

# FOREPOLING SYSTEM AKA TUBE UMBRELLA



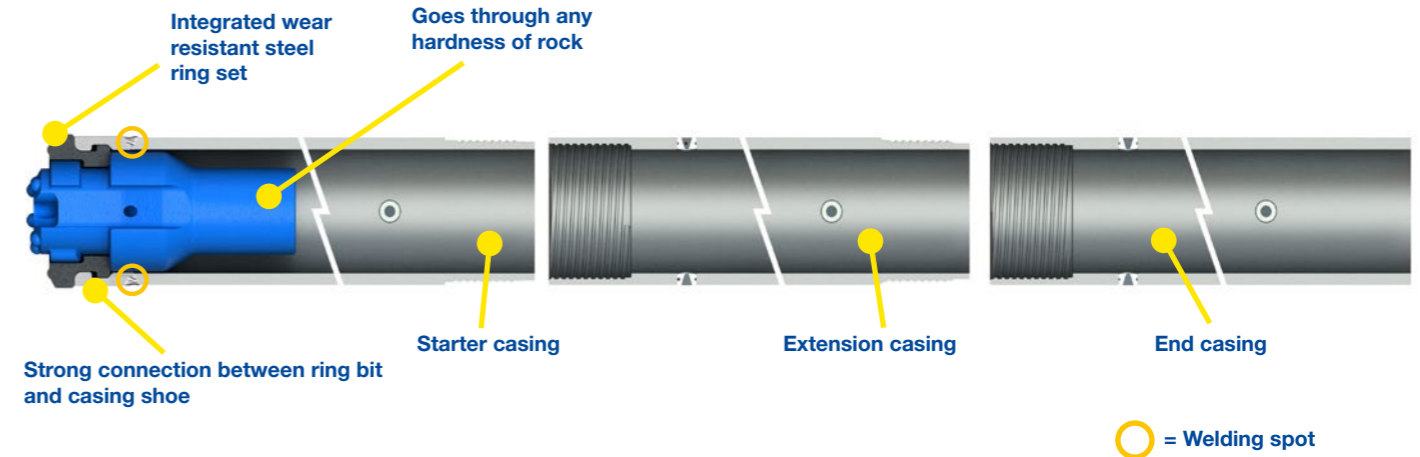
**Forepoling ring bit system and casing tubes** are designed to be drilled with top hammer or DTH in an umbrella shape as secondary support in the tunnel roof. Weak ground and overburden must be strengthened by grouting through the casing and grouting valves into the ground.

## MAIN APPLICATIONS

- Forepoling or tube umbrella
- Anchoring
- Micro-piling
- PVC drainage
- Fibre glass face stabilisation (GFRP system)
- Ground consolidation in front of TBM (GFRP system)



## FOREPOLING SYSTEM 76–219 mm



System is available from 76 to 219 mm casings and for all major DTH shanks and top hammer threads. Threaded casings normally come with 1 start, but they are also available with 2–3 start trapezoidal threads and 10 mm entrance.

System product code	Casing OD		Max wall		Ring bit ID		Ring bit OD		Pilot bit OD		Pilot bit thread
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
F76-8-40	76.1	3.00"	8	0.31"	40	1.57"	82	3.23"	58	2.28"	R32
F89-8-52	88.9	3.5"	8	0.31"	52	2.05"	94.5	3.72"	70.9	2.79"	T38
F102-8-62	101.6	4.0"	8	0.31"	62	2.44"	106.6	4.20"	83	3.27"	T38
F114-10-70	114.3	4.5"	10	0.39"	70	2.76"	120	4.72"	92	3.62"	T38, T45
F140-10-94	139.7	5.5"	10	0.39"	94	3.70"	148	5.83"	116.7	4.59"	T45
F159-10-120	159	6.26"	10	0.39"	118	4.65"	179	7.05"	133	5.24"	T45, T51
F168-10-128	168.3	6.63"	12.7	0.5"	125	4.92"	189	7.44"	140	5.51"	T45, T51
F219-12.7-171	219.1	8.63"	12.7	0.5"	171	6.73"	243	9.57"	188	7.40"	T45, T51

\*Large diameter systems can be engineered based on the specific customer requirements.

## CASING OPTIONS

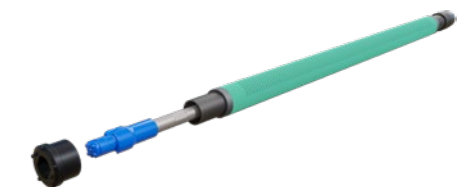
### Steel casings



### GFRP casings



### PVC drainage casings



All forepoling systems come with starter, extension and end casings. Mincon offers convenient and flexible customization options to suite all project needs. Several casing options, such as steel, fibre glass and PVC drainage casings as well as accessories are available. See a separate forepoling brochure for more information.