

Solutions@ Mecmesin

Child Safety Force to Extract Lighter

Specification

The customer manufactures lighters and is currently developing a case/guard designed to increase the safety for children. The test consists of checking the minimum pull-off force necessary to extract the lighter from the guard at a 2.5mm/min speed. The extraction force (no lower than 50N) would need to be measured from the strongest element predetermined by the manufacturer (the wheel).

As part of an R&D project, the customer required a system, which would offer versatility in the test and calculation program. The data and the graphic representation would also need to be captured at a high resolution, i.e. 2000Hz.

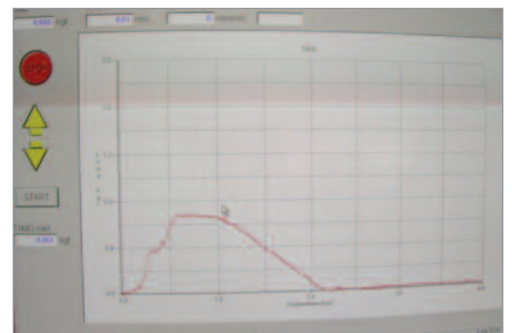
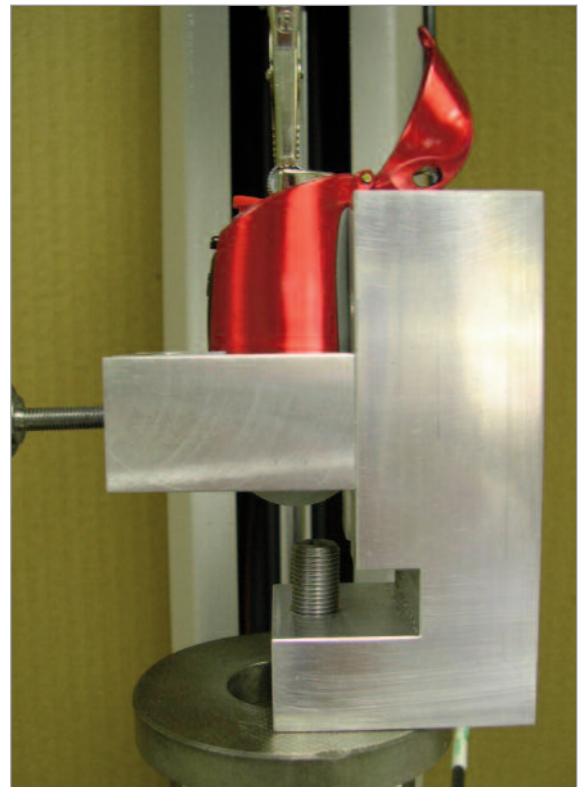
Solution

As per specification, Mecmesin supplied the Imperial computer-controlled test system with an intelligent loadcell able to capture data at 2000Hz.

A special accessory, developed by the client, holds the patented child-guard vertically. The holding accessory, fixed to the anvil plate of the test stand, keeps the sample in the loadcell axis. A crocodile clip, attached to the loadcell via an extension rod, is gripping the wheel of the lighter. At 2.5mm/min speed and an average of 50N, the crocodile clip pull-off wheel and the lighter slides from the wall of the patented child-guard.

System

- Imperial 1000 Computer-Controlled Stand
- ILC 500N
- Extension Rod
- Special Holding Fixture (developed by customer)
- Crocodile Grip (supplied by customer)



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