



Laboratory Accreditation and variations in test results

From the desk of Peter Hobson

Most will be aware of NATA accreditation. NATA stands for National Association of Testing Authorities. It operates mainly in Australia and New Zealand. Hobson Engineering maintains a NATA accredited laboratory for Fastener Testing. We use this lab for research and development, resolving customer quality issues and general batch testing of product before releasing it for sale.

NATA is the authority that provides independent assurance of technical competence through a proven network of best practice industry experts for customers who require confidence in the delivery of their products and services. NATA provides assessment, accreditation and training services to laboratories and technical facilities.

ILAC and the ILAC Mutual Recognition Arrangement (MRA)

The International Laboratory Accreditation Co-operation (ILAC), is the international organisation for accreditation bodies operating in accordance with ISO/IEC17011 and involved in the accreditation of conformity assessment bodies including testing, calibration and medical testing (pathology) laboratories, inspection bodies, proficiency testing providers and reference materials producers.

ILAC works in harmony with Regional Co-operations such as the Asia-Pacific Laboratory Accreditation Co-operation (APLAC) and works closely with the International Accreditation Forum (IAF), the international organisation for accreditation bodies accrediting certification bodies.

One of the primary roles of ILAC is to establish and maintain a mutual recognition arrangement (MRA) between member accreditation bodies, based on mutual evaluation and acceptance of each other's accreditation systems. Signatory status to the ILAC MRA is based on a comprehensive peer review process confirming an accreditation body's compliance with ISO/IEC 17011 and relevant ILAC mandated requirements, and its



capability to deliver technically sound accreditation to its accredited conformity assessment bodies. The ILAC MRA therefore provides assurance of the integrity of the technical operations of accredited conformity assessment bodies.

NATA is one of the 90 accreditation bodies that have signed the ILAC Arrangement.

New Australian standards such as AS1252:2016 will be referencing ILAC accredited laboratories, hence you will start to notice that a proportion of our test reports available through our website will show ILAC accreditation stamps rather than what you may be used to, NATA. As you can appreciate from the above, the only difference is, that the laboratories being used are not in Australia. This does not mean they are of a lesser standard, in fact from the frequent audits we carry out, they are of a higher standard in relation to fastener testing due to the volumes they are testing. The ILAC accreditation assures the standard of these laboratories is of the same standard as the NATA labs. We will continue to be testing product in our own NATA accredited laboratory, other NATA accredited laboratories in Australia as well as ILAC accredited laboratories overseas. We strictly control the sample selection process and review and approve each test report irrespective of which laboratory carried out the testing.





Variation in results from Laboratory testing

A very interesting technical article written by Kyle Kruger of Collaborative Testing Services in the USA explored the variations in hardness HRC testing results within labs and between labs. Over 5000 pieces were hardness tested in 154 different labs in over ten countries. Over 23,000 data points were collected on product from the same batches. I will not bore you with the in depth statistical analysis, but from all these tests, the results ranged from 35HRC to 37HRC. A deviation of 5%. The standard deviation of the means was only 0.55HRC. I make no real comment on this, apart from that it is interesting and is consistent with our own analysis of results that we have obtained from many years of testing at our lab and others. We often send the same items from the same batches to three or four laboratories just to ensure we are getting consistent results. A lot of Fastener Companies in Australia talk about quality control, we actually carry it out as is evidenced by the tens of thousands of test reports available on our website.

References:

NATA website: Article by Kyle Kruger of Collaborative Testing Services published in the Fastener Technology International publication.

