



PRODUCTION BELT FURNACES

HENGLI – THE UPCOMING FORCE



TORREY HILLS
TECHNOLOGIES, LLC

Torrey Hills Technologies

- **THE COMPANY – FAST GROWING**
- **THE FURNACES – COMPETITIVE IN SO MANY WAYS**
- **THE CUSTOMERS – SATISFIED AND COMING BACK FOR MORE**
- **THE SERVICE – YOUR MIND AT EASE**

ABOUT THE COMPANY

THT – Trusted and Honored

- INC 500|5000, 2009, 2010 and 2011
- San Diego's Top 100 Fastest Growing Privately Owned Companies, 2007-2010
- SBA San Diego District Exporter of the Year 2009
- IMAPS (International Microelectronics Symposium) President's Award 2008

THE MANUFACTURER - ECRIM

- ECRIM (Eastern China Research Institute of Microelectronics) – Furnaces fabricated and marketed under Hengli Eletek brand
- Established in 1968
- Products: Microelectronics packaging products and equipment
- Sales (2011): ~\$50M
- Employee (2011): ~1000
- ISO9001:2000 certified and CE certified.

SOLID PARTNERSHIP

- **Torrey Hills Tech is the worldwide sales and marketing partner for ECRIM'S HENGLI furnaces**
- **Torrey Hills also provides post-sales support world-wide from San Diego and Hong Kong**
- **The partnership started in 2004**

REWARDING PARTNERSHIP

- **Since then, we have installed furnaces in Australia, Austria, Canada, China, Costa Rica, Hong Kong, Hungary, India, Indonesia, Israel, Italy, Malaysia, Mexico, Netherlands, Russia, Singapore, Slovenia, South Africa, South Korea, Sri Lanka, Switzerland, Taiwan, Turkey, UK, US and Vietnam.**

THE FURNACES

Applications

- Thick Film *
- Solar Cell *
- Brazing
- Glass to Metal Seal
- LTCC *
- Heat Treatment

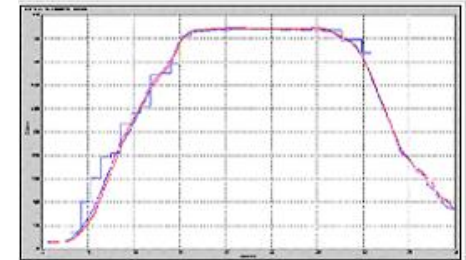
* *Elaborated in this presentation*

Furnace Type

- Box
- Belt Type
 - HSK Series Fast Fire
 - HSH Series Infrared Firing
 - HSA Series Atmosphere
 - HSG Infrared Drying
 - HSF Convection Furnace

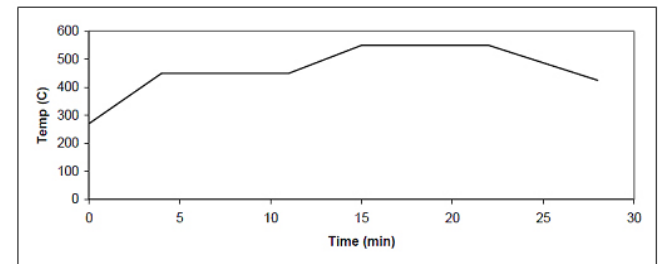
THICK FILM FURNACES

- HSK Series Fast Fire Belt Furnace
- We ship around 100+ units per year
- Widely used in thick film and other related air firing (glass tile)
- We also retrofitted many BTU furnaces in Taiwan and SE Asia



