

# Engineers prove that 'Hitman' Hatton packs a mighty punch

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Measurements taken at The University of Manchester have shown that local boxing hero Ricky 'The Hitman' Hatton really does live up to his name.

The Undefeated Light-Welterweight and Welterweight World Champion was recently put through his paces at the University by a team of impact engineers from the School of Mechanical, Aerospace and Civil Engineering (MACE).

Following a request from ITN Sport, who wanted to know just how hard the Hitman hits, a team led by Dr Qingming Li worked with biomechanics equipment specialists Biosense Medical Ltd to gauge the strength and speed of Hatton's best shots.

And the results will give little comfort to Ricky's future opponents, for data collected in Manchester suggests Hatton is capable of landing a right-handed punch with around 400Kg - nearly half a tonne - of instantaneous force behind it.

That's ten times more instantaneous force than an average person with no boxing expertise is capable of generating.

The University worked with Biosense Medical and attached a force sensor to a 30Kg Lonsdale punch bag. The sensor was then wired to a laptop containing software to measure and analyse the incoming data.

Ricky, who has been training hard for his world title fight against Jose Castillo, was then invited to step up and give it his best shot.

At first, experts from Biosense Medical thought that Ricky had landed a blow with an astonishing 1,500Kg of instantaneous force behind it.

But more detailed analysis carried out in the United States revealed the power of the punch had caused the sensor to malfunction, giving a false reading.

Undeterred by this setback, impact engineers from The University of Manchester used alternative data and examined previous studies, and concluded Ricky had landed a blow with 400Kg of instantaneous force behind it.

Special video technology - normally used for tracking projectiles in laboratory conditions - was also employed by The University of Manchester to calculate the speed at which Hatton threw his best shots.

Experts have worked out that Ricky' s gloves fly towards an opponent at an average top speed of 25mph - giving them a reaction time of less than one tenth of second.

His fastest effort was clocked at 32mph - a blistering left hook that Hatton has previously used to floor his opponents.

The instantaneous force for this left-handed punch was less than the force clocked for his earlier right-handed effort, and it' s thought this was due to the style of punch and also because he caught the sensor a glancing blow.

In comparison to Ricky, a member of the ITN production team then picked up the gloves and barely managed a punch speed of 15mph.

Force measurements taken by Biosense Medical showed that despite his best efforts, the ITN man could only generate 38Kg of instantaneous force and barely moved the bag from its hanging position.

From studying previous research papers that measured the forces applied in football, Manchester academics are able to say that Ricky' s punching force is more than twice the kicking force of a professional footballer.

Impact expert Dr Li said: " As one of the country' s top universities for engineering, we were delighted to be challenged to come up with a way of measuring Ricky' s formidable punching prowess.

" The level of force he generated was quite astonishing. It was certainly a very different project from the type we usually work on, but it does demonstrate the expertise and versatility we have within the department."

Colin Burgess, Director and Product Manager for Biomechanics at Biosense Medical, said: " We' re more used to demonstrating our equipment to medical specialists, so this was something quite different.

" Our products have been used in the past for measuring the force of karate chops but clocking the efforts of a champion boxer was quite a challenge."

Researchers are keen to stress that the measurements were not taken under scientific conditions and they are now keen to repeat this experiment to verify their findings.

Time was limited due to Ricky' s training schedule and he did not have his hands bandaged as he would in a real fight situation.

But researchers believe the data gives a sound indication of the power

and speed that awaits Jose Castillo in just a few days.

Ricky, 28, who hails from nearby Hattersley in Tameside, Greater Manchester, said: " It was great working with the experts and the technology, and for me it was really interesting to see just how fast and hard I can hit.

"It was my first visit to The University of Manchester and I was impressed with the facilities there. It seems like a good place to study for those interested in a career in science and engineering."

Slow motion black and white video footage (67Mb) is available for download from: [www.jawaddington.co.uk/ricky\\_net.mpg](http://www.jawaddington.co.uk/ricky_net.mpg)

Source: University of Manchester

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