

LSF20-I LSF SOFC CATHODE SCREEN PRINTABLE INK

Product Description

LSF20-I 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) Ferrite ink 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-I). American Elements LSF products are perovskite (ABO_3) compounds also produced with 10%, 15 mole% Sr (Product Codes, LSF10-I and LSF15-I) and other Sr levels up to 25%. The specific surface area of LSF20-I ($\sim 6.0 \text{ m}^2/\text{g}$) may be modified within the range of 1.5 - $6.5 \text{ m}^2/\text{g}$. They are also available as unsuspended powder and spray dried powder. Other SOFC electrode products include perovskites based on manganites, 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.

LSF20-I

Printing

Processing Parameters

-325 Mesh Screen

1.1 mil wire

0.5 mil emulsion

Drying

10 minutes @ 150° C

Suggested Firing Temperature

1,150° C

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

Thinners

American Elements RF20 (2-Propanol)

American Elements RF30 (Terpineol)

Typical Properties

Thickness

Dried 20 μm

Fired 10 μm

Coverage

120 cm^2/g of LSF (Coverage will vary with Film Thickness)

Particle Size

$D_{50} = 0.2 \mu\text{m}$

Specific Surface Area

$\sim 6 \text{ m}^2/\text{g}$