

Flexible Thermal Strap Test Report Map / k-Tech

August 5, 2003

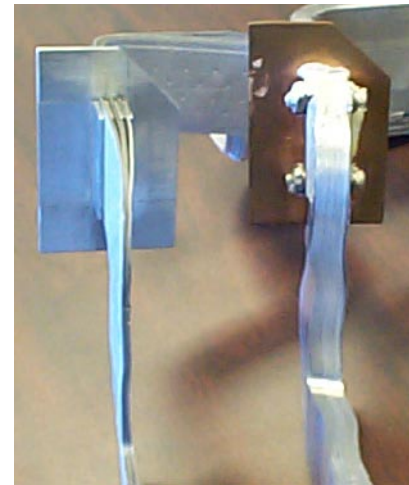
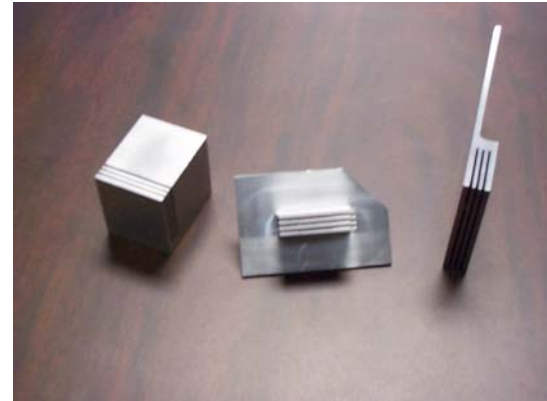
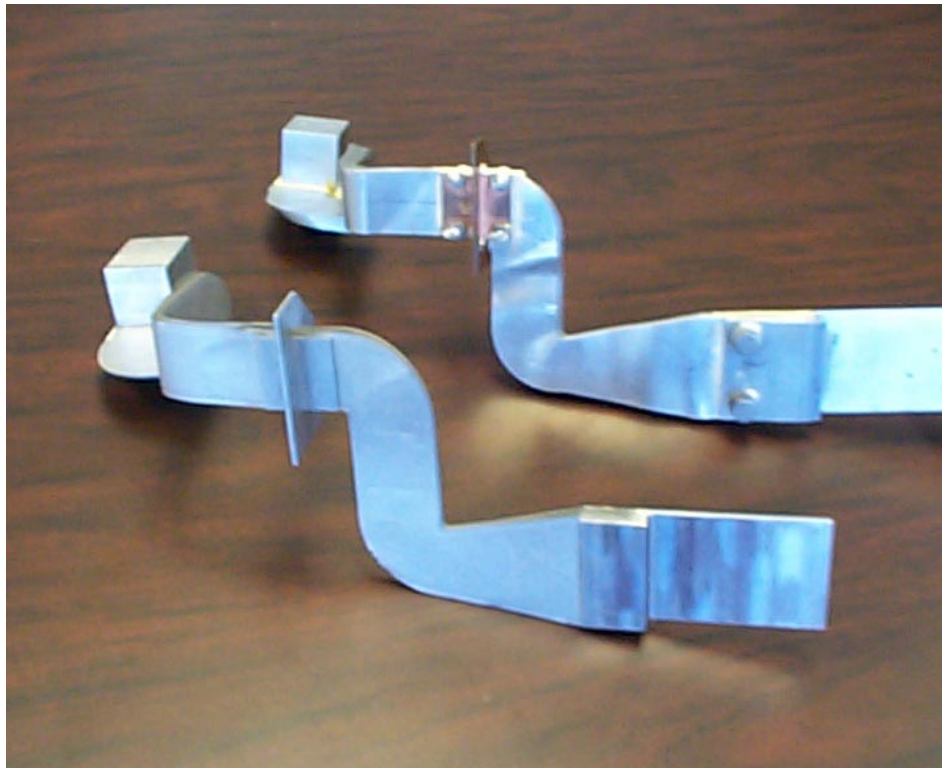
Mark Kobel

