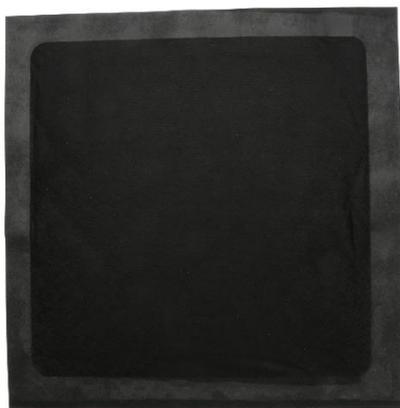


# 3M™ Battery Enhancement Material 1807S

## Technical Data Sheet



### Description

3M™ Battery Enhancement Material 1807S is a thermal management solution designed to work with the battery management system to maintain optimal battery operating temperature and minimize the influence of environmental temperatures. 3M Battery Enhancement Material contributes to battery efficiency by controlling the battery optimum temperature range by reducing draw from battery power.

The solution offers the following key features and benefits:

- Superior thermal insulation performance:
  - Combined thermal conductivity coefficient less than 0.035 W/K-m at 25°C at the original thickness
  - Combined thermal conductivity coefficient 0.028 W/K-m at 25°C when compressed to half the original thickness
- Thin, lightweight and minimally fiber shedding thermal insulation for the battery pack
  - 290 grams per square meter (gsm) in surface basis weight
- Reduces battery usage for cooling, heating, and faster battery warm-up
- Enables extended driving range
- Offers flame resistance (UL 94 V-0)
- Offers high compressibility and recovery properties
- Provides excellent cavity
- Performs well in high temperature applications

### Physical Properties

	Typical Value <sup>A</sup>	Test Method
<b>Color</b>	Black	Visual
<b>Basis weight</b>	290 gsm	Mass per unit area
<b>Initial Thickness<sup>B</sup></b>	6 mm	SAE J1355
<b>Thermal properties: R-Value<sup>C</sup>   K-Value<sup>D</sup></b>	> 0.17 m <sup>2</sup> K/W   < 0.035 W/mK @ nominal thickness	ASTM C518
<b>Surface Electrical Resistance<sup>E</sup></b>	1.1X10 <sup>9</sup> ohm @ 25°C, 50% RH	ASTM D257, GB/T 1410
<b>Flame resistance</b>	Pass	UL 94 V-0

A: All the property value here are the Typical Value; not a standard value, but test data from 3M lab.

B: Nominal thickness is measured using a 12 in<sup>2</sup> plate with 0.002 psi applied to the sample per SAE J135.

C: R-Value is the thermal resistance of the insulation measured at the corresponding thickness per ASTM C518.

D: k-value is thermal conductivity of the insulation material per ASTM C518

E: The surface Electric resistivity may change under different temperature and humidity condition.

## Regulatory Information

Please refer to the product label and Article Information Sheet (AIS) for health and safety information before using.

## Contact Information

The information provided in this technical document is intended as a guide for these products. For more information or help in selecting a 3M product for an application, please contact your 3M technical service representative or call 1-800-328-1684.

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Patent Pending