

HydraTite® Internal Joint Seal

Mechanical Trenchless Remediation for Repair of Pipe Joints

Application

Bulk Water Supply November 2025

Customer

WaterNSW & Interflow Pty Ltd

Following the successful installation of a 2200 mm diameter HydraTite® Internal Joint Seal by Interflow Pty Ltd in April 2023—effectively sealing the leaking pipe joint—WaterNSW approved the expansion of the leak repair program. This case study examines the application of HydraTite® Internal Joint Seals to rehabilitate an additional six joints within ageing critical infrastructure, building on the proven performance of the initial installation

The Problem

WaterNSW & their specialist repair contractor Interflow Pty Ltd faced a range of challenges which included leaking joints at the interfaces between 2 different shapes (open channels transitioning into pipes at river crossings), differing expansion and contraction due to dissimilar pipe & channel materials and a limited window of time during which the system could be offline to install the seals.

While the channels are concrete, the pipes crossing the creeks & rivers are ductile iron and the expansion and contraction of dissimilar materials has been an ongoing source of leaks at the joints which range from approximately 2100 to 2400mm diameter at different locations in the network.

The deteriorated condition of the concrete channel and headwall added to the complexity of the problem.



Figure 1 Inspection of Joint before HydraTite installation, April 2023

The Solution

With the original installation in April 2023 (see Figure 2) demonstrating the suitability and success of HydraTite® to seal the leaks, WaterNSW approved the use of the HydraTite® Seals for an additional 6 creek crossings in the network with installation conducted during a scheduled maintenance shutdown in late 2025.



Figure 2 April 2023 Completed Job, Photo Courtesy of Interflow

HydraTite® Internal Joint seals were originally selected for their strength, flexibility and strong history in the US for sealing large diameter pipes.

Interflow employed the same successful strategy and methodology for the additional 6 locations with the custom made HydraTite® seals individually sized for each of the different locations.

Preparation (see Figure 3) included removal of old & degraded material and concrete to achieve a solid substrate. A suitable mortar was then used to reprofile and buildup the channel and headwall creating a platform for the HydraTite® to seal between the pipe and open channel.



Figure 3 Surface preparation Nov 2025
Photo Courtesy of Interflow



20 Nov 2025 12:16:20 pm
Macquariedale Road
Appin
Wollondilly Shire Council
New South Wales
Mullaly Creek
Figure 4 HydraTite Joint Seal partially installed, Nov 2025
Photo Courtesy of Interflow

After reprofiling the deteriorated channel and headwall, a Double Wide EPDM rubber seal (approx. 2100-2400mm diameter, sized for the specific location) was installed, with 2 stainless steel retaining bands positioned (one in the smaller diameter pipe and the second on the larger diameter profiled section) to locate the EPDM rubber seal in the correct position as shown in figures 4 & 5.



20 Nov 2025 12:43:12 pm
16 Station Street
Menangle
Wollondilly Shire Council
New South Wales
Leafs Creek
Figure 5 Closeup of HydraTite Seal partially installed
Nov 2025 Photo Courtesy of Interflow



27 Nov 2025 12:10:19 pm
1017 Appin Road
Gilead
City of Campbelltown
New South Wales
Figure 6 HydraTite Seal installation complete Nov 2025
Photo Courtesy of Interflow

With the correct positioning of the seal and retaining bands confirmed, the third and fourth stainless steel retaining bands were positioned and all retaining bands expanded to finalise the installation as shown in figure 5.

The end result was all 6 additional HydraTite® Joint Seals successfully installed and the system recommissioned.