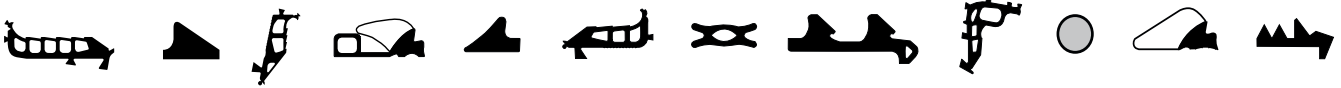


PRODUCT DATA SHEET
DS BL-S & DS TOPSEAL



DS BL-S is a sealing ring made of elastomers with dense structure for permanent sealing of manhole rings made of concrete and reinforced concrete according to DIN EN 1917 und DIN V 4034-1. The seal is firmly embedded in the socket during manufacture of the manhole ring.

- DS BL-S is in accordance with the requirements of EN 681 -1 / DIN 4060 [88] – seals made from elastomers – and the FBS quality guideline.
- DS BL-S Manhole pipe connections fulfill, concerning durability, the criteria of DIN EN 1916, method 1.
- DS BL-S can be supplied in 2 specific cross sections, one for DN 800 and DN 1000. The other for DN 1200 and 1500 or higher (versions up to DN 2400).
- DS BL-S lines the inner wall of the socket up to the socket face. This prevents deposits of dirt and water (ice formation) behind the seal.
- DS BL-S forms a unity with the manhole ring, which allows a quick and secure mounting. The wedge-shape of the seal body eases the centering of the segments.
- DS BL-S seals over the whole depth of the socket and length of the spigot end. So a high water tightness security is achieved.

DS TOPSEAL is a fine quartz-sand-filled closed pipe ring which largely compensates for the unevenness of the concrete manhole ring and transmits traffic and static loads to the bearing of the underlying manhole ring.

- TOPSEAL DS assumes the function of the uniform, not sprung load transfer between precast manholes required by DIN V 4034-1.
- DS TOPSEAL compensates for the unevenness between the concrete manhole rings by local rearrangement of the fine quartz sand contained in the tube.
- DS TOPSEAL is supplied by the manhole manufacturer loosely with the manhole to the job site and inserted on the outer spigot end face before the manhole rings are moved in the groove (also preassembled by gluing).

MATERIAL

DS BL-S is produced from styrene butadiene rubber (SBR), hardness 50±5 IRHD. The material resists the usual stresses caused by sewage.

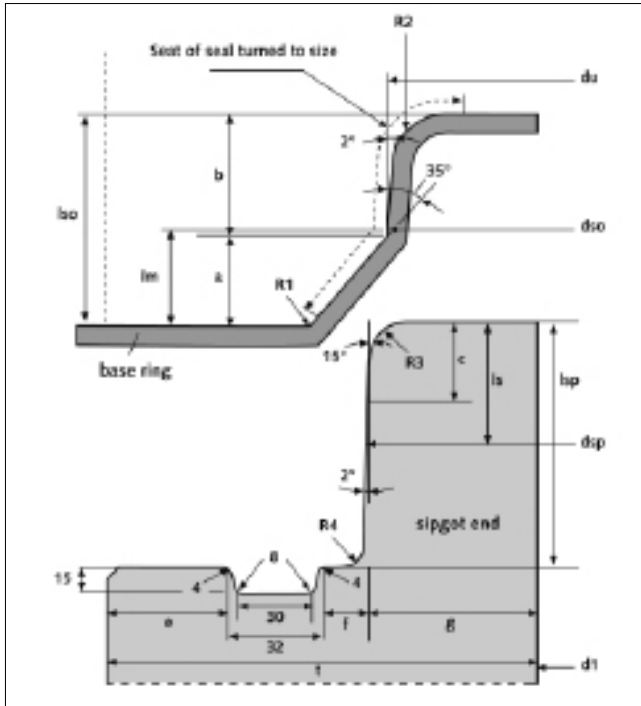
DS TOPSEAL is an elastomer hose ring made of EPDM, hardness 60±5 IRHD, densely filled with dried sand quartz, grain size 0.1 to 0.4 mm.



