



Yttria-Stabilised Zirconias for Injection Moulding

MELox™ 3Y U and 3Y UL

MELox™ 3Y U and **3Y UL** are high performance, high purity yttria-stabilised zirconium oxides suitable for use in injection moulding of zirconia ceramic components for a variety of applications.

MELox™ stabilised 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

3 mol% yttria partially stabilised zirconium oxides with high reactivity.

Free-flowing powders suitable for producing feedstock by blending with standard injection moulding compounds.

Outstanding performance properties for final zirconia ceramic parts.

Applications

With the higher surface area, **MELox™ 3Y U** is ideal for use in injection moulding to produce small-sized ceramic parts with a fine-grained structure.

Discover more at

www.luxfermeltechnologies.com

MELox™ 3Y UL with a lower surface area is best suited to producing advanced ceramic parts used in wear and structural applications such as those found in aerospace, automotive and medical.

Chemical composition (typical values)

| Grade | Y ₂ O ₃ (wt%) | SiO ₂ (wt%) | Fe ₂ O ₃ (wt%) |
|--------------|-------------------------------------|------------------------|--------------------------------------|
| MELox™ 3Y U | 5.3 | 0.02 | 0.01 |
| MELox™ 3Y UL | 5.3 | 0.02 | 0.01 |

Physical properties (typical values)

| Grade | Sintered modulus of rupture (MPa)* | Sintered density (g.cm ⁻³)* | Powder particle size D ₅₀ (µm) | Powder surface area (m ² .g ⁻¹) |
|--------------|------------------------------------|---|---|--|
| MELox™ 3Y U | >1000 | 6.05 | 0.45 | 17 |
| MELox™ 3Y UL | >1000 | 6.05 | 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.



† The information contained within is meant as a guideline only

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