

Electrolyte Substrates



Key features

- thin electrolyte substrates based on zirconia
- partially or fully stabilized with yttria or/and scandia
- high planarity and gastight

Characteristics	Unit	3YSZ	8YSZ	6Sc1CeSZ	10Sc1CeSZ	YScSZ
Dopant, stabilization	[mol%]	Yttria, 3	Yttria, 8	Scandia, 6 Ceria, 1	Scandia, 10 Ceria, 1	Yttria/Scandia/ Ceria
Ionic conductivity (850 °C)	[S/cm]	0.022	0.08	0.085	0.17	0.078
Mechanical strength (Kerapfol double ring test, 8YSZ = 100%)	[%]	330	100	270	140	140
Sinter density	[g/cm ³]	> 6.00	> 5.95	> 5.85	> 5.70	> 5.90
Standard thicknesses	[µm]	70 / 90	150	100	150	150

Kerapfol offers zirconia based electrolyte substrates with different dopant elements. Depending on the dopant concentration, the substrates feature a higher conductivity or a higher mechanical stability.

Important notes

The data presented in this leaflet are in accordance with the present state of our knowledge. All statements, technical information and recommendations herein are based on tests we believe to be reliable. The customer is thereby not absolved from carefully checking all supplies immediately on receipt. The recommendations made in this catalogue should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. Before using, user shall determine the suitability of the product for its intended use, and the user assumes all risks and liability whatsoever in connection therewith. We reserve the right to alter product constants within the scope of technical process or new developments. The recommendations do not absolve the customer from the obligation of investigating the possibility of infringement of third parties right and, if necessary, clarifying the position. Sellers' and manufacturers' only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable either in tort or contract for any loss or damage, direct or incidental, or consequential, including loss of profits or revenue arising out of the use or the inability to use a product. No statement, purchase order or recommendations by seller or purchaser not contained herein shall have any force or effect unless in an agreement signed by the officers of the seller and manufacturer.

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