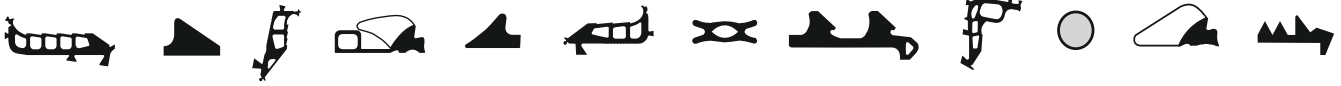
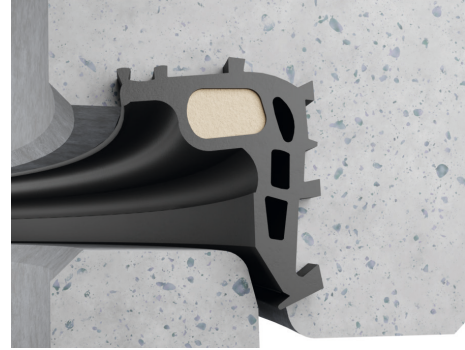


# PRODUCT DATA SHEET

## DS TOPSEAL PLUS



DS TOPSEAL PLUS is an elastomer sealing ring with connected sand filled transfer hose, embedded in the socket, for the econorm manhole system.

- DS TOPSEAL PLUS is in accordance with the requirements of EN 681-1 / DIN 4060 – seals made from elastomers.
- DS TOPSEAL PLUS requires special base rings which determine by their shape the seat of the seal and of the sand filled hose.
- DS TOPSEAL PLUS can be easily connected with the manhole ring. The sealing ring with sand hose is mounted on the base ring and is anchored, during concreting of the manhole section, in the socket.
- TOPSEAL DS fulfills the DIN 4034-1 requirements with regard to a uniform, not sprung, load transfer.
- DS TOPSEAL PLUS is available in only one specific cross section, applicable for DN 1000 up to DN 2500.

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

### SPECIAL ADVANTAGES

- Seal and sand hose form a unity with the manhole section, which allows a quick and secure mounting in any weather condition.
- Peaks of pressure between manhole rings are reduced by the integrated sand filled hose and thereby the long term load capacity is clearly improved.
- High water tightness security by fully lined socket and integrated load transfer..

### MATERIAL

DS TOPSEAL Plus is produced from styrene butadiene rubber (SBR), hardness 50±5 IRHD or ethylene propylene diene rubber (EPDM), hardness 50±5 IRHD. The material resists the usual stresses caused by sewage.

Verified statics on the overall structure and Load bearing test on Shaft rings

QR 4060



MPA  
MATERIALPRÜFUNG

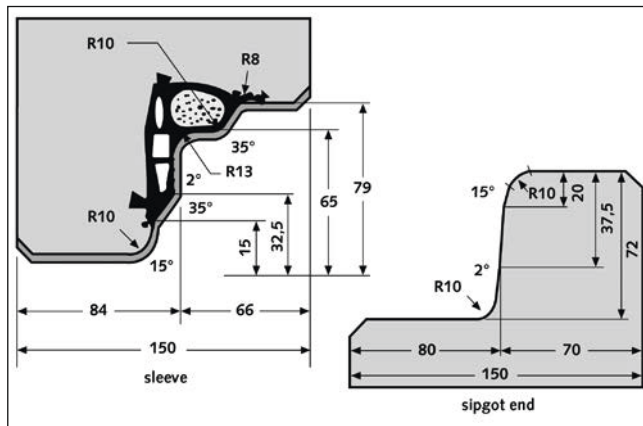


DS<sup>+</sup>  
DICHTUNGSTECHNIK

## MANHOLE COMPONENT REQUIREMENTS

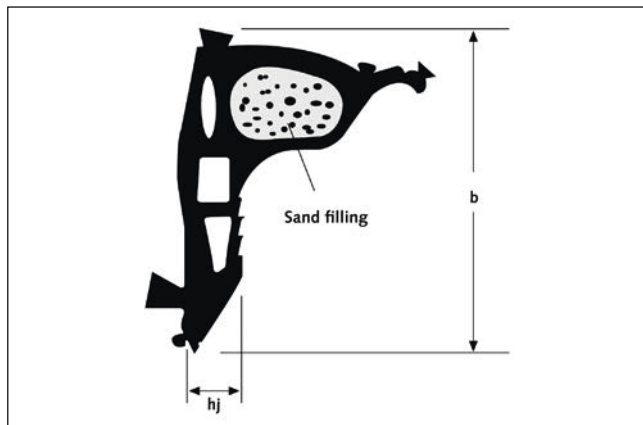
(all dimensions in mm)

- The requirements and measurements of the components correspond with the econorm® manhole system. For all nominal diameters, wall thickness and connecting dimensions are identical.



## DIMENSIONING OF THE SEALING RING

(all dimensions in mm)



DN = d1	Profile type	b	hj -0,4 / +1,2	w *)
800 - 2000	DS TOPSEAL Plus	81	14	10

w\*) socket gap = Gap between spigot and socket in the main seal area.

## LOAD TRANSFER BETWEEN MANHOLE RINGS

DS TOPSEAL PLUS fulfils the requirements of DIN 4034-1 on proven static and connected investigations of load capacity.

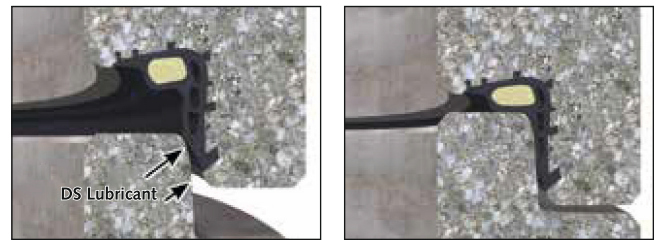
“Manholes have to be constructed under consideration of DIN EN 1610, ATV-DVWK-A 139 and ATV-DVWK-A 157. An even and not springy vertical load transfer between all manhole rings always has to be ensured. The load transfer layer has to be formed in such a way that a distance between manhole rings on the inner side of the manhole is not higher than 15 mm.”

## PRODUCTION OF ECONORM® MANHOLE RINGS WITH DS TOPSEAL PLUS

- Mount DS TOPSEAL PLUS on the cleaned and lightly oiled base ring. Ensure correct seating – push the seal down to the 35° slope, so that the sealing lips of the seal and of the sand filled hose are in contact with the base ring. Ensure even pre-stretching of the sealing ring and even fill degree of the sand hose.
- 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.
- Remove base ring and spigot end supporting rings – necessary for the small dimensional tolerances – after concrete has cured (normally next day).

## INSTALLATION TIPS

DS TOPSEAL PLUS 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.
- Cover thoroughly the spigot end with DS lubricant. The additional use of lubricant on the seal is recommended as this reduces the mounting forces.
- Insert the on next manhole ring centrally and vertically and let it slide downwards. If necessary push slightly.

Values and properties shown in diagrams and tables are not subject to any guarantees. Our warranty is limited to the values and properties as required by the relevant standards. Our literature, data sheets and recommendations represent our knowledge at the time of printing but are in no way legally binding on us. Our “General Conditions of Sale” apply to all sales.