NASA GSFC

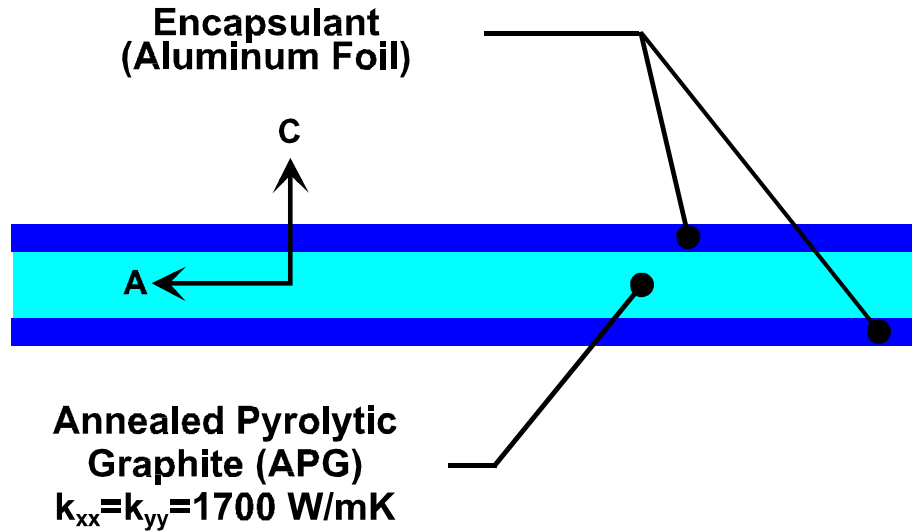
301-286-8832

Flexible Thermal Strap

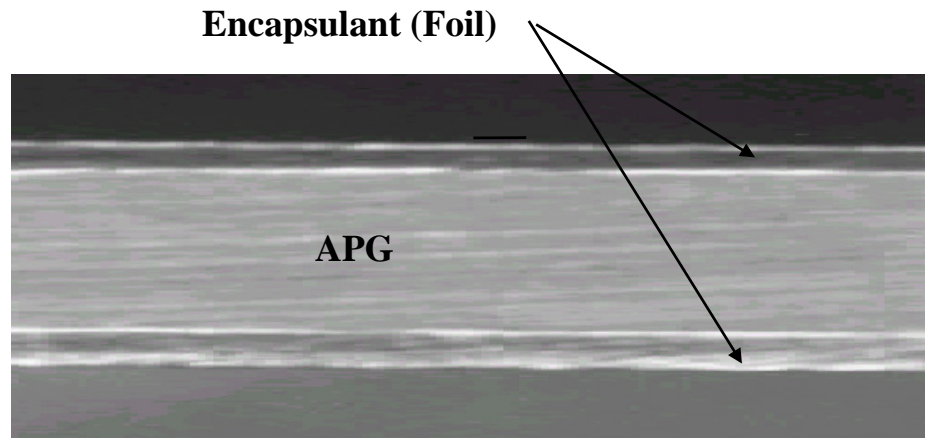
Fabrication



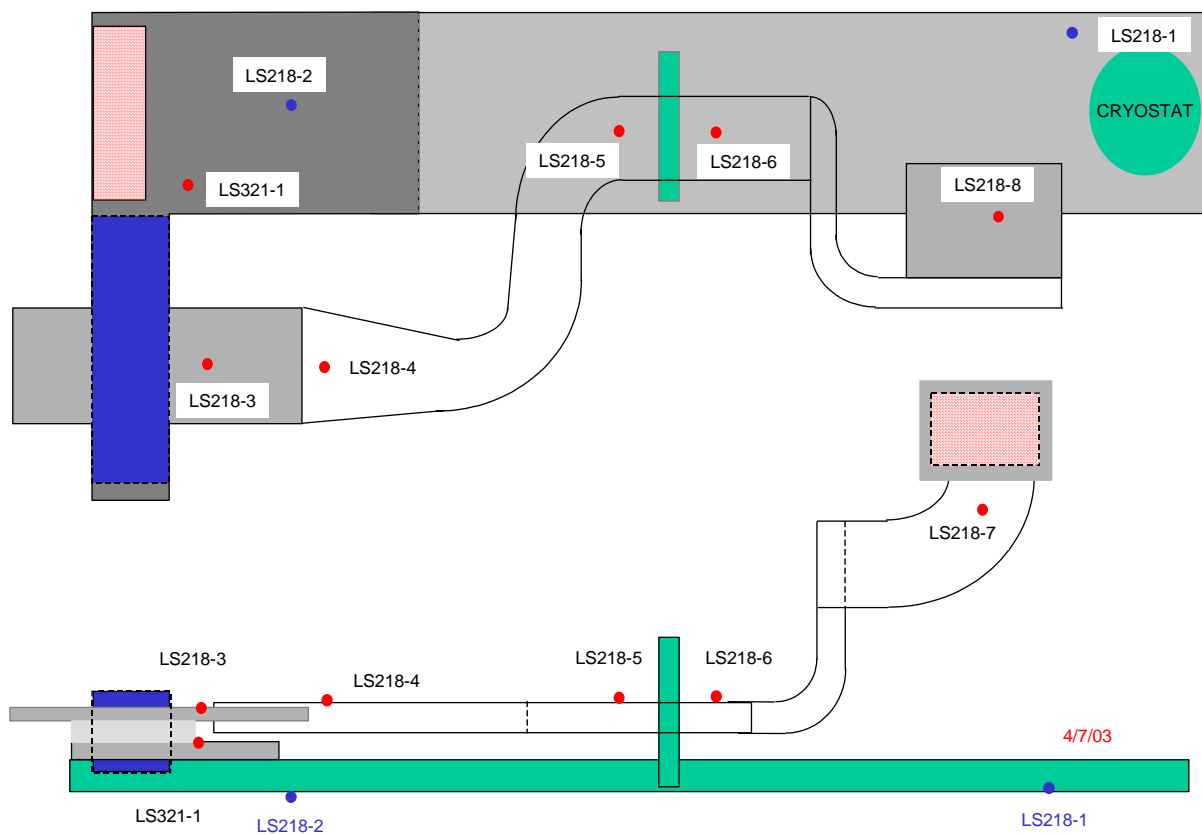
Material Concept



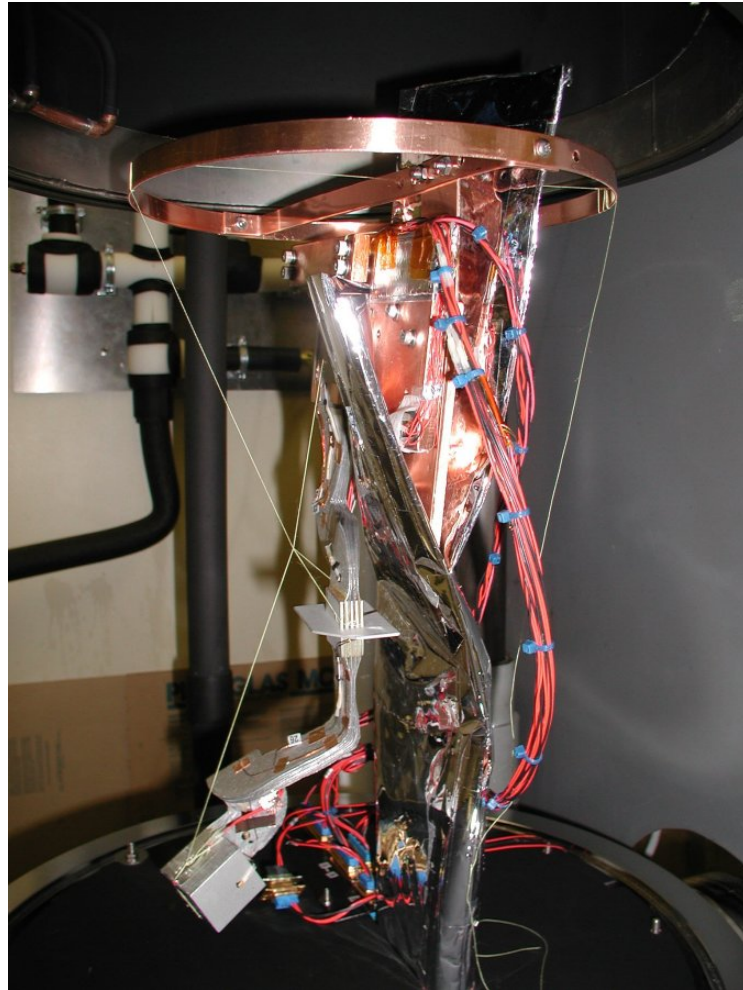
- ◆ Thermal conductivity up to 1000 W/mK
- ◆ Density less than 2.1 g/cm³
- ◆ Low bending stiffness -- flexible design



Instrumentation Schematic



K-Tech Strap in Chamber



Thermal Strap Performance

Mass Comparison

	Mass	Reduction %
APG	218.00	58%
Aluminum	518.00	

Thermal Performance Comparison (at ambient)

	Power	Resistance (K/w)	Conductance (w/K)
Aluminum	20.68	3.16	0.32
APG	21.04	2.96	0.34

