



KEYHOLE CORING and REINSTATEMENT

HELPING EXTEND PAVEMENT LIFE

by JAMES STIEVA

Super Sucker Hydro Vac Service Inc. innovative coring division has embraced the latest in keyhole technology, enabling the team to quickly and efficiently open up hard surfaces to facilitate vacuum excavation, and upon completion, to reinstate the original material creating a permanent restoration.

Keyhole coring and reinstatement, a made-in-Canada technology, is a process of excavating a small, precisely controlled, circular hole in the right-of-way to accurately locate, gain access to, or make repairs to buried infrastructure. The pavement cutting is done with a purpose-built, hydraulically-driven coring unit and all of the underground work is performed safely from the surface of the road using specially-designed, long-handled tools.

The core of pavement, once extracted from the roadway or sidewalk, is set aside allowing vacuum excavation to expose the underground infrastructure. After the underground work has been completed and the hole is backfilled to the base of the pavement, that same core of pavement is permanently bonded back into the roadway with a specially designed, super-strong, fast setting bonding compound that will support a wheel load greater than the AASHTO standard in less than 30 minutes.

This reinstated core is a permanent waterproof repair that is not only aesthetically pleasing because it exactly matches the existing pavement, but is one that results in a paved surface that, in just minutes, has also been restored to its original, pre-excavation, design-load carrying capacity. There are no temporary patches and no unnecessary callbacks to fix dangerous failed or sunken patches.

The reason why circular road cuts perform better than square or rectangular ones has to do with basic geometry. The rectangular shape of a conventional utility cut repair concentrates pressure from traffic in the corners of the repair. According to Utilicor Technologies Inc., the manufacturer and distributor of the keyhole pavement coring and reinstatement system used by Super Sucker, laboratory analysis shows that this pressure can be at least four times greater in the corners than in the rest of the structure. This increased pressure can cause diagonal cracks in the

TECHNICAL INFORMATION

Core Diameter:

12 inches / 30 cm

18 inches / 46 cm

24 inches / 60 cm

custom sizes available

(some restrictions apply)

Core Depth (maximum):

22 inches / 56 cm

Core Plates available for all hole sizes

Re-instated core - single wheel load
of 50,000 lbs (5x AASHTO H-25)



corners of the repair, as well as in the abutting pavement. It is these corner cracks, and the sawing overcuts present in most conventional cuts, that are the access point for ground water that is the major cause of premature pavement failure and potholes.

Perhaps the greatest barrier to groundwater penetration is the specialized bonding compound used to reinstate the core. Not only does it completely fill the annular space around the core, but when it hydrates, it creates a mechanical, waterproof joint between the core and the remaining slab of pavement that restores load bearing and transfer capacity of the pavement system to its pre-excavation levels.

Field proven by Super Sucker across Ontario, and by other organizations throughout North America and Europe for more than 25 years, keyhole technology boasts more than 350,000 successful cuts and reinstatements. By restoring the pavement to its original load transfer capabilities, and eliminating major sources of ground water penetration, keyhole coring and reinstatement can help to extend the life of the pavement.

With facilities throughout Southern Ontario, Super Sucker offers vacuum excavation, concrete and backfill, and various support services. ■

For more information, visit supersucker.ca or call 1-866-227-7722.



Ontario's #1 supplier for OEM replacement wear parts and ground engaging tools.

Daily deliveries to the G.T.A.



www.valleyblades.com
sales@valleyblades.com
1.800.461.1824
