EDGE QUALITY EVALUATOR

A novel device that helps to indicate the force at which an edge begins to slip.

Benefits

- Quickly determines if an edge will begin to slip when exposed to certain forces
- Produces exact tangential forces needed to induce slipping for any given angles
- Easy to use

Features

- Ability to apply forces in both the normal and tangential directions
- Test sample can be adjusted to any angle
- Scratch-proof clamps won't damage test sample
- Portable design

Inventors

Jocelyn Close

Jason Hopkins

Michael Dragonas

Frank Bruton

Christopher A. Brown

Contact

Todd Keiller, Director

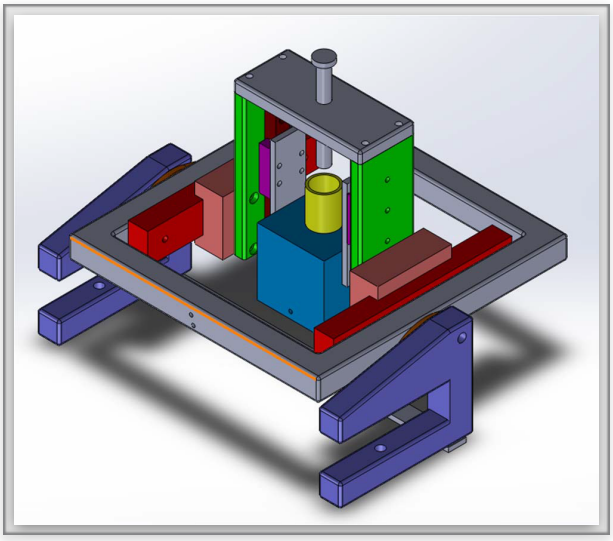
Office of Intellectual Property & Innovation
Worcester Polytechnic Institute

tkeiller@wpi.edu
+1 508 831 4907

Simplifying edge sharpness evaluation.

By using the Edge Quality Evaluator, users can quickly and easily determine how sharp an edge is based on applied forces.

The Edge Quality Evaluator is a novel device that measures whether or not an edge, at any angle, is sharp and at what applied force it loses its sharpness. The way it works is through application of normal and tangential forces. The apparatus is set up as shown in the image to the right. The test material sample is inserted into special clamps (purple) that allow for angular adjustment and introduced to a desired surface (whatever the edge should be sharp against, i.e. wood, ice, metal, etc.). Then, a compression spring is used to apply a downward normal force to the sample. Another compression spring is used to apply a tangential force. At a certain applied tangential force, the sample may start to slip. This demonstrates to the user the maximum applied tangential force the sample can withstand before slipping on a given surface . As mentioned previously, the sample can be adjusted angularly within the clamp, allowing for a variety of tests to be conducted.



Patent Pending

WPI