Thermal Outgassing Properties

	% TML *	% CVCM **	% WVR ***	Limits (%)
APG/Foil	0.024	0.010	0.020	1.000
Supreme 10ANHT	0.770	0.060	0.100	0.100

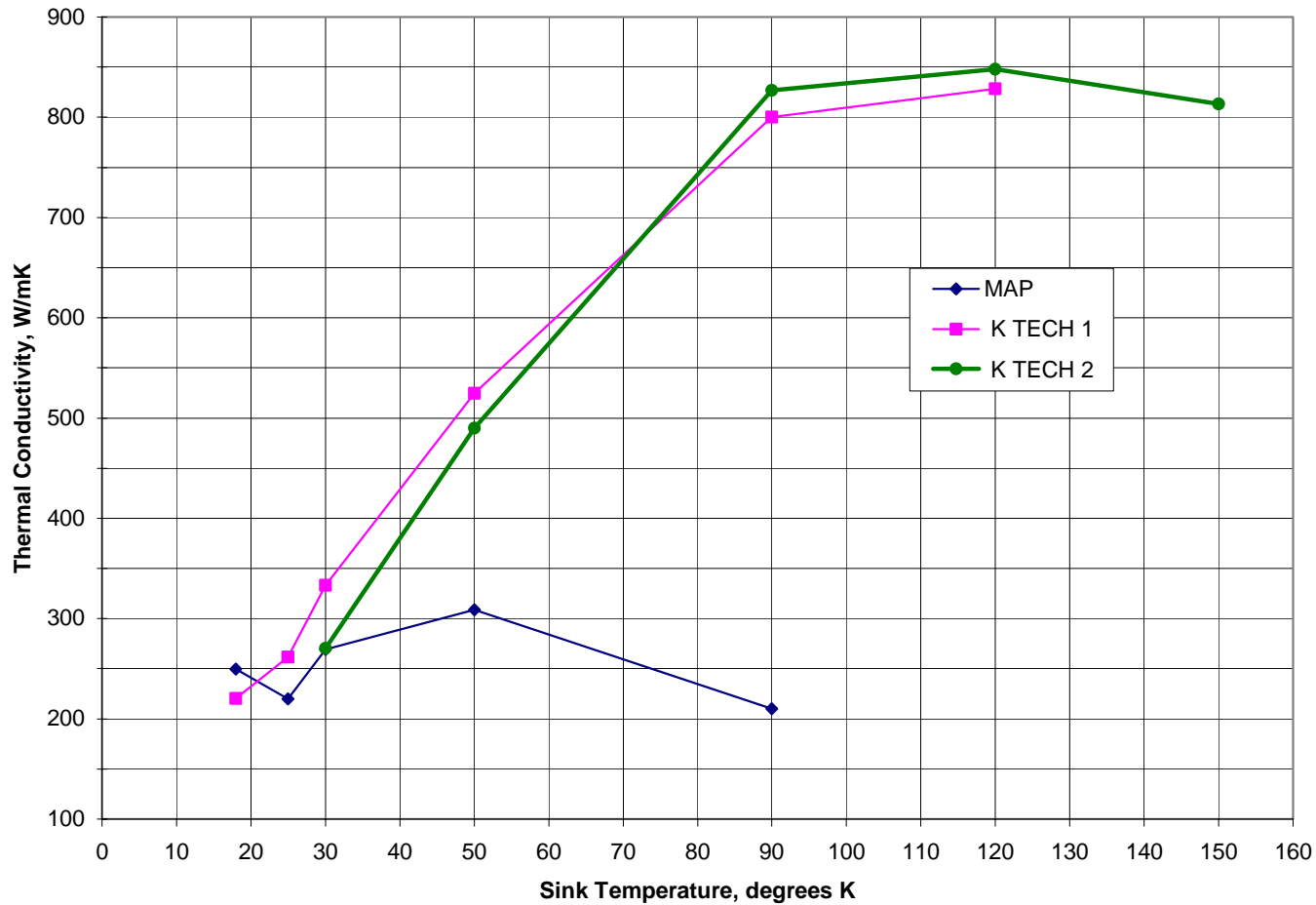
* Total Mass Loss

** Collected Volatile Condensable Materials

*** Water Vapor Regain

Test Results

Thermal Conductivity Test Data



Thermal Conductivity APG / 1100 Aluminum

