

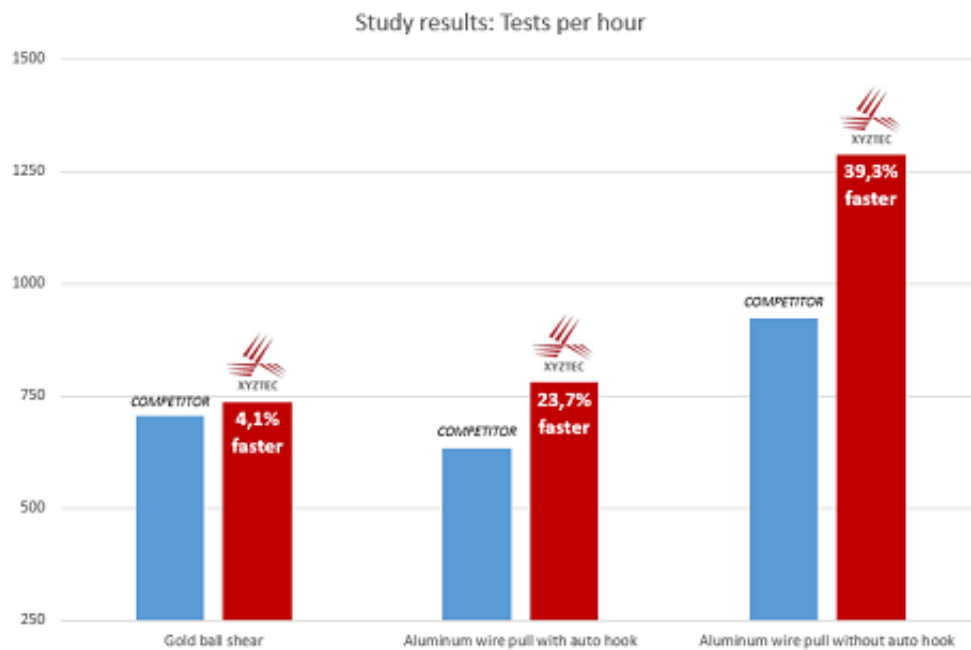


## Newsletter: Increase your bondtesting throughput

19 June 2015

### Did you know the Condor Sigma is the fastest bondtester?

It is well known that the **Condor Sigma** is the most accurate bondtester on the market, featuring unparalleled 0.075% accuracy. Fewer people know that it is also the fastest bondtester in the world. In a controlled study with experienced users, the throughput of both the **Condor Sigma** and the most well known competing system were compared. The **Condor Sigma** proved to be up to 39% faster.



### Units per hour study

The throughput or units per hour (UPH) is affected by the many different test requirements and sample types. This comparison was made for fine wire first **bond shear** and **fine wire pull**. These being tests that typically require a high UPH. The shear tests were done on a sample with 35µm gold ball bond at 50µm pitch. The pull tests were done on 25µm aluminium wire at 150µm pitch.

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#### Bond testers

- Condor *Sigma*
- Condor *Sigma Lite*
- Condor *Sigma W12*
- Condor *150HF*

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Shear test settings	COMPETITOR	Condor Sigma
Test speed (µm/s)	300	300
Landing speed (µm/s)	100	100
Shear height (µm)	3	3
Overtravel (µm)	0	0
Fallback	Normal (50%)	5gf (in nominal 10gf test)
Landing force (gf)	Factory set at 14gf	Programmable set to 5gf
Return speed (mm/s)	not available	10

Pull test settings	COMPETITOR	Condor Sigma
Test speed (µm/s)	300	300
Fallback	Normal (50%)	3.5gf (in nominal 7gf test)
Return speed (mm/s)	not available	10
Auto hook	Clockwise along	Clockwise along

The study shows that in the **shear tests** the **Sigma** is 4,1% faster than the competitor. In the **pull tests** with auto hook the **Sigma** is 23,7% faster and without auto hook the difference is even bigger at 39,3%.

It should be noted that these test were a basic comparison for the time to test a single row of bonds. This makes the comparison possible with identical setups on the two machines. In practice the sample would have to be moved long distances between the die, and/or turned to test other rows on the die or lead frame. If these times were taken into account, the **Sigma** would clearly increase its lead over the competition because of its following **advantages**:

- **Easier microscope setup** between operators at a shift change: click of a button

It should also be noted that the above and measured speed advantage of the **Condor Sigma** would apply equally when testing **automatically**.

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Shear testing copper pillar  
Fracture strength of thin wafers and die  
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Full Automation with Improved Pattern Recognition, Fiducial Marks Analysis, Wire Detect and Failure Mode Analysis  
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XYZTEC makes lid pull easy  
Condor Sigma W12 with large heater stage

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SMD gull wing leads testing  
Automation: matrix bond testing made easy  
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Highly reproducible stud pull tests are possible  
What is the quality of your coatings?  
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## Bond testing seminars

Aiming to improve understanding of bond testing in the industry, XYZTEC organizes [seminars](#) to present and disseminate knowledge in a straightforward format. [Click here to find out more about bond testing seminars.](#)

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