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ARA Thermal Capacitor Data Sheet

Characteristics and Capabilities

Heat Sink Characteristic	Demonstrated Capability
PARA Charge Mass	300 MG to 14.5 kg
Latent Heat Capacity	75 Joules to 3.6 MJ
Melting Point Range	-50°C to 76°C
Core Conductivity	As high as 230 W/m-K
Temperature Capability	-130°C to +130°C
ARA PCM Mass Fraction	As high as 70%
ARA PCM Volume Fraction	As high as 84%
Environmental Pressure Range	1 atm to hard vacuum
Lifetime in Space	11 years demonstrated
Cycle Life	10,000 tested without failure; expectation is much longer
Toxicity	Our primary PCMs of choice are non-toxic and non-corrosive

Example Performance of the ARA Thermal Capacitor

