Infrared Debonding

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Inventor's Interests and Experience

- 2006 Government Use Award winner, **SIMWyPES®**
- 2007 Government Use Award winner, IR Debonding
- 2008 R&D 100 Award winner, **SIMWyPES®**
- 2010 Government Use Award, RonJohn™
- B.S. and M.S. in Chemistry and Education from the University of Wisconsin–Milwaukee
- Currently focused on
  - Deploying RonJohn throughout Y-12,
  - Testing RonJohn against tough marine epoxy coatings
  - Developing low hazard methods for recovering precious metals

Infrared Debonding Description

Infrared (IR) Debonding is a dry, nondestructive method of using heat to separate components joined by adhesives. The method has many permutations, lending itself in separating a myriad of different materials bonded by a wide variety of substances. The technology involves the use of a portable IR apparatus within which debonding is accomplished.

Description, cont.

- Patent-protected
  - US 7,896,053, issued March 1, 2011

Description, cont.

- Novelty
  - Eliminates most mechanical processing
  - Applies directional heat, without the use of a susceptor
  - Can be easily repositioned and located
  - Designed to be operated with minimum physical effort

Customer Experience

- Without IR Debonding method, customers experience higher utility and labor costs, longer schedules, and possible injuries to workers
- IR Debonding not only saves time, it reduces company operating expenses, saves materials and components for reuse and eliminates many hazards to workers.

U.S. Market Size

2007 NAICS Code	Industry	No. of Establishments	Sales, Revenue, Business Done ($1,000)
8111	Automotive repair and maintenance	3,096	1,931,825
8113	Commercial machinery repair and maintenance	22,749	25,961,742
336611	Ship building and repairing	674	18,113,859

Source: U.S. Census Bureau, 2007 Economic Census

Commercialization Strategy

- Focused on licensing IP
  - Dept of Energy's Start-Up America initiative
    - $1,000 up-front option fee
  - Y-12 Xpress Terms License
- Technology Readiness
  - TRL 9 – Actual application of the technology in its final form and in Y-12 production use.
  - No additional applied research needed
  - Regulatory approval not needed
  - No known barriers to industry adoption

Questions/Comments

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