



USGA GROOVESCAN – A HIGH PRECISION, LOW COST METHOD OF MEASURING GROOVES

As part of the implementation of the new groove rule change, the USGA has developed a high precision and low cost method of measuring the grooves on the face of clubs for conformance with the new groove regulations that will go into effect on January 1, 2010. This easy to use system is being made available to club manufacturers.

The patent-pending measurement system, called “GrooveScan,” uses a readily available flat bed document scanner which has a resolution of 0.00015”. The groove measurements are obtained from a casting of the profile of the face which is easily made using a fast curing, metrology grade reproduction compound. After a brief curing time, the casting is sliced with the included tool to produce an accurate reproduction of the grooves. The sliced casting is then placed on the flatbed scanner. With a few clicks of a mouse, an accurate profile of the grooves is captured by the scanner and sent to a PC for analysis. The included software analyzes the groove dimensions, and both the overall conformance status and the detailed measurements of each groove are provided. From start to finish, the system averages approximately 5 minutes per club when multiple clubs are measured.

The system is suitable for field testing, quality assurance, and R&D activities. Due to its high precision, (the GrooveScan is more precise than any other groove measurement system evaluated by the USGA) field measurements obtained by the GrooveScan at competition sites, will not require confirmation by distant lab measurement device. Due to this precision, as well as its ease of use and cost effectiveness, the PGA TOUR has selected the GrooveScan for use on-site at their events.

Software and slicing tool drawings may be licensed from the USGA for \$700. The scanner used by this system, an Epson V-500, can be readily obtained at retail locations and at internet sites for under \$200. A PC also needs to be supplied by the user. The license entitles the creation of multiple testers for each license holder. The USGA will also sell slicing tools for \$300 each. Instructions and a video demonstrating the use of the GrooveScan will be included with the license.

The groove measurement calculations used by the USGA GrooveScan are identical to those used by the ruling bodies as part of determining conformance to the Rules. The common measurement calculations insure consistency of analysis and conformance decisions.

For more information, please contact Matt Pringle at mpringle@usga.org or 908-470-5009.



	Depth	Upper Edge Separation	Upper Edge Width	Minimum Separation	Separation Limit (1.5x)	Area (174.2)
1	0.0000	0.0010	0.000000	0.0000	0.000000	0.000000
2	0.0000	0.0010	0.000000	0.0000	0.000000	0.000000
3	0.0000	0.0010	0.000000	0.0000	0.000000	0.000000
4	0.0000	0.0010	0.000000	0.0000	0.000000	0.000000
5	0.0000	0.0010	0.000000	0.0000	0.000000	0.000000
6	0.0000	0.0010	0.000000	0.0000	0.000000	0.000000
7	0.0000	0.0010	0.000000	0.0000	0.000000	0.000000
8	0.0000	0.0010	0.000000	0.0000	0.000000	0.000000
9	0.0000	0.0010	0.000000	0.0000	0.000000	0.000000
10	0.0000	0.0010	0.000000	0.0000	0.000000	0.000000

	Depth	Upper Edge Separation	Upper Edge Width	Minimum Separation	Separation Limit (1.5x)	Area (174.2)
Lower	0.00	0.00	70.00	100.00	0.00	174.00
Upper	0.00	0.00	62.00	70.00	0.00	151.00