

## LSM20-P LSM SOFC CATHODE POWDER

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### Product Description

LSM20-P is part of the American Elements system of solid oxide fuel cell (SOFC) electrode, electrolyte and interconnect products. It is a ready to fire highly conductive Lanthanum Strontium (20 mole% Sr) Manganite powder with a wide processing window (1,100°C to 1,200°C). It is compatible with all American Elements SOFC interconnect and electrolytes materials and available in a homogenous blend with certain electrolytes, such as Ytria Stabilized Zirconia (Product Code LSM20/YSZ8-P). American Elements LSM products are perovskite ( $ABO_3$ ) compounds also produced with 10%, 15 mole% Sr (Product Codes, LSM10-P and LSM15-P) and other Sr levels up to 30%. The specific surface area of LSM20-P ( $\sim 6.0 - 8 \text{ m}^2/\text{g}$ ) may be modified within the range of 1.5 - 10  $\text{m}^2/\text{g}$ . They are also available as aqueous and non-aqueous screen printable inks and spray dried 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 Powders.

### LSM20-P

### Processing Parameters

*Suggested Firing  
Temperature*

1,150 °C  
(Do not fire above 1,200° C on zirconia-based substrates)

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### Typical Sintering Properties

*Bulk Resistivity*                       $\sim 100 \text{ ohm cm}$

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### Typical Powder Properties

*Particle Size*                               $D_{50} = 0.2 \text{ }\mu\text{m}$

*Specific Surface Area*                 $\sim 6 - 8 \text{ m}^2/\text{g}$

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