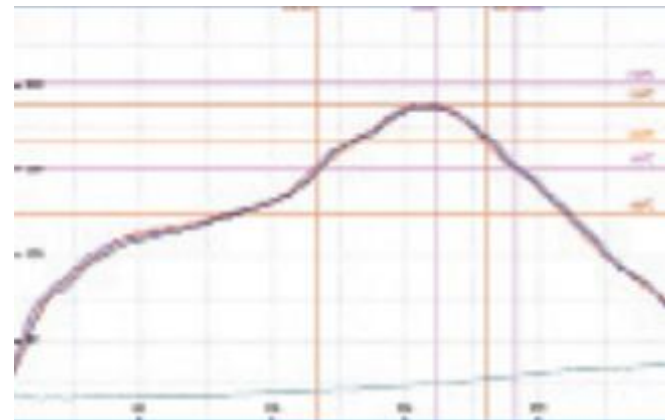
ATMOSPHERE FURNACES

- HSA Series Belt Furnaces
- Sealing, metalizing, brazing, oxidizing, annealing
- Chip bonding, metal package, HTCC, DBC, VFD, PDP
- Nitrogen and Hydrogen Capable



CONVECTION FURNACES

- HSF Series Belt Furnaces
- SMD reflow soldering, chip joining
- Post-mold curing
- IR to Hot Air circulation
- Nitrogen Capable



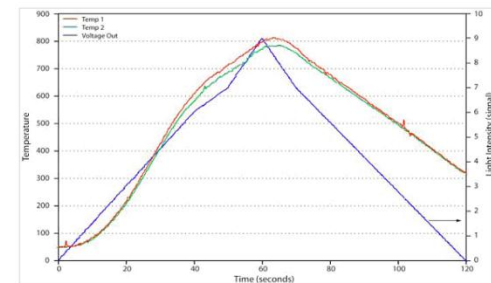
DRYING FURNACES

- HSG Series Belt Furnaces
- Drying and Curing of water and organic solvent such as PV cell, thick film drying, epoxy curing, etc.
- Infrared heating method
- Highly Customizable



SOLAR CELL FURNACES

- HSK and HSH Series Belt Furnaces
- 1st Generation Silicon Solar Cells
- 2nd Generation Thin Film Solar Cells
 - Currently serving one of the biggest players in this industry
- 3rd Generation DSC (Dye Sensitized Solar Cells)
 - Leader in DSC processing furnaces



SOLAR CELL FURNACE CUSTOMERS

- IBM
- Dye Sol
- 3G Solar
- Solaronix
- 1366 Tech
- Ferro US and Taiwan
- Suntech
- Risun Solar
- Suniz
- PV Nano
- AQT Solar
- Soprat
- Crystal Solar
- China United
Cleaning (total 58
solar cell furnaces so
far)
- Malaysia University
Technology Petronas,
Solar cell Lab
- And many more

SOLAR CELL – 1366 TECH



SOLAR CELL – 3G SOLAR (ISRAEL)



SOLAR CELL – DYESOL (AUS)

- Snapshot from a video on Dyesol's website. (www.dyesol.com)



LTCC FURNACES

- **Tunnel Version**



- **Batch Version**



EXCELLENT FEATURES

- Highly Customizable design in which a furnace is built according to your specific requirements.
- Good Temperature Uniformity of +/- 3 °C cross the belt.
- Good furnace control system to independently control the temperature of each zone and the belt speed.
- Clean Furnace Chamber made out of either high quality Stainless Steel SUS or Inconel 601.
- Safety Protection finger-guard, EMOs, high voltage cover, mechanical interlock, grounded side-panels, and 24V on all Human Interface control panels.
- Options such as Windows PC Control System, Ultrasonic Belt Cleaner, Uninterruptible Power Supply, Oxygen Content Analyzer, Dew Point Monitor.

