



# TECHNOLOGY BRIEF #1

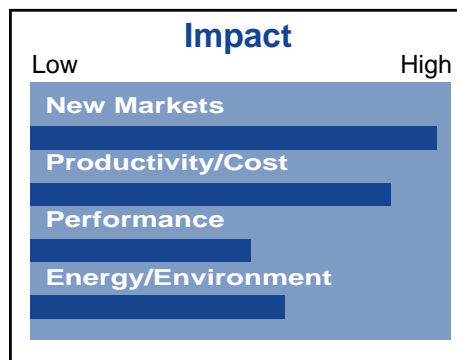
## Production of Porous Aluminum Bodies

### The Process

Aluminum flakes are mixed with aluminum alloy flakes with a lower melting point to bond the flakes in a porous structure. The flakes can be sintered in a laminate structure or as a free body.

### Benefits

- High strength to weight
- Cost effective method
- Laminate structures comparable to solid aluminum and experimental competitive foamed aluminum of the same weight in 3 point bend
- Higher production efficiency compared to etching or foaming methods
- Production does not require chemicals to activate pore formation



Laminate structure of aluminum face sheets and porous aluminum core.

Free body sintered aluminum flakes.



### Possible Applications

- Automobile panels
- Aerospace panels
- Lightweight structural materials
- Heat exchangers
- Noise and vibration damping
- Filtration
- Impact/Energy absorption

### Where CISP Technology Is Headed

- Improved mechanical properties are possible with altered flake sizes
- Alloys could be specifically designed for this application
- Powder coatings on the flakes could activate sintering
- Transmet Corporation, sponsor of this research, seeks industrial collaborators to advance this technology

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## Center for Innovative Sintered Products