

Independent laboratory testing verifies:

**ESCO® Ultralok® teeth are #1 in average through-hardness**

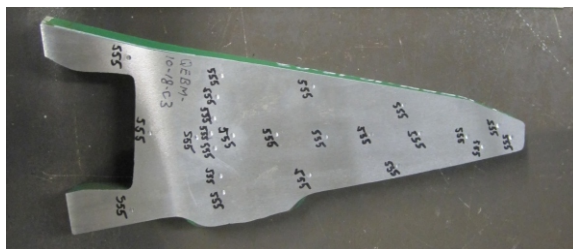
**Methodology:**

A collection of 30 teeth designed for use on construction wheel loader and excavator buckets were randomly-sourced and subjected to Brinell hardness tests of their interior surface, performed by Intertek PSI, an independent laboratory specializing in metallurgical testing and failure analysis.

Make	Part Numbers
CAT	138-6552, 9W8552, 381-4089, 381-4095
Black Cat (Deere)	TK550CH, TK550LD
Hensley	XS50RP2, XS50SYL
Komatsu	K50RP2, K50SYL
MTG	MA60A, MA60U, MG65A, MG65E
ESCO	U55AP, U55S

Each tooth was cut in half, to reveal the interior surface. Hardness measurements were then conducted by Intertek PSI on various locations across the interior surface.

To account for varying degrees of hardness depending on the proximity to the tip and/or exterior surfaces of each tooth system, an average Brinell hardness was calculated using Intertek PSI's measurements captured along the centerline of each tooth's interior (the area circled in red). This method captured hardness measurements from each section of the tooth that would be revealed as it wears away after use in the field.



**Above left:** an example of a tooth test sample. **Above right:** diagram of the test sample areas used to calculate the average centerline hardness (BHN) rating.

**Key findings:**

- ESCO Ultralok teeth ranked #1 in average centerline hardness.
- While other systems logged hardness scores as low as 415 BHN, ESCO Ultralok teeth were the only product to measure over 530 BHN across the entire centerline of every tooth tested.
- ESCO Ultralok teeth had the most consistent hardness across the centerline (= zero variation from the tip of the tooth to the rear box section).