COMPARATIVE ADVANTAGES

- **Cost – Up to 40% less**
- **Delivery – 5 weeks faster on average**
- **Service – Customers are very happy with our service and support that they keep coming back for more furnace equipments from Torrey Hills Tech**

REPEAT CUSTOMERS

- Coilcraft – bought 1+2+1+2 in 3 years
- Cardinal CG – bought 1+1 in 2007/08
- Shielding Express – bought 2 + 2 (2008/09)
- Dye Sol – bought almost 20 furnaces from 2004-date
- Noratel in India – bought 1 + 1
- 3G Solar – bought 1 + 1 (Solaronix)
- #1 Solar Company First Solar in the US – bought 1+2
- Ferro – bought 1 + 1
- China United Cleaning Tech – bought 26+32+32
(total of 90 in 2 years)

REFERENCES

References available from these US & Mexico Based Customers:

- International Rectifier (replaced two RTC furnaces)
- Shielding Express in MA
 - <http://www.youtube.com/watch?v=anpX45i4Hms>
 - <http://www.youtube.com/watch?v=ijmykWU3IzE>
 - <http://www.youtube.com/watch?v=xJP7fn2aAA8>
- Cardinal CG in WI
- Rayotek in San Diego, California
- Solaronix in Switzerland
- All five companies can provide references
- Shielding Express, Rayotek, Solaronix, and Cardinal can offer tour

POST SALE SUPPORT

- So far ALL of our customers liked our services!
- With our experienced staff ministering installation, start-up support, warranty repairs, assistance and consultation, we are dedicated to supporting our customers 24 hours everyday all year around
- We guarantee the highest caliber of business and personal attention
- We arrange regular follow up services at the 1st, 3rd, 6th, and 12th month after purchase

CURRENT PARTNERSHIP

- *“The performance of these furnaces is strictly World-Class! You'll notice many little things, like you'll be able to load across width of the belt, while maintaining uniform temperature.*
- *Atmosphere control and consumption and profile stability are features you will be very happy about!*
- *Delivery, installation and expert set-up by factory engineers, is included in the purchase price!*
- *As you can tell, I have been very impressed by the quality, uptime and performance of these furnaces. ”*

– Kenneth F. Reynolds, President, The LORAC Company (the Furnace Guy)

PROUD FEEDBACKS

"We really love your furnace. Great features and great value!"

Ronald D. Goldblatt, Ph.D., IBM Distinguished Senior Manager

"This furnace has worked very well for us. We like it!"

Deborah Neumayer, Ph.D., Research Staff Member, IBM



Our commitment to you: Total ownership cost, quality, and delivery

LETTER OF SATISFACTION

Purchasing Department

**International
Rectifier**
Prolongacion Av.de los Cabos #9234
Parque Ind.Pacifico II
Tijuana, B.C.
Mexico

July 28, 2009

To Whom It May Concern,

International Rectifier Corporation (IRC) is a pioneer and world leader in advanced power management technology, from digital, analog and mixed-signal ICs to advanced circuit devices, power systems and components.

We believe very strongly in supporting the vendors that provide us with superior quality equipment.

In 2005, we acquired two continuous belt furnaces from Torrey Hills Technologies for our manufacturing facility in Tijuana, Mexico.

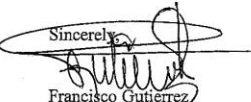
We have been using these two furnaces in high volume production ever since.

Their up time and performance has met and exceeded all of our expectations!

Mr. Ken Kuang at Torrey Hills Technologies and Mr Ken Reynolds, Lorac Furnace Experts, have truly done an excellent job and we are very satisfied customers!

Thank you!

Sincerely,


Francisco Gutierrez
Purchasing Manager

 **TORREY HILLS
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GODIVA
Chocolatier



IOER

dage



HARVARD UNIVERSITY

YAMAHA



NOKIA



tyco



fabrinet



Anritsu

Cranfield UNIVERSITY

Cal



SOUTHERN RESEARCH
Legendary Discoveries. Leading Innovation.



FLEXTRONICS

NATEL



TORAY



KYOCERA



HUNTSMAN
Enriching lives through innovation

infineon

Medtronic



NITTO DENKO

LOCKHEED MARTIN



RTI INTERNATIONAL



SHIMANO

RIO TINTO



SPATZ



Risi

SV probe
An Ellipse Company



TTM Technologies

TriQuint SEMICONDUCTOR