MANHOLE COMPONENT REQUIREMENTS

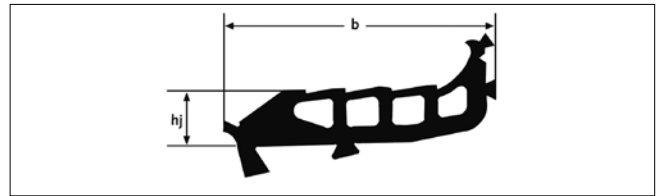
(All dimensions in mm)

- Manhole rings must comply with the requirements of the DIN EN 1917 and the DIN V 4034-1.
- DS BL-S requires finely dimensioned smooth manhole ring spigot ends. When producing inner and outer supporting rings or upper sockets must be used to ensure compliance with spigot end diameters dsp shown in the table.



DIMENSIONING OF THE SEALING RING

(All dimensions in mm)



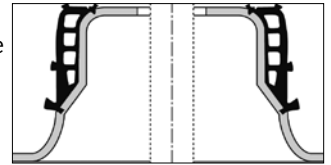
DN = d1	Profile type	b	hj -0,4 / +1,2	w *
800, 1000	BL-S 14	70,0	14	10
1200, 1500 **	BL-S 18	81,0	18	12,9

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

***) and larger

PRODUCTION DS BL-S PLUG-IN SOCKET FOR MANHOLE RINGS

- Mount DS BL-S on the cleaned and lightly oiled base ring. Ensure correct seating and pre-stretching of the sealing ring.
- Before compaction fill the socket with concrete so that the seal is covered evenly by 10 cm. Then produce concrete manhole ring in the usual manner.
- After removal of the manhole ring mould, place outer supporting ring on the spigot end and press the inner supporting ring so that the concrete is pressed against the outer support ring. Leave them there until concrete has cured.
- Remove supporting rings and pull base ring.
- After the concrete has fully cured DS BL-S plug-in socket manhole ring is ready for installation.

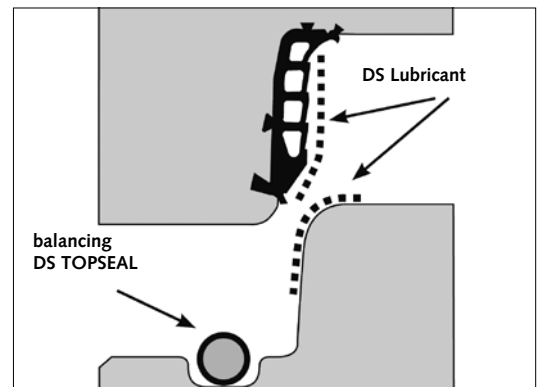


Manhole	Basic ring											Spigot end									
	DN = d1	t	iso	a	b +0,5	lm	du	dM	R1	R2	lsp	ls	dsp	Tolerance dsp Outer support.	Concrete dsp recom. / (Limit value)	c	R3	R4	e	f	g
800	120	75	26	49	28	882,0	881,8 ± 0,5	10	13	70	42	890	± 0,6	± 1,0 / (± 1,5)	20	13	10	32	9,8	46,2	
1000	120	75	26	49	28	1082,0	1081,8 ± 0,5	10	13	70	42	1090	± 0,6	± 1,0 / (± 1,5)	20	13	10	32	9,8	46,2	
1200	135	85	30,6	54,4	34	1289,8	1289,6 ± 0,7	15	15	80	46	1300	± 0,8	± 1,5 / (± 2,0)	20	15	10	41	10,6	51,4	
1500 u.	150	90	35,6	54,4	39	1609,8	1609,6 ± 0,7	15	15	85	46	1620	± 0,8	± 1,5 / (± 2,0)	20	15	10	43	13,5	61,5	
larger						d1 + 109,8	d1 + 109,6 ± 0,7					d1 + 120									

INSTALLATION TIPS

DS BL-S manhole ring connections can be mounted without any problems using normal construction site equipment. When mounting the manhole ring observe the following:

- Socket area and spigot end must be clean.
- Insert DS TOPSEAL in groove (< 10mm).
- Cover thoroughly the spigot end with DS lubricant. The additional use of lubricant on the seal is recommended as this reduces the mounting forces.
- Hang on next manhole ring centrally and vertically and let it slide upwards. If necessary push slightly



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DS⁺
DICHTUNGSTECHNIK