

MELox™ Yttria Stabilised Zirconias

Luxfer MEL Technologies MELox yttria stabilized zirconias are high performance, high purity zirconium oxides suitable for use in a range of demanding applications.

Luxfer MEL Technologies MELox yttria stabilized zirconias are manufactured in the UK by a precisely controlled chemical precipitation process that ensures consistency of both purity and performance together with a fully homogeneous distribution of yttria.

Features

Yttria stabilized zirconium oxides with high reactivity and sintering.

Spray-dried, free flowing powders that are easy to handle.

Outstanding performance properties for final zirconia ceramic parts.

Applications

Depending on the specific requirements of particle size, surface area and purity, monoclinic zirconias are commonly used in:

- 3Y – wear parts, structural ceramics and dental prostheses
- 5Y – oxygen sensors
- 8Y – solid oxide fuel cell electrolytes, electrodes

Chemical composition (typical values)

Table 1.

Grade	Y ₂ O ₃ (wt. %)	SiO ₂ (wt. %)	TiO ₂ (wt. %)	Fe ₂ O ₃ (wt. %)
MELox™ 3Y	5.3	0.02	0.02	0.01
MELox™ 5Y	8.0	0.02	0.02	0.01
MELox™ 8Y	14.0	0.02	0.02	0.01

Physical properties (typical values)

Table 2.

Grade	Sintered density (g.cm ⁻³)*	Powder particle size D50 (µm)	Powder surface area (m ² .g ⁻¹)
MELox™ 3Y	6.05	0.45	10
MELox™ 5Y	>5.95	0.45	10
MELox™ 8Y	>5.90	0.45	10

*Sintered at 1450 °C

Packaging

Standard packaging is 25 kg packed into poly-lined fibre-board drums.

Safety data sheet

Regional SDS information is available on request.

Discover more at

www.luxfermeltechnologies.com

lmcsus@luxfer.com | lmcs@luxfer.com

Follow us on 

Copyright © Luxfer MEL Technologies. The information provided within this document is aimed to assist manufacturers and other interested parties in the use of Luxfer MEL Technologies products. Luxfer MEL Technologies accepts no liability in whole or in part from use and interpretation of the data herein. All information is given in good faith but without warranty. Freedom from patent rights must not be assumed. Health and Safety information is available for all Luxfer MEL Technologies products. **DS-1030-0626-V1**

Luxfer MEL Technologies
Elektron Technology Centre
Lumns Lane, Manchester, M27 8LN, UK
T +44 (0) 161 911 1000

Luxfer MEL Technologies
500 Barbertown Point Breeze Road
Flemington, NJ 08822, USA
T +1 908 782 5800