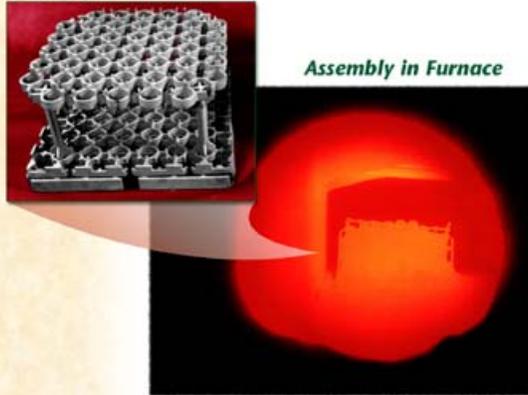


Industrial Technologies

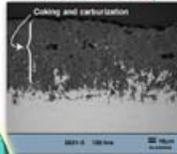
Nickel Aluminide Furnace Assembly



Assembly in Furnace

- **Newly Developed Ni₃Al Heat Treating** Furnace Assemblies are being commercialized at Delphi

Current Alloy



FeAl



FeAl is much more resistant to coking in ethylene-cracking environments than current alloys



FeAl coextruded tubes for ethylene cracking

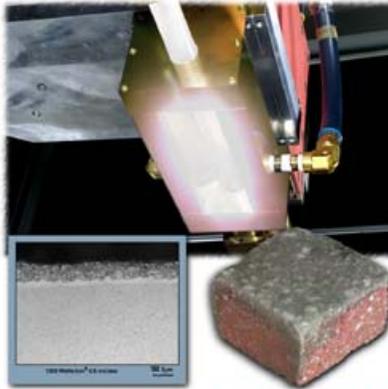
Cross Section 1 cm

- **Advanced Metallic** and Iron Aluminide (FeAl) Alloys have excellent coking resistance for use as tubes in the ethylene cracking process



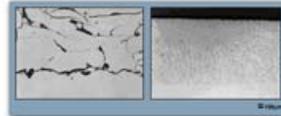
- **Microwave of wood/chips** can lead to improved pulping

Infrared Plasma Light Source



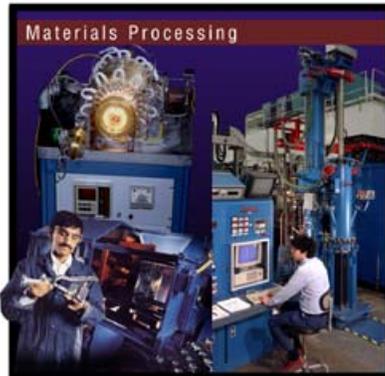
Hardfacing alloys at 1000W/cm² and 0.5cm/sec

Fusing surfaces of Mullite refractories for increased corrosion resistance



Initial plasma sprayed coating Fused metallurgically bonded coatings

- **Advanced High Intensity IR Heating** Technologies are being developed



- **The Metals Processing Laboratory Users (MPLUS) Facility** is an officially designated DOE User Facility serving the Industrial Materials for the Future (IMF) Program and the Industries of the Future

