

MEASUREMENT OF IMPLEMENT SURFACE ROUGHNESS

Introduction

The IAAF Handbook stipulates that the surface of shots, discii and javelin shafts shall be smooth and then states that to be smooth the surface average height must be less than $1.6\mu\text{m}$ i.e. a roughness number N7 or less.

Measurement of Roughness

Most industrialised nations have Standards for measuring and defining surface roughness. BS 2634:1987 specifies roughness comparison specimens for various surface finishing methods. The equivalent International Standards Organisation (ISO) document ISO 2632-1985 has been withdrawn.

The standard specifies the characteristics of surface roughness comparison specimens to be used for tactile and visual comparison with product surfaces produced by similar manufacturing processes in "N" numbers. The specimens are widely used in industrial workshops for quality inspections and should be readily available from instrumentation suppliers.

It is essential that the specimen and the implement being examined be alike in general character in that the cutting technique and the machine feeds used for making the sample are similar to those used in producing the implement.

Surface roughness can be measured in the laboratory using direct-reading stylus electronic instruments or optical instruments to the appropriate ISO standards.

Denis Wilson
October 2003