

固体酸化物型燃料電池用(SOFC) カソード、固体電解質、アノード材料

1. パウダー
2. 印刷用ペースト(粒子径サイズ、粘度、樹脂、水、有機溶剤など調整)
3. プレスペレット(10 mm, 20 mm など)
4. 下表記以外の酸化物材料の受託合成

Cathode	
$\text{La}_{0.7-0.8}\text{Sr}_{0.2-0.3}\text{Mn}_{1.02-1.05}\text{O}_3$	Lanthanum Strontium Manganate
$\text{La}_{0.6}\text{Sr}_{0.4}\text{Co}_{0.2}\text{Fe}_{0.8}\text{O}_3$	Lanthanum Strontium Cobalt Ferrite
LSM + YSZ	LSM + YSZ mixed Composite
LSCF + GDC	LSCF + GDC mixed Composite
$\text{La}_{0.6-0.8}\text{Sr}_{0.2-0.4}\text{FeO}_3$	Lanthanum Strontium Ferrite
$\text{La}_{0.6-0.7}\text{Sr}_{0.3-0.4}\text{CoO}_3$	Lanthanum Strontium Cobaltite
$\text{Sm}_{0.5}\text{Sr}_{0.5}\text{CoO}_3$	Samarium Strontium Cobaltite
$\text{LaNi}_{0.6}\text{Fe}_{0.4}\text{O}_3$	Lanthanum Nickel Ferrite
$\text{Ba}_{0.5}\text{Sr}_{0.5}\text{Co}_{0.2}\text{Fe}_{0.8}\text{O}_3$	Barium Strontium Cobalt Ferrite
$\text{La}_{0.7}\text{Sr}_{0.3}\text{Cu}_{0.2}\text{Fe}_{0.8}\text{O}_3$	Lanthanum Strontium Copper Ferrite
$\text{La}_{1.6}\text{Sr}_{0.4}\text{NiO}_4$	Lanthanum nickelate, strontium doped
La_2NiO_4	Lanthanum nickelate
$\text{Mn}_{1.5}\text{Co}_{1.5}\text{O}_4$	Manganese cobalt oxide
Solid Electrolyte	
$(\text{Y}_2\text{O}_3)_{0.03-0.08}(\text{ZrO}_2)_{0.92-0.97}$	Yttria Stabilized Zirconia
$(\text{Y}_2\text{O}_3)(\text{Sc}_2\text{O}_3)(\text{ZrO}_2)$	Yttria and Scandia Stabilized Zirconia
$(\text{Y}_2\text{O}_3)(\text{Sc}_2\text{O}_3)(\text{Bi}_2\text{O}_3)(\text{ZrO}_2)$	Bi doped Yttria and Scandia Stabilized Zirconia
$\text{Gd}_{0.1}\text{Ce}_{0.9}\text{O}_{1.95}$	Gd doped Ceria
$\text{Sm}_{0.2}\text{Ce}_{0.8}\text{O}_{1.9}$	Sm doped Ceria
$\text{La}_{0.4}\text{Ce}_{0.6}\text{O}_{1.8}$	La doped Ceria
LSGM	Doped Lanthanaum Gallate
$\text{Ce}_{0.8}\text{Pr}_{0.2}\text{O}_2$	Cerium oxide, praseodymium doped
MDLS	Magnesium or Metal doped Lanthanum Silicate
Anode	
NiO	Nickel Oxide
NiO + Solid Electrolyte	Nickel Oxide + YSZ or any type of Solid Electrolyte

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固体酸化物型燃料電池用(SOFC) インターコネクタ材、封止材

1. パウダー
2. 印刷用ペースト(粒子径サイズ、粘度、樹脂、水、有機溶剤など調整)
3. 下表記以外の酸化物材料の受託合成

Interconnect Powders	
$\text{La}_{0.7}\text{Ca}_{0.3}\text{CrO}_3$	Lanthanum Calcium Chromium Oxide
$\text{La}_{0.85}\text{Sr}_{0.35}\text{CrO}_3$	Lanthanum Strontium Chromium Oxide
$\text{La}_{0.8}\text{Ca}_{0.2}\text{Cr}_{0.9}\text{Co}_{0.1}\text{O}_3$	Lanthanum Calcium Chromium Cobalt Oxide
$\text{Y}_{0.8}\text{Ca}_{0.2}\text{Cr}_{0.9}\text{Co}_{0.1}\text{O}_3$	Yttrium Calcium Chromium Cobalt Oxide
$\text{Mn}_{1.5}\text{Co}_{1.5}\text{O}_4$	Manganate Cobalt Oxide
$\text{Sr}_{0.85}\text{Y}_{0.3}\text{Ti}_{0.05}\text{Co}_{0.05}\text{O}_3$	Strontium Yttrium Titanium Cobalt Oxide
$\text{La}_{0.4}\text{Sr}_{0.6}\text{TiO}_3$	Lanthanum Strontium Titanium Oxide

SOFC Sealant (Combination of below 1 - 4 components)			
Network Former	Modifier	Intermediates	Additive
SiO_2	BaO	Al_2O_3	La_2O_3
B_2O_3	MgO		NiO
	CaO		TiO_2
	Na_2O		ZnO
	SrO		ZrO_2
			Y_2O_3

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