

## LSM20-I LSM SOFC CATHODE SCREEN PRINTABLE INK

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### Product Description

LSM20-I is part of the American Elements system of solid oxide fuel cell (SOFC) electrode, electrolyte and interconnect products. It is a ready to screen print highly conductive non-aqueous Lanthanum Strontium (20% Sr) Manganite ink with a wide processing window (1,100°C to 1,200°C). It is compatible with all American Elements SOFC interconnect materials and electrolytes such as Product Code YSZ8-I (Yttria Stabilized Zirconia Electrolyte Ink). American Elements LSM products are perovskite ( $ABO_3$ ) compounds also produced with 10 mole% Sr (Product Code LSM10-I) and other Sr levels up to 50%. They are also available as aqueous ink and undispersed powder. Other SOFC electrode products include perovskites based on chromites, cobaltites and gallates and doping at both A and B sites. The chromites are very stable. The cobaltites and gallates are less stable but highly conductive. The chromites are typically used as interconnect materials and as an electrode for American Elements Ceria Electrolyte Inks.

### LSM20-I

#### *Printing*

### Processing Parameters

-325 Mesh Screen

1.1 mil wire

0.5 mil emulsion

#### *Drying*

10 minutes @ 150° C

#### *Suggested Firing*

1,150° C

#### *Temperature*

(Do not fire above 1,200° C on zirconia-based substrates)

#### *Thinners*

American Elements RF20 (2-Propanol)  
American Elements RF30 (Terpineol)

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### Typical Properties

#### *Thickness*

Dried 20  $\mu$ m

Fired 10  $\mu$ m

#### *Bulk Resistivity*

~ 100 ohm cm

#### *Coverage*

120 cm<sup>2</sup>/g of LSM (Coverage will vary with Film Thickness)

#### *Particle Size*

D<sub>50</sub> = 0.2  $\mu$ m

#### *Specific Surface Area*

~ 6 m<sup>2</sup>/g

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