

TBM Launch Ringseals

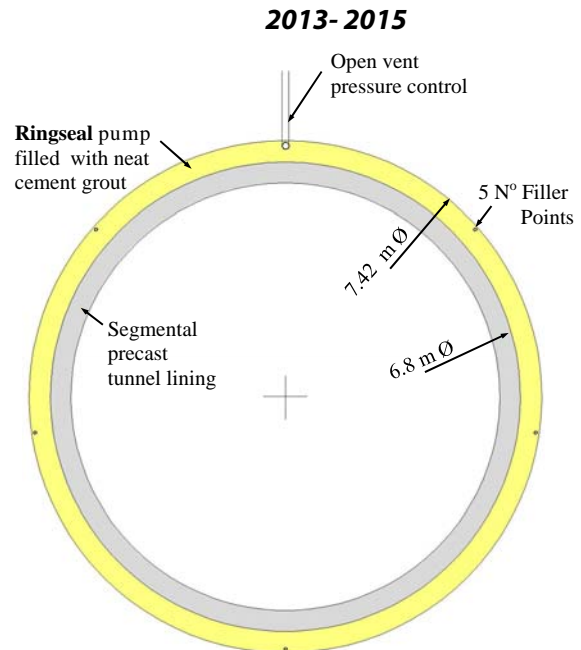
Contractor: Dragados - Sisk JV

APS – Proserve Ringseals were used for 10 N^o TBM launches on the Crossrail Eastern Running Tunnels contract by the contractor Dragados - Sisk J.V.

The Ringseal creates a stopend seal behind the TBM cutting head, which allowed pressurisation of the head for launch, and a stopend seal for pea gravel/ grout infill to the annulus as the tunnelling proceeded.



Ringseal Fitting



TBM Launch Ringseal

Each condensed Ringseal was pre-installed to the spray concrete launch chamber, which was accurately prepared to the selected gap tolerance of 310 mm ± 50 mm. A rubber condensing cover to the Ringseal provided protection during launch enabling works and the TBM shove.

With the TBM in position and the first precast concrete tunnel ring installed, the Ringseal was pump filled with highly fluid neat cement grout to create a continuous grouted seal. Ringseal filling pressure was controlled by the filling rate and the 1 m high open top vent, which promotes intimate top contact to the tunnel soffit. An anti-shrink agent, Fosroc Cebex 100, was included in the neat cement grout mix to reduce curing shrinkage.

Each Ringseal is custom engineered and manufactured by Proserve to suit the project specific requirements, working conditions and tolerances.

The system was reliably utilised for 10 N^o important TBM launches.



Condensed Ringseal



Ringseal Filling