AMERICAN ELEMENTS

America's Leading Manufacturer of Rare Earth and Advanced Material Products

LSF20-P
LSF SOFC CATHODE POWDER

Product Description

LSF20-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) Ferrite 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 Yttria Stabilized Zirconia (Product Code LSF20/YSZ8-P). American Elements LSF products are perovskite (ABO_3) compounds also produced with 10% and 15 mole% Sr (Product Codes, LSF10-P and LSF15-P) and other Sr levels up to 25%. The specific surface area of LSF20-P (~6.0 m^2/g) may be modified within the range of 1.5 - 6.5 m^2/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 maganites, 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-P	**Processing Parameters**
Suggested Firing Temperature	1,150° C (Do not fire above 1,200° C on zirconia-based substrates)

Typical Sintering Properties

Excellent low temperature electrode, outperforming LSM due to reduced cathode polarization. Demonstrates a slightly higher bulk resistivity than LSM but outperforms it in actual oxygen conductive devices because of better overall catalytic properties.

Typical Powder Properties

Particle Size	D_{50} = 0.2 μm
Specific Surface Area	~ 6 m^2/g