

Combisegments™: The standardized segment lining mould for the construction of cable tunnels, sewage tunnels, water pipelines and chambers.

COMBISEGMENTS				
SEGMENT TYPE	ØI (MM)	ØE (MM)	T (MM)	L (MM)
2,000 / 750	2,000	2,400	200	750
2,250 / 900	2,250	2,650	200	900
2,500 / 1,000	2,500	2,900	200	1,000
2,750 / 1,000	2,750	3,150	200	1,000
3,000 / 1,200	3,000	3,500	250	1,200
3,250 / 1,200	3,250	3,750	250	1,200
3,500 / 1,200	3,500	4,000	250	1,200

For further information on Combisegments™, order our Combisegments™ animation on CD-ROM.

HERRENKNECHT WORLDWIDE:
WWW.HERRENKNECHT.COM

HERRENKNECHT COMBISEGMENTS:
CUSTOMIZED FOR ONE-STEP SEGMENTAL LINING

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Made by Herrenknecht:
from the design to the
perfect mould.



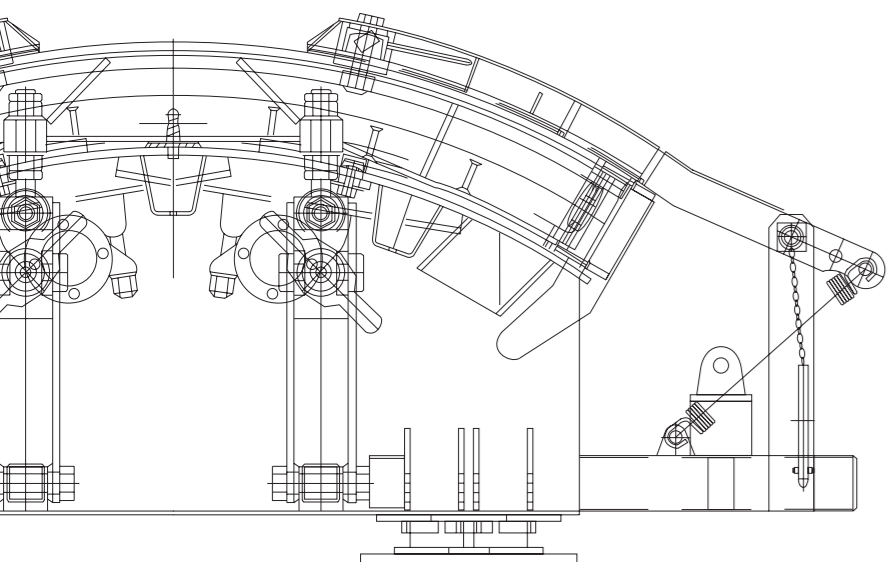
Herrenknecht CombiSegments™,
one system – different solutions.

COMBISEGMENTS FOR UTILITY TUNNELLING.

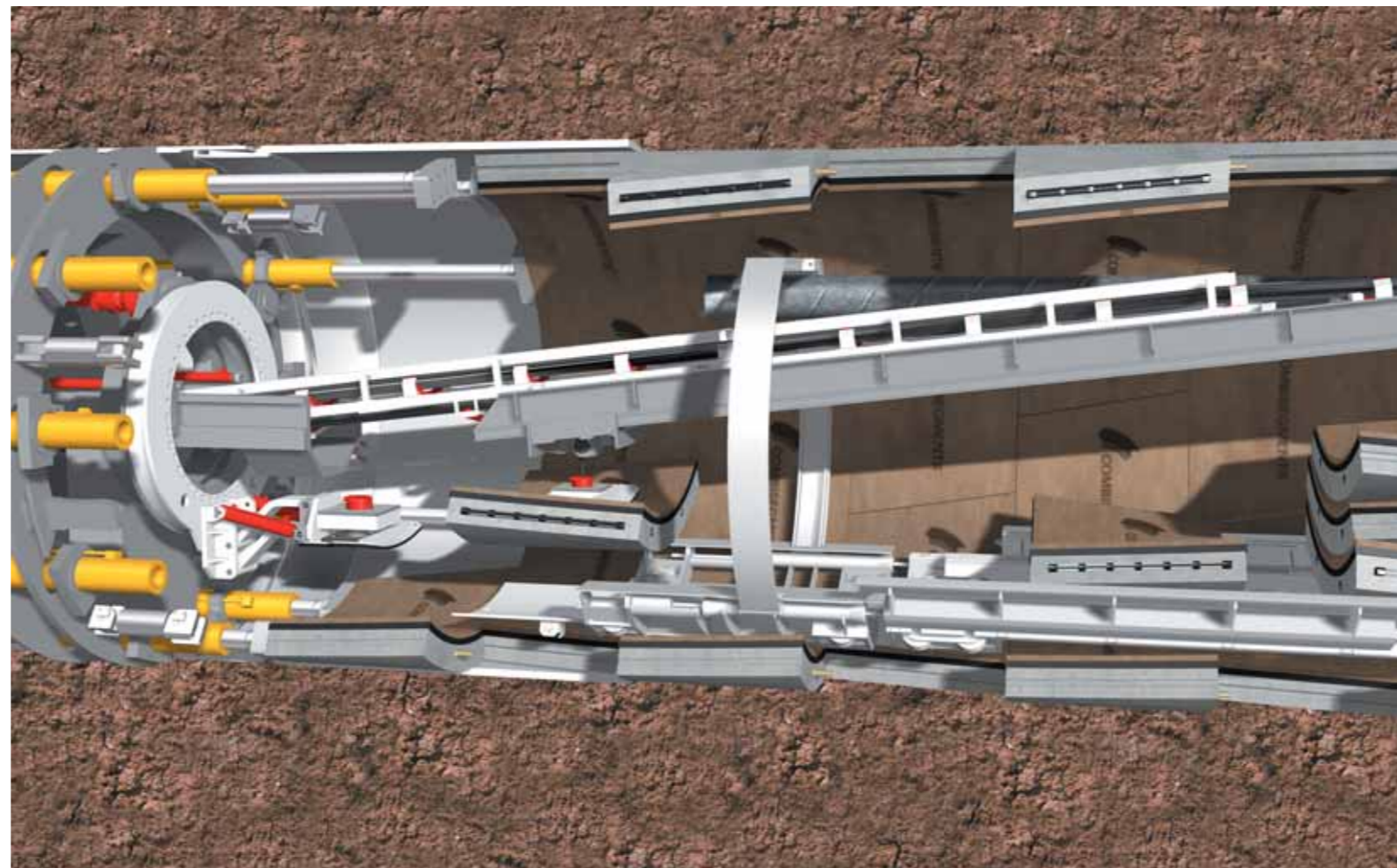
The number of segmentally lined supply tunnels – sewage, water or cable tunnels – is growing worldwide. So far, segmental lining has been a two-step process. Outer linings of sewage tunnels have been provided with an additional corrosion-resistant inner shell. This process has been costly and time-consuming with regard to the overall project time. To avoid two-step lining, Herrenknecht developed CombiSegments™. In the specially designed CombiSegments™ mould, segments with or without integrated liners can be produced for various sealing systems.

