

*Y-12 invites interested companies to license its patented Infrared (IR) Debonder. This technology facilitates nondestructive disassembly and is safer and better for the environment than debonding techniques currently in use.*

Infrared 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.

---

### FEATURES

- 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

---

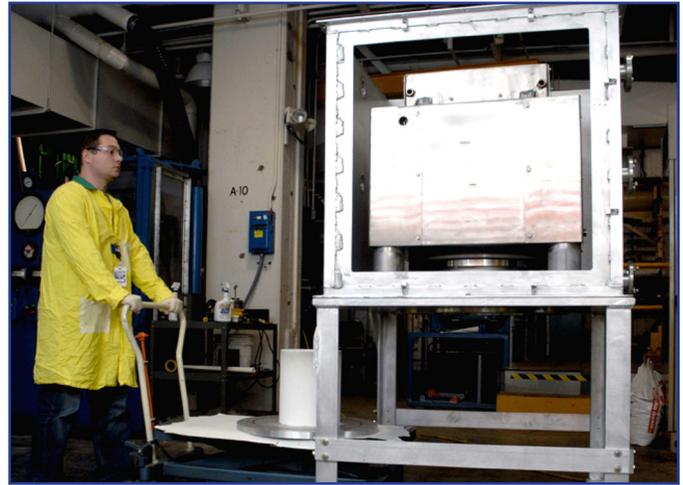
### BENEFITS

- Materials or components are not damaged or abraded, allowing for preservation or reuse
- IR heating is instantaneous and rapid, shortening schedules
- Uses less energy than conventional methods, minimizing costs
- Debonded items can be easily removed from the apparatus, allowing quicker processing
- Physical activity required is minimized, eliminating many hazards to workers

---

### APPLICATIONS

- Dismantlement and salvage operations
- Repair operations involving defective components
- Component recovery
- Manufacturing quality control



*Y-12 worker elevates object for positioning inside the IR Debonder. Top and front door of apparatus have been removed for better viewing of bottom-loading.*

---

### PATENTS AND AWARDS

The Y-12 National Security Complex has received patent protection (U.S. Patent No. 7,896,053) for this technology.

---

### INVENTORS

- Ronald F. Simandl
- Steven W. Russell
- Jerrid S. Hold
- John D. Brown

---

### TRL (1-9)

9 – Actual application of the technology in its final form and in Y-12 production use.

---

### PARTNERING OPPORTUNITIES

Y-12 is seeking an industry partner to fully commercialize this technology.

*If you would like more information about this technology, please contact:*

Gina Davis  
davisgk@y12.doe.gov  
(865) 576-0181 office  
(865) 963-5646 cell  
www.SecretCityIP.com