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Lancet Needle Retention Test

Specification

A UK based medical device company who design and manufacture a range of blood glucose monitoring and control equipment used by healthcare professionals and consumers across the globe, needed a test solution to ensure the quality of their lancet needles. The company manufacture a variety of single use lancets, used by diabetes sufferers to obtain capillary blood samples when mounted into a lancing device. The lancet comprises a steel needle moulded into a plastic base with a twist-off cap covering the point. To ensure the needle is not dislodged from its base when the cap is removed prior to use, stringent in-house production specifications dictate the minimum acceptable retention force of the needle within the plastic surround.



Solution

The company use a Mecmesin AFG 500 force gauge on an UltraTest stand (now superseded by the MultiTest 1) to perform retention tests on the lancet needles at regular 6-hourly intervals. This guarantees consistent manufacturing quality. The plastic base is placed under a custom-engineered mounting block, with the needle tip exposed vertically. A lever-operated pin vice is fitted to the tip and a tensile load applied to the needle at a rate of 200 mm/min until it is dislodged from the plastic base. This durable Mecmesin system has been in constant use at the point of production for over 8 years.



System

- AFG 500 Force Gauge
- UltraTest Stand (now superseded by the MultiTest 1)
- Lever-Operated Pin Vice
- Custom-engineered mounting block (lower fixture)

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medical industry

