

# Micromass® LMKF

Low Mass Kiln Furniture

*High Performance Low Mass Kiln Furniture  
from SELEE Corporation (ISO 9001 certified)*

- *Fast heat-up reduces energy consumption*
- *Quick cool-down minimizes “heat sink” effect*
- *Shorter total firing cycle maximizes production*
- *Uniform cool-down minimizes thermal gradient*
- *Low-mass material minimizes drag resistance during sintering*

SELEE Corporation’s **Micromass® LMKF** is a highly innovative lightweight alternative to typical commercially available dense kiln furniture. **Micromass® LMKF** effectively utilizes full kiln weight capacity by allowing more parts to be loaded per firing cycle.

This high-purity Alumina material eliminates cross-contamination of production parts.

**Micromass® LMKF** is chemically inert and will not react with most materials being fired.

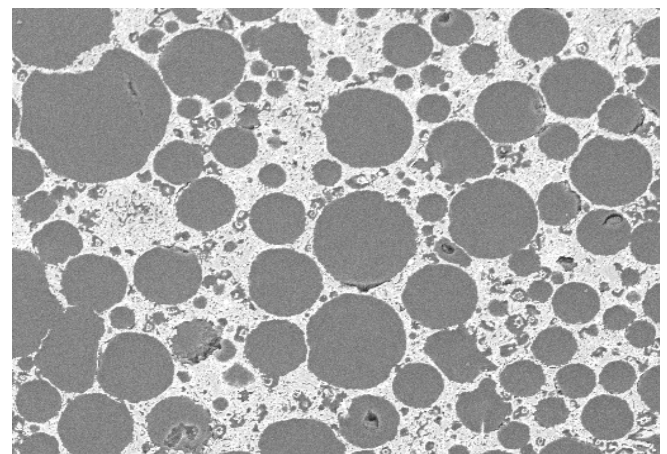
A porous material with a smooth machinable surface, **Micromass® LMKF** has the ability to heat up and cool down faster than dense kiln furniture, which leads to significantly shorter firing cycles.

**Micromass® LMKF** has excellent thermal shock resistance and performs exceptionally in critical thermal processing applications.

For information on how **Micromass® LMKF** can benefit your demanding process application, please contact SELEE Corporation.



- *High purity*
- *Light weight, low mass material*
- *Excellent thermal shock resistance*
- *Available in custom shapes or plates for in-house machining*
- *Easily machinable*
- *Engineering design support*



Micromass® Micrograph (mag. 2000X)

# Micromass®

## Data Sheet

### Product Offering:

#### Available Sizes:\*

Length: 12" - limited by current die  
Width: 8.75" - limited by current die  
Thickness: 0.125" min, 0.50" max (**size dependant**)  
Parallelism: 0.025" (upon request)

**\*custom sizes available**

#### Tolerances:

Length/Width: +/- 0.10"  
Thickness: +/- 0.06"

### Technical Data:

**Thermal Expansion:**  $9 \times 10^{-6}$  in/in/°C

**Maximum Use Temperature:** 1500°C/2732°F

**Standard Density(% of theoretical):** 30-35%

**Bulk Density (average):** 1.23-1.44 g/ml

**MOR at Room Temperature:** 1500 psi/10.3 MPa

**MOR at 1500°C:** 300 psi/2.1MPa

### Thermal Shock Properties:

The thermal shock properties vary by part size and are not completely understood.

#### Fastest Current Cycle:

**Ramp up:** 4-6°C/min  
8-10°F/min  
**Cool down:** 8-10°C/min  
14-18°F/min

Thermal cycles faster than above should be evaluated before recommending Micromass®.

### Material Specifications:

Characteristics	Specification	Typical Value
Al <sub>2</sub> O <sub>3</sub>	>90%	91%
ZrO <sub>2</sub>	<10%	9%
CaO	0.07%	420 ppm
K	0.05%	<10 ppm
Na <sub>2</sub> O <sub>3</sub>	0.35%	24 ppm
SiO <sub>2</sub>	0.10%	810 ppm
Fe <sub>2</sub> O <sub>3</sub>	0.08%	75 ppm

#### SELEE Corporation

700 Shepherd Street  
Hendersonville, NC 28792

Tel: (800) 842-3818 x 2  
+1 (828) 694-3450

www.selee.com

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