



Technology Overview



Improve interface behavior of adhesive anchors in concrete and rock

OTT ID #1553

APPLICATION

A concrete tapping bit that creates regularly-shaped textures or grooves along the lateral surface of drilled holes to secure adhesive anchors or reinforcement bars in concrete/rock



KEY BENEFITS

- **Improved reliability** in adhesive anchors
- **Enhanced tensile capacity** by minimizing adhesive creep
- **Simplified installation** by minimizing borehole cleaning step
- **Better versatility** conventional adhesives, anchors and reinforcing bars can be used

TECHNOLOGY

Premature and unintended adhesion failures have resulted from undesired cooperation of the adhesive with the lateral surface of the bore and/or the surface of the anchor.

The adhesive-concrete bonding can be detrimentally affected by various conditions including dust or debris left in the drilled hole, temperature and humidity conditions associated with the underlying concrete as well as placement, operation, and curing of the adhesives, freeze/thaw cycles, etc. A field study conducted in 2011 of anchor installation at construction sites in California, Florida, Illinois, New York, and Pennsylvania indicated that nearly none of the drilled holes were properly cleaned prior to introduction of the adhesive and/or anchor or fastener. Shortcomings remain prevalent in achieving the desired interaction between the anchor or fastener, the adhesive, and the bore's lateral surface.

INTELLECTUAL PROPERTY

US Utility Patent was filed March 2019.

This technology is part of an active and ongoing research program and is seeking partners for development of the final product. It is available for developmental research support/licensing under either exclusive or non-exclusive terms.

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