

Solutions@Mecmesin

Adjustable Spectacles

Specification

Adlens manufacture adaptive lenses used within spectacles that are distributed throughout the world. The lenses change power at the turn of a dial located at the side of the spectacle. Once the correct setting has been reached the dials can be removed thereby permanently fixing the power of the lens.

The company wanted to verify the ergonomics and repeatability of the components used within the production of the spectacles in order to optimise the process and screen test their end product. One of their objectives was to make dials and levers, which operated as smoothly and reliably as possible for consumer ease. Tests needed to be performed in compliance with ISO 13485 for medical devices.

Solution

Mecmesin were recommended to Adlens through another customer, Henkel. Mecmesin provided Adlens with a Vortex-*i* computer-controlled test system and Intelligent Loadcell, which was combined with special fixtures, designed in-house by Adlens, to perform the tests they needed.

With the special fixture securely fitted on the Vortex-*i*, a sample lens, with dial attached, is located in the fixture. The Vortex-*i* is pre-programmed to perform 10 or 1.5 rotations, 1.5 for end-of-line checks, and 10 for destructive verification testing of samples. As one of their goals is to ensure smooth operation of the dial, the graphical representation, provided by the systems software, Emperor™, means easy identification of anomalies in the dials movement. Comparative analysis between different dials is required.

The ability to perform calculations and program tests to their own exact specifications has proved very beneficial for Adlens. Introducing the Vortex-*i* on-site led to a substantial reduction in associated testing costs, as they no longer require the use of a specialist laboratory for testing their samples. It also enables much faster feedback to their design team.



Spectacle dial presented for testing in special test fixture



Hemisphere Optical Spectacles with adaptive lenses

System

- Vortex-*i* - computer-controlled test frame
- Intelligent torque loadcell 1.5N.m

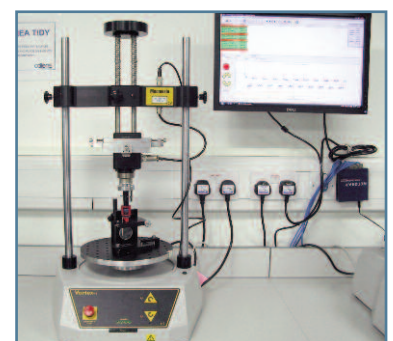
Other Solutions

- Shoulder prostheses test
- Drug delivery device test
- Medical spring test
- Needle retention test
- Syringe pump calibrator

Testimonial

The Mecmesin Torque and Force instruments are simple to use, reliable and have significantly increased the speed of design development at the company. The programming was found to be intuitive and calculations and data export features particularly useful, especially when setting up programs for non-technical staff.

Lead Test Engineer, Quality, Adlens



Vortex-*i* test system shown with graphical display

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medical industry