CombiSegments™ in brief:

- One-step segmental lining for water, sewage, cable and other utility tunnels.
- Additional protecting inner shell (inliner) for sewage tunnels.
- Different sealing gaskets for different construction demands.
- 100% corrosion protection and watertightness is guaranteed.
- Inner diameters range between 2,000mm and 4,000mm.
- Standardized CombiSegments™ moulds and segments reduce project time.
- Delivery is adapted to individual project processes to reduce storage costs.
- Worldwide sales network ensures a reliable delivery of combisegments.
- Worldwide technical service support.



Suitable for Herrenknecht Utility Tunnelling. CombiSegments™ are specially adapted to Herrenknecht's segment lining machines up to 4,000mm inner diameter and can be used with all machine types (i.e. AVN, AVND, EPB, TBM). Due to the optimum adjustment of machine technology and CombiSegments™ moulds, an enormous range of construction projects is possible. Constructions for fresh water supply or sewage lines as well as cable tunnels and ducts can be successfully realized with one and the same technology all over the world. The standardization makes CombiSegments™ available within short time which particularly allows for a compact planning of construction projects.



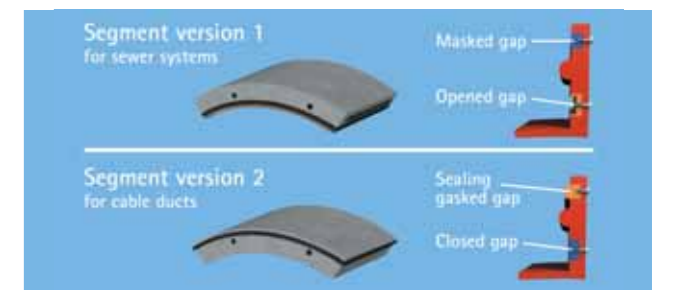
Quality and high precision.

Longtime experience of Herrenknecht's mould experts guarantees quality and high precision. The moulds are produced in Herrenknecht's own plants and are subject to quality assurance according to the ISO 9001 standard.



One mould – different CombiSegments™.

The production of segments with inside and/or outside sealing is possible with only one mould, the flexible CombiSegments™ mould. This can be equipped depending on the various sealing requirements, thus enabling a rapid production modification for different construction and sealing systems.



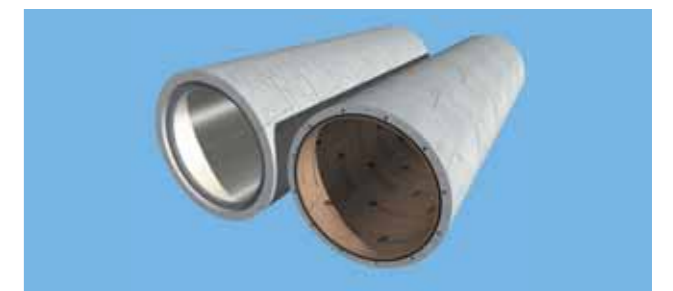
CombiSegments™ allows different diameters.

The inner diameter ranges between 2,000 and 4,000mm. CombiSegments™ allows to build everything from temporary makeshift tunnels to monocoque corrosion-resistant high-tech tunnels due to the use of integrated reinforced polyester (GRP) liners.



CombiSegments™ provides effective protection.

The use of GRP liners enables monocoque construction of tunnels. This avoids an additional installation of a protecting inner shell and minimizes the tunnel cross-section. Furthermore, the GRP inliner at the inner wall provides effective protection against aggressive waste water and corrosion of the concrete caused by acids or gases.



CombiSegments™ reduces project time as well as project costs.

The compact monocoque construction method and the use of GRP liners reduces the tunnel cross-section. This leads to a lower amount of concrete necessary for the tunnel lining and also minimizes soil removal. This drastically reduces the time needed as well as costs for construction.

